

CBM 92-9

MULTIDRUG RESISTANCE

January 1988 through September 1992

2250 Citations

Prepared by:

Loretta D. Ulincy, M.L.S., National Library of Medicine

Michael M. Gottesman, M.D., National Cancer Institute

**U.S. DEPARTMENT OF HEALTH
AND HUMAN SERVICES**

Public Health Service
National Institutes of Health

National Library of Medicine
Reference Section
8600 Rockville Pike
Bethesda, Maryland 20894

1992

SERIES NOTE

Current Bibliographies in Medicine (CBM) is a continuation in part of the National Library of Medicine's Literature Search Series, which ceased in 1987 with No. 87-15. In 1989 it also subsumed the *Specialized Bibliography Series*. Each bibliography in the new series covers a distinct subject area of biomedicine and is intended to fulfill a current awareness function. Citations are usually derived from searching a variety of online databases. NLM databases utilized include MEDLINE®, AVLINE®, BIOETHICSLINE®, CANCERLIT®, CATLINE®, HEALTH, POPLINE™ and TOXLINE®. The only criterion for the inclusion of a particular published work is its relevance to the topic being presented; the format, ownership, or location of the material is not considered.

Comments and suggestions on this series may be addressed to:

Karen Patrias, Editor
Current Bibliographies in Medicine
Reference Section
National Library of Medicine
Bethesda, MD 20894
301/496-6097

Ordering Information:

Current Bibliographies in Medicine is sold by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. To order the entire CBM series for the calendar year 1992 (approx. 14 bibliographies), send \$41.00 (\$51.25 foreign) to the Superintendent of Documents citing GPO List ID: CBM92. For your convenience an order blank is given inside the back cover. Orders for individual bibliographies in the series (\$3.25, \$4.06 foreign) should be sent to the Superintendent of Documents citing the title, CBM number, and the GPO List ID given above.

*Use of funds for printing this periodical has been approved by the Director
of the Office of Management and Budget through September 30, 1993.*

MULTIDRUG RESISTANCE

The resistance of cancer cells to multiple chemotherapeutic drugs which are structurally unrelated has been termed "multidrug resistance." In the past several years, several mechanisms of multidrug resistance have been described, including the expression of a cell surface multidrug efflux pump (P-glycoprotein or the multidrug transporter), altered glutathione metabolism, reduced activity of topoisomerase II, and various less clearly defined changes in cellular proteins. Because of evidence that expression of P-glycoprotein is associated with drug-resistance in cancer, P-glycoprotein has been studied extensively from the point of view of its biochemistry and mechanism of action in order to develop inhibitors which can be used clinically to reverse drug resistance of cancers in patients. The clinical significance of the other mechanisms of multidrug resistance are less well-established, but many model systems indicate that they may contribute to clinical resistance.

This bibliography lists journal articles, conference proceedings and abstracts, letters, and monographs published from January 1988 through September 1992. Arrangement of the bibliography is by mechanism of this resistance (or by the fact that a novel, but unknown mechanism is responsible for resistance), and deals with both the basic biochemistry and the clinical implications of these mechanisms. The P-glycoprotein section is further subdivided by neoplasm type and by antineoplastic/immunosuppressive drug categories. Citations may be in more than one category. The monographs are listed in a separate category at the end of the bibliography.

SEARCH STRATEGY

A variety of online databases are usually searched in preparing bibliographies in the CBM series. To assist you in updating or otherwise manipulating the material in this search, the strategy used for the NLM's MEDLINE database is given below. Please note that the search strategies presented here differ from individual demand searches in that they are generally broadly formulated and irrelevant citations edited out prior to printing.

- SS 1 = (TW) MULTIPLE AND DRUG AND ALL RESISTAN:
- SS 2 = (TW) MDR OR MDR1
- SS 3 = (TW) MULTIDRUG AND ALL RESISTAN:
- SS 4 = (TW) MULTI AND DRUG AND ALL RESISTAN:
- SS 5 = P-GLYCOPROTEIN (NM) OR GP170 (TW)
- SS 6 = EXP DRUG RESISTANCE
- SS 7 = 6 AND MULTI (TW) OR 6 AND MULTIDRUG (TW) OR 6 AND MULTIPLE (TW)
- SS 8 = 1 OR 2 OR 3 OR 4 OR 5 OR 7
- SS 9 = 8 AND NEOPLASMS (PX) OR 8 AND ALL CHEMOTHERAP: (TW) OR 8 AND
EXP ANTINEOPLASTIC AGENTS OR 8 AND TUMOR NECROSIS FACTOR OR 8 AND
EXP GENE EXPRESSION OR 8 AND DNA, NEOPLASM OR 8 AND
EXP TUMOR CELLS, CULTURED
- SS 10 = 8 AND EXP MUTAGENESIS, SITE DIRECTED OR 8 AND RNA, NEOPLASM OR 8 AND
SEQUENCE ALIGNMENT OR 8 AND EXP MOLECULAR SEQUENCE DATA OR 8 AND
EXP PHENOTYPE
- SS 11 = 8 AND EXP DNA OR 8 AND EXP DNA PROBES
- SS 12 = 8 AND GENETICS (SH)
- SS 13 = 9 OR 10 OR 11 OR 12

GRATEFUL MED®

To make online searching easier and more efficient, the Library offers GRATEFUL MED, microcomputer-based software that provides a user-friendly interface to most NLM databases. This software was specifically developed for health professionals and features multiple choice menus and "fill in the blank" screens for easy search preparation. GRATEFUL MED runs on an IBM PC (or IBM-compatible) with DOS 2.0 or a Macintosh, and requires a Hayes (or Hayes-compatible) modem. It may be purchased from the National Technical Information Service in Springfield, Virginia, for \$29.95 (plus \$3.00 per order for shipping). For your convenience, an order blank has been enclosed at the back of this bibliography.

SAMPLE CITATIONS

Citations in this bibliographic series are formatted according to the rules established for *Index Medicus*^{®*}. Sample journal and monograph citations appear below. For journal articles written in a foreign language, the English translation of the title is placed in brackets; for monographs, the title is given in the original language. In both cases the language of publication is shown by a three letter abbreviation appearing at the end of the citation. Note also that a colon (:) may appear within an author's name or article title. The NLM computer system automatically inserts this symbol in the place of a diacritical mark.

Journal Article:

Authors

Article Title

LaQuaglia MP, Kopp EB, Spengler BA, Meyers MB, Biedler JL. Multidrug resistance in human neuroblastoma cells. *J Pediatr Surg* 1991 Sep; 26(9):1107-12.

Abbreviated Journal Title Date Volume Issue Pages

Monograph:

Authors/Editors

Title

Chou, T.C.; Rideout, D.C., editors. Synergism and antagonism in chemotherapy. New York: Academic Press; 1991. 752 p.

Place of Publication Publisher Date Total No. of Pages

*For details of the formats used for references, see the following publication:

Patrias, Karen. *National Library of Medicine recommended formats for bibliographic citation*. Bethesda (MD): The Library; 1991 Apr. Available from: NTIS, Springfield, VA; PB91-182030.

TABLE OF CONTENTS

	<i>page</i>
P-Glycoproteins	
By Neoplasm Type	
Brain neoplasms	1
Breast neoplasms	3
Colorectal neoplasms	10
Fibrosarcomas	16
Kidney neoplasms	17
Leukemias	22
Liver neoplasms	38
Lung neoplasms	41
Lymphomas	47
Myelomas	50
Prostate neoplasms	52
Neoplasms (other specific)	53
Neoplasms (general)	54
By Antineoplastic/Immunosuppressive Agent Type	
Anthracyclines	55
Antimetabolites	77
Immunosuppressive agents	79
Nitrogen mustard compounds	86
Phytogenic compounds	87
Other antineoplastic agents	112
Other	115
Glutathione	125
Topoisomerase	131
Unknown Mechanism	136
Other	144
Monographs	158

P-GLYCOPROTEIN

By Neoplasm Type

-Brain neoplasms

- Akiyama SI, Tisgunyram A, Ichikawa M, Sumizawa T, Furukawa T. A molecular basis for multidrug-resistance and reversal of the resistance. In: Tabuchi K, editor. *Biological aspects of brain tumors*. 8th Nikko Brain Tumor Conference; 1990 Nov 6-8; Karatsu-shi, Japan. New York: Springer-Verlag; 1991. p. 63-72.
- Bates SE, Shieh CY, Tsokos M. Expression of mdr-1/P-glycoprotein in human neuroblastoma. *Am J Pathol* 1991 Aug;139(2):305-15.
- Bates SE, Mickley LA, Chen YN, Richert N, Rudick J, Biedler JL, Fojo AT. Expression of a drug resistance gene in human neuroblastoma cell lines: modulation by retinoic acid-induced differentiation. *Mol Cell Biol* 1989 Oct;9(10):4337-44.
- Becker I, Becker KF, Meyermann R, Hollt V. The multidrug-resistance gene MDR1 is expressed in human glial tumors. *Acta Neuropathol (Berl)* 1991; 82(6):516-9.
- Benard J, Bourhis J, Hartmann O, Boccon-Gibod L, Duvillard P, Lhomme C, Michel G, Lemerle J, Goldstein L, Gottesman M, et al. Overexpression of human MDR1 gene is related to prior chemotherapy in ovarian carcinomas and in neuroblastomas. Paper presented at: Symposium on Mechanisms of Drug and Radiation Resistance of Tumor Cells; 1989 Jun 28-30; Villejuif, France.
- Benard J, Bourhis J, Riou G. [Activation of N-myc oncogene and associated genes to chemoresistance, prognostic value for neuroblastoma]. *Bull Cancer (Paris)* 1991 Jan;78(1):91-7. (Fre).
- Biedler JL, Casals D, Chang TD, Meyers MB, Spengler BA, Ross RA. Multidrug-resistant human neuroblastoma cells are more differentiated than controls and retinoic acid further induces lineage-specific differentiation. *Prog Clin Biol Res* 1991;366:181-91.
- Bourhis J, Benard J, Hartmann O, Boccon-Gibod L, Lemerle J, Riou G. Correlation of mdr1 gene expression with chemotherapy in neuroblastoma. *J Natl Cancer Inst* 1989;81(18):1401-5.
- Bradley G, Georges E, Ling V. Immunohistochemical localization of P-glycoprotein isoforms [abstract]. *J Chemother Infect Dis Malig* 1989;Suppl 1:A306.
- Chan HS, Haddad G, Thorner PS, Deboer G, Lin YP, Ondrusek N, Yeger H, Ling V. P-glycoprotein expression as a predictor of the outcome of therapy for neuroblastoma. *N Engl J Med* 1991;325(23): 1608-14.
- Chan HS, Thorner PS, Weitzman S, Solh H, Koren G, Thiessen J, Haddad G, Giesbrecht E, Verjee Z, Greenberg ML, et al. Cyclosporin A for reversal of multidrug resistance in childhood malignancies [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2854.
- Cordon-Cardo C, O'Brien JP, Boccia J, Casals D, Bertino JR, Melamed MR. Expression of the multidrug resistance gene product (P-glycoprotein) in human normal and tumor tissues. *J Histochem Cytochem* 1990 Sep;38(9):1277-87.
- Cordon-Cardo C, O'Brien JP, Casals D, Rittman-Grauer L, Biedler JL, Melamed MR, Bertino JR. Multidrug-resistance gene p-glycoprotein is expressed by endothelial cells at blood-brain barrier sites. *Proc Natl Acad Sci U S A* 1989;86(2):695-8.
- Doz F, Michon J, Quintana E, Pacquement H, Zucker JM. [Multidrug resistance of solid tumors in children]. *Arch Fr Pediatr* 1991 Oct;48(8):585-8. (Fre).
- Feun L, Landy H, Lu K, Li DJ, Kuo MT, Lampidis T, Green B, Savaraj N. MDR1 gene expression in primary malignant brain tumor (MBT) [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1989;8:A343.
- Fleming GF, Amato JM, Agresti M, Safa AR. Megestrol acetate reverses multidrug resistance and interacts with P-glycoprotein. *Cancer Chemother Pharmacol* 1992;29(6):445-9.
- Goldstein L, Galski H, Fojo A, Willingham M, Lai SL, Gazdar A, Pirker R, Green A, Crist W, et al. Expression of a multidrug resistance gene in human cancers. *J Natl Cancer Inst* 1989;81(2):116-24.
- Goldstein L, Galski H, Fojo A, Willingham M, Green A, Crist W, Gottesman M, Pastan I. Expression of a multidrug-resistance gene in human tumors [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1184.
- Goldstein LJ, Fojo AT, Ueda K, Crist W, Green A, Brodeur G, Pastan I, Gottesman MM. Expression of the multidrug resistance, MDR1, gene in neuroblastomas. *J Clin Oncol* 1990 Jan; 8(1): 128-36.
- Gottesman MM, Goldstein LJ, Pastan I. Expression of the multidrug-resistance (MDR1) gene in breast cancer and other cancers. Paper presented at: Biennial International Breast Cancer Research Conference; 1989 Mar 5-9; Tel Aviv University, Tel Aviv.

- Gottesman MM, Goldstein LJ, Willingham MC, Pastan I. Molecular biology of a human multidrug transporter. Paper presented at: Molecular Diagnostics of Human Cancer. Cold Spring Harbor Meeting on Cancer Cells; 1988 Sep 7-11; Cold Spring Harbor, NY.
- Gottesman MM, Pastan I. A membrane protein that transports natural product cytotoxic drugs. *Serono Symp Publ Raven Press* 1989;64:81-7.
- Ichikawa M, Yoshimura A, Furukawa T, Sumizawa T, Akiyama S. Modulators of the multidrug-transporter, P-glycoprotein, exist in the human plasma. *Biochem Biophys Res Commun* 1990 Jan 15;166(1):74-80.
- Ichikawa M, Yoshimura A, Furukawa T, Sumizawa T, Nakazima Y, Akiyama SI. Glycosylation of P-glycoprotein in a multidrug-resistant KB cell line and in the human tissues. *Biochim Biophys Acta* 1991;1073(2):309-15.
- LaQuaglia MP, Kopp EB, Spengler BA, Meyers MB, Biedler JL. Altered state of transformation and/or differentiation in multidrug-resistant human neuroblastoma cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A1704.
- LaQuaglia MP, Kopp EB, Spengler BA, Meyers MB, Biedler JL. Multidrug resistance in human neuroblastoma cells. *J Pediatr Surg* 1991 Sep; 26(9):1107-12.
- Mehta BM, Rosa E, Fissekis JD, Bading JR, Biedler JL, Larson SM. In-vivo identification of tumor multidrug resistance with tritium-3-colchicine. *J Nucl Med* 1992 Jul;33(7):1373-7.
- Meyers MB, Rittmann-Grauer L, O'Brien JP, Safa AR. Characterization of monoclonal antibodies recognizing a m-r 180000 p-glycoprotein differential expression of the m-r 180000 and m-r 170000 p-glycoproteins in multidrug-resistant human tumor cells. *Cancer Res* 1989;49(12):3209-14.
- Meyers MB, Rittmann-Grauer L, O'Brien JP, Safa AR, Cordon-Cardo C, Biedler JL. The 180-KD resistance-related membrane protein recognized by monoclonal antibodies raised against vincristine-resistant human neuroblastoma cells is a P-glycoprotein [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2008.
- Molecular diagnostics of human cancer. *Cancer Cells* 1989;7:1-414.
- Murakami T, Ohmori H, Katoh T, Abe T, Higashi K. Cadmium causes increases of N-myc and multidrug-resistance gene mRNA in neuroblastoma cells. *Sangyo Ika Daigaku Zasshi* 1991 Dec 1;13(4): 271-8.
- Nabors MW, Griffin CA, Zehnbauser BA, Hruban RH, Phillips PC, Grossman SA, Brem H, Colvin OM. Multidrug resistance gene (MDR1) expression in human brain tumors. *J Neurosurg* 1991 Dec; 75(6):941-6.
- Nabors MW, Griffin CA, Zehnbauser BA, Kaufmann SH, Grossman SA, Zhao XL, Brem H, Long DM, Chu YW, Phillips PC, et al. MDR1 expression in human brain tumors [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1990;31:A2102.
- Nakagawara A, Kadomatsu K, Sato S, Kohno K, Takano H, Akazawa K, Nose Y, Kuwano M. Inverse correlation between expression of multidrug resistance gene and N-myc oncogene in human neuroblastomas. *Cancer Res* 1990 May 15;50(10): 3043-7.
- O'Brien JP, Spengler BA, Rittmann-Grauer L, Bertino JR, Biedler JL. Collateral sensitivity of human multidrug-resistant cells to verapamil is potentiated by monoclonal antibody HYB-241 recognizing P-glycoprotein [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2114.
- Pastan I, Willingham MC, Gottesman MM. Multidrug resistance. Paper presented at: 6th NCI-EORTC Symposium on New Drugs in Cancer Therapy; 1989 Mar 7-10; Amsterdam.
- Pileri SA, Sabattini E, Falini B, Tazzari PL, Gherlinzoni F, Michieli MG, Damiani D, Zucchini L, Gobbi M, Tsuruo T, et al. Immunohistochemical detection of the multidrug transport protein P170 in human normal tissues and malignant lymphomas. *Histopathology* 1991 Aug; 19(2):131-40.
- Rittmann-Grauer LS, Yong MA, Sanders V, Mackensen DG. Reversal of Vinca alkaloid resistance by anti-P-glycoprotein monoclonal antibody HYB-241 in a human tumor xenograft. *Cancer Res* 1992 Apr 1; 52(7):1810-6.
- Schluesener HJ. Multidrug transport in human glioblastoma cells is inhibited by transforming growth factors type beta 1, beta 2, and beta 1.2. *J Neurosci Res* 1991 Feb;28(2):310-4.
- Schluesener HJ. Transforming growth factors type beta inhibit multidrug transport in rat astrocyte cell lines. *Autoimmunity* 1991;9(3):269-75.
- Schluesener HJ, Meyermann R. Spontaneous multidrug transport in human glioma cells is regulated by transforming growth factors type beta. *Acta Neuropathol (Berl)* 1991;81(6):641-8.
- Tebbi CK, Chervinsky D, Baker RM. Modulation of drug resistance in homoharringtonine-resistant C-1300 neuroblastoma cells with cyclosporine A and dipyridamole. *J Cell Physiol* 1991 Sep;148(3): 464-71.

Tebbi CK, Yaeger E, Chervinsky D, Chen Y, Baker R. Dipyrimidole (DPM) is highly effective in reversing multidrug resistance of C1300 neuroblastoma [abstract]. Proc Annu Meet Am Assoc Cancer Res 1990;31:A2096.

Thiebaut F, Tsuruo T, Hamada H, Gottesman MM, Pastan I, Willingham MC. Immunohistochemical localization in normal tissues of different epitopes in the multidrug transport protein p170 evidence for localization in brain capillaries and crossreactivity of one antibody with a muscle protein. J Histochem Cytochem 1989;37(2):159-64.

Tishler DM, Raffel C. Development of multidrug resistance in a primitive neuroectodermal tumor cell line. J Neurosurg 1992 Mar;76(3):502-6.

Tishler DM, Weinberg KI, Sender LS, Nolte JA, Raffel C. Multidrug resistance gene expression in pediatric primitive neuroectodermal tumors of the central nervous system. J Neurosurg 1992 Mar; 76(3):507-12.

-Breast neoplasms

Adams DJ, Knick VC. MDR and non-MDR forms of cellular resistance to 5'-nor-anhydrovinblastine (navelbine) [abstract]. Proc Annu Meet Am Assoc Cancer Res 1992;33:A2760.

Aftab DT, Hait WN. Multiple forms of protein kinase C in multidrug resistant MCF-7 human breast cancer cells [abstract]. Proc Annu Meet Am Assoc Cancer Res 1988;29:A1428.

Ahmad S, Trepel J, Glazer RI. Protein kinase C isoform-specific mediation of multidrug resistance (MDR) in MDR1-expressing MCF-7 cells [abstract]. Proc Annu Meet Am Assoc Cancer Res 1992;33:A2722.

Ahn CH, Fine RL, Anderson WB. Possible involvement of protein-kinase C in the modulation of multidrug resistance [abstract]. Proc Annu Meet Am Assoc Cancer Res 1988;29:A1182.

Akman S, Forrest G, Chu FF, Esworthy RS, Stetzler J, Doroshow J. Antioxidant enzyme gene expression in multidrug-resistant MCF-7 breast cancer cells (MCF-7/ADR) [abstract]. Proc Annu Meet Am Assoc Cancer Res 1989;30:A1973.

Arredondo M, Guimaraes M, Tsangaris T, Slocum H, Rustum YM. P-glycoprotein content of aneuploid and diploid populations of human breast carcinoma [abstract]. Proc Annu Meet Am Soc Clin Oncol 1992;11:A212.

Assaraf YG, Molina A, Schimke RT. Cross-resistance to the lipid-soluble antifolate trimetrexate in human carcinoma cells with the multidrug-resistant phenotype. J Natl Cancer Inst 1989 Feb 15;81(4): 290-4.

Baird WM, Ferin M, Morgan S, Averbuch SD, Ivy SP, Cowan KH, Myers CE. Metabolism of benzo(a)pyrene (BaP) in the human breast adenocarcinoma cell line MCF-7 and an adriamycin resistant subline Adr(R)MDF-7 [abstract]. Proc Annu Meet Am Assoc Cancer Res 1988;29:A486.

Bates SE, Denicoff AM, Cowan K, Tucker E, Begley M, Goldspiel B, Myers C, Fojo T. A study of MDR-1 expression and pharmacologic reversal in human breast cancer [abstract]. Proc Annu Meet Am Soc Clin Oncol 1991;10:A148.

Batist G, Schechter R, Woo A, Greene D, Lehnert S. Glutathione depletion in human and in rat multidrug resistant breast cancer cell lines. Biochem Pharmacol 1991 Feb 15;41(4):631-5.

Battifora H. Specificity of immunohistochemical expression of P-glycoprotein [letter]. Hum Pathol 1991 May;22(5):506-7.

- Benchekroun MM, Schott B, Bennis S, Montaudon D, Robert J. Doxorubicin-induced lipid peroxidation (DILP) and glutathione peroxidase (GPx) activity in multidrug-resistant (MDR) cell lines [abstract]. Proc Annu Meet Am Assoc Cancer Res 1991;32: A2208.
- Berry JM, Brophy NA, Smith SD, Bergstrom SK, Scudder SA, Roninson IB, Sikic BI. Increased expression of the multidrug resistance gene MDR1 in human cancers [abstract]. Proc Annu Meet Am Soc Clin Oncol 1988;7:A193.
- Botti G, De Matteis A, Chiappetta G, D'Aiuto G, Esposito G, Picone A. Mammary carcinoma. A multiparametric (MDR-P-glycoprotein expression, regional node status, tumor cells kinetics and receptor status) and immunohistochemical study. J Nucl Med Allied Sci 1990 Oct-Dec;34(4 Suppl): 221-3.
- Brown R, Keith N, Stallard S, Kaye SB. Expression of *mdr1* and *gst-pi* in breast tumors: correlations with chemoresponsiveness in vitro [abstract]. Proc Annu Meet Am Assoc Cancer Res 1989;30:A2054.
- Broxterman HJ, Schuurhuis GJ, Lankelma J, Baak JP, Pinedo HM. Towards functional screening for multidrug resistant cells in human malignancies. Pezcoller Found Symp 1990;1:309-29.
- Chin JE, Soffir R, Noonan KE, Choi K, Roninson IB. Structure and expression of the human *mdr p-glycoprotein* gene family. Mol Cell Biol 1989; 9(9):3808-20.
- Cohen D, Piekarz RL, Hsu SI, DePinho RA, Carrasco N, Horwitz SB. Structural and functional analysis of the mouse *mdr1b* gene promoter. J Biol Chem 1991 Feb 5;266(4):2239-44.
- Coon JS, Koukoulis G, Roninson I, Weinstein RS. Expression of *mdr-1* gene product in benign and malignant breast [abstract]. Lab Invest 1989; 60(1):19A.
- Cordon-Cardo C, O'Brien JP, Boccia J, Casals D, Bertino JR, Melamed MR. Expression of the multidrug resistance gene product (P-glycoprotein) in human normal and tumor tissues. J Histochem Cytochem 1990 Sep;38(9):1277-87.
- Cordon-Cardo C, O'Brien JP, Casals D, Boccia J, Bertino JR. Immunohistochemical and immunopathologic expression of the multidrug resistance gene product. Cancer Cells 1989; 7:87-93.
- Critchfield JW, Welsh CJ, Phang JM, Yeh GC. Flavonoids modulate drug accumulation in HCT-15 cells and drug-resistant MCF-7 cells: P-glycoprotein as a possible target [abstract]. Proc Annu Meet Am Assoc Cancer Res 1992;33:A793.
- Cuvier C, Roblot-Treupel L, Millot JM, Couvreur P, Manfait M, Poupon MF. Doxorubicin, loaded on nanospheres, bypasses multidrug resistance and is detectable as bound to nuclear DNA by microspectrofluorometry. Paper presented at: Symposium on Mechanisms of Drug and Radiation Resistance of Tumor Cells; 1989 Jun 28-30; Villejuif, France.
- Dalton WS. Mechanisms of drug resistance in breast cancer. Semin Oncol 1990 Aug;17(4 Suppl 7): 37-9.
- Dalton WS, Grogan TM. Does P-glycoprotein predict response to chemotherapy and if so is there a reliable way to detect it? J Natl Cancer Inst 1991; 83(2):80-1.
- Degregorio MW, Ford JM, Benz CC, Wiebe VJ. Toremifene pharmacologic and pharmacokinetic basis of reversing multidrug resistance. J Clin Oncol 1989;7(9):1359-64.
- Dorr RT, Alberts DS, Sami SM, Remers WA. Consistent cytotoxic activity in multidrug resistant tumors for azonafide, a new anthracene analog of amonafide [abstract]. Proc Annu Meet Am Assoc Cancer Res 1991;32:408.
- Dorr RT, Liddil JD, Von Hoff DD, Soble M, Osborne CK. Antitumor activity and murine pharmacokinetics of parenteral acronycine. Cancer Res 1989;49(2):340-4.
- Erlichman C, Bjarnason G, Bunting P, DeAngelis C, Kerr I, Maki E, Moore M, Rahemtulla C, Thiessen J, Walker S. Cyclosporin A (CyA) modulation of doxorubicin (D): a pharmacokinetic/ pharmacodynamic trial [abstract]. Proc Annu Meet Am Soc Clin Oncol 1991;10:A314.
- Salmon SE, Grogan T, Meltzer PS, Dalton WS. Relevance of multidrug resistance to neoadjuvant therapy of cancer. Paper presented at: 2nd International Congress on Neo-Adjuvant Chemotherapy; 1988 Feb 19-21; Paris.
- Fairchild CR, Cowan KH. Keynote address: Multidrug resistance: a pleiotropic response to cytotoxic drugs. Int J Radiat Oncol Biol Phys 1991 Feb;20(2):361-7.
- Fairchild CR, Ivy SP, Kao Shan CS, Whang Peng J, Rosen N, Israel MA, Melera PW, Cowan KH, Goldsmith ME. Isolation of amplified and overexpressed DNA sequences from Adriamycin resistant human breast cancer cells. Cancer Res 1987;47(19):5141-8.
- Fairchild CR, Moscow JA, Ivy SP, Vickers PJ, Cowan KH. An inducible expression vector containing a P-glycoprotein cDNA isolated from adriamycin-resistant MCF-7 cells [abstract]. Proc Annu Meet Am Assoc Cancer Res 1988;29:A1248.
- Fairchild CR, Moscow JA, O'Brien EE, Cowan KH. Multidrug resistance in cells transfected with human genes encoding a variant P-glycoprotein and

- glutathione S-transferase-pi. *Mol Pharmacol* 1990 Jun;37(6):801-9.
- Fine RL, Carmichael J, Cowan KH, Chabner BA, Patel J. Phosphoprotein and protein kinase C changes in human multidrug-resistant cancer cells. In: Woolley PV III, Tew KD, editors. *Mechanisms of drug resistance in neoplastic cells*; 1986 Oct 15-16; Washington, DC. San Diego (CA): Academic Press, Inc.; 1988. p. 87-96. (Bristol-Myers cancer symposia; 9).
- Fine RL, Patel J, Carmichael J, Chabner BA. Multidrug resistance in human cancer cells: changes in protein phosphorylation and protein kinase. In: Zenser TV, Coe RM, editors. *Cancer and aging: progress in research and treatment*. New York: Springer Publishing; 1989. p. 158-70.
- Fine RL, Patel J, Chabner BA. Phorbol esters induce multidrug resistance in human breast cancer cells. *Proc Natl Acad Sci U S A* 1988;85(2):582-6.
- Ford JM, Bruggemann EP, Pastan I, Gottesman MM, Hait WN. Cellular and biochemical characterization of thioxanthenes for reversal of multidrug resistance in human and murine cell lines. *Cancer Res* 1990 Mar 15;50(6):1748-56.
- Ford JM, Hait WN. Further characterization of the thioxanthene class of multidrug resistance antagonists [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:570.
- Ford JM, Prozialeck WC, Hait WN. Identification of active pharmaceuticals against multi-drug resistance through structure activity relationships of calmodulin antagonists [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:313.
- Ford JM, Prozialeck WC, Hait WN. Structural features determining activity of phenothiazines and related drugs for inhibition of cell growth and reversal of multidrug resistance. *Mol Pharmacol* 1989;35(1):105-15.
- Ford JM, Yang JM, Hait WN. Effect of buthionine sulfoximine on toxicity of verapamil and doxorubicin to multidrug resistant cells and to mice. *Cancer Res* 1991;51(1):67-72.
- Fuqua SAW, Fitzgerald SD, Fatette NF, Mcguire WL. Expression of mdr-1 in breast cancer [abstract]. *Breast Cancer Res Treat* 1989;14(1):173.
- Gewirtz DA, Grant S, Woods KE. Modulation of adriamycin sensitivity in multidrug-resistant MCF-7 breast tumor cells by tomosifen [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2898.
- Giai M, Biglia N, Sismondi P. Chemoresistance in breast tumors. *Eur J Gynaecol Oncol* 1991;12(5):359-73.
- Goldstein L, Galski H, Fojo A, Willingham M, Green A, Crist W, Gottesman M, Pastan I. Expression of a multidrug-resistance gene in human tumors [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1184.
- Goldstein L, Galski H, Fojo A, Willingham M, Lai SL, Gazdar A, Pirker R, Green A, Crist W, et al. Expression of a multidrug resistance gene in human cancers. *J Natl Cancer Inst* 1989;81(2):116-24.
- Gottesman MM, Goldstein LJ, Pastan I. Expression of the multidrug-resistance (MDR1) gene in breast cancer and other cancers. Paper presented at: Biennial International Breast Cancer Research Conference; 1989 Mar 5-9; Tel Aviv University, Tel Aviv.
- Gottesman MM, Pastan I. A membrane protein that transports natural product cytotoxic drugs. *Serono Symp Publ Raven Press* 1989;64:81-7.
- Grandi M, Ballinari D, Capolongo L, Pastori A, Ripamonti M, Suarato A, Spreafico F. [New anthracyclines and multidrug resistance]. *Haematologica* 1991 Jun;76 Suppl 3:181-3. (Ita).
- Grandi M, Capolongo L, Ballinari D, Giuliani FC, Mongelli N. Cytotoxicity and intracellular levels of distamycin A in sensitive and DX-resistant cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2015.
- Guimaraes MA, Arredondo MA, Harstrick A, Slocum HK, Perrapato S, Huben R, Rustum YM. Cell cycle phase analysis of P-glycoprotein overexpression [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2810.
- Hait WN, Gesmonde JF, Murren JR, Ahmad H, Reiss M, Yang JM. Terfenadine (seldane): a potent sensitizer of multidrug-resistant cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2863.
- Harder S. Verapamil, a promising agent for circumvention of multidrug-resistance. *Onkologie* 1991;14(3):212-7.
- Harris AL. Mechanisms of anticancer drug resistance. *Dev Oncol* 1990;58:107-15.
- Harris AL. Mechanisms of cytotoxic drug resistance in breast cancer. Paper presented at: Biennial International Breast Cancer Research Conference; 1989 Mar 5-9; Tel Aviv University, Tel Aviv.
- Harris AL, Hochhauser D. Mechanisms of multidrug resistance in cancer treatment. *Acta Oncol* 1992;31(2):205-13.
- Hendricks CB, Rowinsky EK, Grochow LB, Donehower RC, Kaufmann SH. Effect of P-glycoprotein expression on the accumulation and cytotoxicity of

- topotecan (SK&F 104864), a new camptothecin analogue. *Cancer Res* 1992 Apr 15; 52(8):2268-78.
- Hill BT, Whelan RD, Hosking LK, de Vries EG, Mulder NH, Dunn T. Evaluation of S9788 as a potential modulator of drug resistance against human tumor sublines expressing differing resistance mechanisms in vitro [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2881.
- Hochhauser D, Harris AL. Drug resistance. *Br Med Bull* 1991 Jan;47(1):178-96.
- Jamis-Dow CA, Myers CE, Yeh GC. Increased lactate production associated with early stages of adriamycin resistance in human breast cancer cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A1991.
- Jardillier JC, Larbre H, Rallet A, Devincourt C. Presence of increased alkaline phosphatase activity in multidrug resistant MCF7 cells [abstract]. *Breast Cancer Res Treat* 1991;19(2):193.
- Jaroszewski JW, Kaplan O, Cohen JS. Action of gossypol and rhodamine 123 on wild type and multidrug-resistant MCF-7 human breast cancer cells: 31P nuclear magnetic resonance and toxicity studies. *Cancer Res* 1990 Nov 1;50(21):6936-43.
- Jaroszewski JW, Kaplan O, Syi JL, Sehested M, Faustino PJ, Cohen JS. Concerning antisense inhibition of the multiple drug resistance gene. *Cancer Commun* 1990;2(8):287-94.
- Jett M, Fine RL, Cowan KC, Chabner BA. Reversal of drug-sensitivity profiles in wild type and multidrug-resistant MCF-7 breast cancer cells by liposomes comprised of cytotoxic phospholipids [abstract]. *J Cell Biochem Suppl* 1988;(12 Pt B): 256.
- Jett M, Fine RL, Jelsema C, Cowan KC, Chabner BA. The signal transduction cascade is more responsive to stimulation in multidrug-resistant mcf-7 breast cancer cells than in the wild type cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A80.
- Jett M, Fine RL, Jelsema C, Cowan KC, Poston C, Chabner B. MCF-7 multidrug-resistant human breast cancer cells but not the parent cells show insensitivity to inhibitors of GTP-binding proteins [abstract]. *J Cell Biochem Suppl* 1988;12 Pt E:47.
- Jett M, Fine RL, Pallansch L. Modifying multidrug-resistance by manipulating signal transduction pathways [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A1993.
- Kacinski BM, Yee LD, Carter D. Quantitation of tumor cell expression of the P-glycoprotein mdr1 gene in human breast carcinoma clinical specimens. *Cancer Bull* 1989;41(1):44-8.
- Kacinski BM, Yee LD, Carter D, Li D, Kuo MT. Human breast carcinoma cell levels of MDR-1 (P-glycoprotein) transcripts correlate in vivo inversely and reciprocally with tumor progesterone receptor content. *Cancer Commun* 1989;1(1):1-6.
- Kaplan O, Jaroszewski JW, Clarke R, Fairchild CR, Schoenlein P, Goldenberg S, Gottesman MM, Cohen JS. The multidrug resistance phenotype: 31P nuclear magnetic resonance characterization and 2-deoxyglucose toxicity. *Cancer Res* 1991 Mar 15;51(6):1638-44.
- Kaplan O, Navon G, Lyon RC, Faustino PJ, Straka EJ, Cohen JS. P-31 and C-13 nuclear magnetic resonance studies of 2-deoxyglucose metabolism in sensitive and resistant breast tumor cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2213.
- Keith WN, Stallard S, Brown R. Expression of mdr1 and gst-pi in human breast tumours: comparison to in vitro chemosensitivity. *Br J Cancer* 1990 May; 61(5):712-6.
- Kellen JA, George E, Ling V. Decreased P-glycoprotein in a tamoxifen-tolerant breast carcinoma model. *Anticancer Res* 1991 May-Jun; 11(3):1243-4.
- Knick VC, Miller CG. In vivo derivation of a murine P388 leukemia subline resistant to 5'-nor-anhydrovinblastine (navelbine) and its cross-resistance profile [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2759.
- Lee FYF, Sciandra J, Siemann DW. A study of the mechanism of resistance to adriamycin in-vivo glutathione metabolism P-glycoprotein expression and drug transport. *Biochem Pharmacol* 1989; 38(21):3697-706.
- Lee SA, Karaszkiwicz JW, Anderson WB. Elevated level of nuclear protein kinase C in multidrug-resistant MCF-7 human breast carcinoma cells. *Cancer Res* 1992 Jul 1;52(13):3750-9.
- Leonessa F, Lippman J, Clarke R. Mechanisms of tamoxifen- and ORG2058-induced reversal of the MDR1 phenotype [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2900.
- Liley DTJ, Wiggins PM, Baguley BC. Localization of a nonintercalative DNA binding antitumor drug in mitochondria relationship to multidrug resistance. *Eur J Cancer Clin Oncol* 1989;25(9):1287-94.
- Lonn U, Lonn S, Nylén U, Stenkvis B. Appearance and detection of multiple copies of the mdr-1 gene in clinical samples of mammary carcinoma. *Int J Cancer* 1992 Jul 9;51(5):682-6.

- Merkel DE, Fuqua SAW, Tandon AK, Hill SM, Buzdar AU, Mcguire WL. Electrophoretic analysis of 248 clinical breast cancer specimens for p-glycoprotein overexpression of gene amplification. *J Clin Oncol* 1989;7(8):1129-36.
- Mimnaugh EG, Fairchild CR, Fruehauf JP, Sinha BK. Biochemical and pharmacological characterization of MCF-7 drug-sensitive and AdrR multidrug-resistant human breast tumor xenografts in athymic nude mice. *Biochem Pharmacol* 1991 Jul 5;42(2):391-402.
- Mimnaugh EG, Fairchild CR, Fruehauf JP, Sinha BK. Biochemical characterization of MCF-7 sensitive and ADRR multidrug-resistant human breast tumors in nude mice [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1990;31:A2092.
- Mimnaugh EG, Sinha BK, Rajagopalan S, Myers CE. Subcellular sites of enzymatic doxorubicin activation, oxyradical production and detoxification in sensitive and multidrug resistant MCF-7 human breast tumors [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2233.
- Mitchell JB, Glatstein E, Cowan KH, Russo A. Photodynamic therapy of multi-drug resistant cell lines [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1254.
- Molecular diagnostics of human cancer. *Cancer Cells* 1989;7:1-414.
- Molina A, Assaraf YG, Schimke RT. Acquisition of resistance to the lipophilic antifolate trimetrexate in human breast carcinoma cells [abstract]. *Clin Res* 1989;37(2):469a.
- Morgan PF, Fine RL, Montgomery P, Marangos PJ. Multidrug resistance in MCF-7 human breast cancer cells is associated with increased expression of nucleoside transporters and altered uptake of adenosine. *Cancer Chemother Pharmacol* 1991;29(2):127-32.
- Mukaiyama T, Minowa S, Ogawa M. Analysis of MDR1 mRNA expression in breast cancer specimens by reverse-transcription polymerase chain reaction (RT-PCR) [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2786.
- Myers CE. Anthracyclines. *Cancer Chemother Biol Response Modif* 1988;10:33-9.
- Nakagawa M, Dixon KH, Gilbert L, Goldsmith ME, Cowan KH. Characterization of mitoxantrone resistant human breast cancer cell line [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2204.
- Noonan KE, Chin JE, Roninson IB. Analysis of multidrug resistance gene expression by enzymatic amplification of randomly primed cDNA [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A1982.
- Ozols RF. Reversal of drug resistance: clinical trials based on experimental studies in human tumor model systems. Paper presented at: Symposium on Mechanisms of Drug and Radiation Resistance of Tumor Cells; 1989 Jun 28-30; Villejuif, France.
- Ozols RF. Reversal of drug resistance: laboratory data and clinical trials. Paper presented at: Biology and Therapy of Breast Cancer. Joint NCI-IST Symposium/3rd IST International Symposium; 1989 Sep 25-27; Genoa, Italy.
- Pastan I, Willingham MC, Gottesman MM. Multidrug resistance. Paper presented at: 6th NCI-EORTC Symposium on New Drugs in Cancer Therapy; 1989 Mar 7-10; Amsterdam.
- Payne C, Bellamy W, North J, Bjore C Jr, Weinstein R. Quantitative electron microscopic analysis of surface negative charge on multidrug-resistant and -sensitive breast carcinoma cell lines [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33: A2831.
- Philip PA, Monkman S, Idle J, Carmichael J, Harris AL. A phase I study of nifedipine with etoposide in metastatic tumors [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1990;9:A323.
- Pinedo HM, van Groeningen CJ, van Kalken CK. Cellular pharmacology and drug resistance in breast cancer. Paper presented at: Biology and Therapy of Breast Cancer. Joint NCI-IST Symposium/3rd IST International Symposium; 1989 Sep 25-27; Genoa, Italy.
- Plumb JA, Milroy R, Kaye SB. The activity of verapamil as a resistance modifier in vitro in drug resistant human tumour cell lines is not stereospecific. *Biochem Pharmacol* 1990 Feb 15;39(4):787-92.
- Politi PM, Sinha BK. Role of differential drug uptake efflux and binding of etoposide in sensitive and resistant human tumor cell lines implications for the mechanisms of drug resistance. *Mol Pharmacol* 1989;35(3):271-8.
- Ragaz J, Goldie J, Coldman A, Simpson-Herren L, Barnett M, Phillips G. Kinetic and biological effects of high-dose intensity consolidation chemotherapy (HDICC) regimens for solid tumors requiring autologous bone marrow (ABM)-peripheral stem cell (PBSC) support. Rationale for multiple transplants [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1991;10:A301.
- Ries F, Dicato M. Treatment of advanced and refractory breast cancer with doxorubicin, vincristine and continuous infusion of verapamil. A phase I-II

- clinical trial. *Med Oncol Tumor Pharmacother* 1991;8(1):39-43.
- Ro J, Sahin A, Ro JY, Fritsche H, Hortobagyi G, Blick M. Immunohistochemical analysis of P-glycoprotein expression correlated with chemotherapy resistance in locally advanced breast cancer. *Hum Pathol* 1990 Aug;21(8):787-91.
- Ronchi E, Sanfilippo O, Di Fronzo G, Bani MR, Della Torre G, Catania S, Silvestrini R. Detection of the 170 kDa P-glycoprotein in neoplastic and normal tissues. *Tumori* 1989 Dec 31;75(6):542-6.
- Roninson IB, Chin JE, Choi K, Morse BS, Noonan KE, Chen CJ, Patel MC, Coon JS, Lee I, Weinstein RS. Molecular biology of multidrug resistance in human tumor cells. Paper presented at: 6th NCI-EORTC Symposium on New Drugs in Cancer Therapy; 1989 Mar 7-10; Amsterdam.
- Rowinsky EK. Current developments in antitumor antibiotics epipodophyllotoxins and vinca alkaloids. *Curr Opin Oncol* 1991;3(6):1060-9.
- Ryffel B, Woerly G, Rodriguez C, Foxwell BM. Identification of the multidrug resistance-related membrane glycoprotein as an acceptor for cyclosporine. *J Recept Res* 1991;11(1-4):675-86.
- Sachs C, Schnur D, Ballas L, Hannun Y, Loomis C, Carroll I, Bell R, Fine RL. Protein kinase C (PKC) inhibitors increase drug accumulation and are cytotoxic to a human multidrug-resistant (MDR) breast cancer line [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1990;31:A2128.
- Salmon SE, Grogan TM, Miller T, Scheper R, Dalton WS. Prediction of doxorubicin resistance in-vitro in myeloma lymphoma and breast cancer by p-glycoprotein staining. *J Natl Cancer Inst* 1989; 81(8):696-701.
- Sanfilippo O, Di Fronzo G, Ronchi E. Natural or acquired drug resistance and GP170 (GP) expression in human breast cancers [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1990;31:A2209.
- Sanfilippo O, Ronchi E, De Marco C, Di Fronzo G, Silvestrini R. Expression of P-glycoprotein in breast cancer tissue and in vitro resistance to doxorubicin and vincristine. *Eur J Cancer* 1991; 27(2):155-8.
- Sanfilippo O, Silvestrini R, Ronchi E, Di Fronzo G. P-glycoprotein (PGP) expression and resistance to doxorubicin (DX) in human tumors [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1989;8:A217.
- Savaraj N, Lu K, Guo T, Castello C, Tapiero H, Lampidis T. Reduced drug accumulation with increased p-glycoprotein expression in normal cell line [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1164.
- Scala S, Murphy LD, Tortora G, Cho-Chung Y, Bates S. Effects of differentiating agents (DA) on P-glycoprotein (Pgp) expression in a multidrug resistant breast cancer cell line [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2240.
- Schneider J, Bak M, Efferth T, Kaufmann M, Mattern J, Volm M. P-glycoprotein expression in treated and untreated human breast cancer. *Br J Cancer* 1989;60(6):815-8.
- Schwartz GK, Arkin H, Holland JF, Ohnuma T. Protein kinase C activity and multidrug resistance in MOLT-3 human lymphoblastic leukemia cells resistant to trimetrexate. *Cancer Res* 1991 Jan 1; 51(1):55-61.
- Shieh CY, Fojo AT, Bates SE. Expression of a multidrug resistance gene (mdr-1/Pgp) in human breast carcinoma [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2073.
- Sikic BI, Brophy NA, Berry JM, Marie JP, Ehsan MN, Tsuruo T, Roninson IB, Smith SD. Multidrug resistance gene expression in ovarian and breast cancers, leukemias, and lymphomas. Paper presented at: 6th NCI-EORTC Symposium on New Drugs in Cancer Therapy; 1989 Mar 7-10; Amsterdam.
- Sugawara I, Kataoka I, Morishita Y, Hamada H, Tsuruo T, Itoyama S, Mori S. Tissue distribution of P-glycoprotein encoded by a multidrug-resistant gene as revealed by a monoclonal antibody MRK 16. *Cancer Res* 1988;48(7):1926-9.
- Taylor CW, Dalton WS. Multiple mechanisms of drug resistance in MCF-7 human breast cancer cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2109.
- Taylor CW, Dalton WS, Parrish PR, Gleason MC, Bellamy WT, Thompson FH, Roe DJ, Trent JM. Different mechanisms of decreased drug accumulation in doxorubicin and mitoxantrone resistant variants of the MCF7 human breast cancer cell line. *Br J Cancer* 1991 Jun;63(6):923-9.
- Terrier P, Townsend AJ, Coindre JM, Triche TJ, Cowan KH. An immunohistochemical study of pi class glutathione S-transferase expression in normal human tissue. *Am J Pathol* 1990 Oct;137(4): 845-53.
- Thierry AR, Vige D, Dritschilo A, Rahman A. Modulation of multidrug resistance by liposomally encapsulated doxorubicin in two human MDR tumor cell lines [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2214.
- Treupel L, Poupon MF, Couvreur P, Puisieux F. [Vectorisation of doxorubicin in nanospheres and

- reversion of pleiotropic resistance of tumor cells]. *C R Acad Sci III* 1991;313(3):171-4. (Fre).
- Vaughan WP, Bierman PJ, Reed EC, Vose J, Kessinger A, Armitage JO. High-dose hydroxyurea (HU) incorporation into autologous marrow transplant (ABMT) regimes [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1991;10:A344.
- Verrelle P, Meissonnier F, Fonck Y, Feillel V, Dionet C, Kwiatkowski F, Plagne R, Chassagne J. Clinical relevance of immunohistochemical detection of multidrug resistance P-glycoprotein in breast carcinoma. *J Natl Cancer Inst* 1991 Jan 16; 83(2):111-6.
- Vickers PJ, Dickson RB, Shoemaker R, Cowan KH. Multidrug resistant MCF-7 human breast cancer cells display hormone-independent tumor growth [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1247.
- Wallace RE, Lindh D, Greenberger L, Raventos-Suarez C, Durr FE. Development of a human breast carcinoma (MX-1E) cell line resistant to calicheamicin [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2163.
- Wallner J, Depisch D, Hopfner M, Haider K, Spona J, Ludwig H, Pirker R. MDR1 gene expression and prognostic factors in primary breast carcinomas. *Eur J Cancer* 1991;27(11):1352-5.
- Wang L, Yang CP, Trail P, Horwitz SB, Casazza AM. Reversal of the multidrug resistance (MDR) phenotype with megestrol acetate (MA) [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32: A2239.
- Whang-Peng J. Double minutes (DMs) and homogeneously staining regions (HSRs). *Int Congr Ser* 1989;807:63-74.
- Wishart GC, Kaye SB. Is multidrug resistance relevant in breast cancer? *Eur J Surg Oncol* 1991 Oct;17(5):485-8.
- Wishart GC, Plumb JA, George WD, Kaye SB. P-glycoprotein expression is found in stromal cells of breast cancer but not those of normal breast [abstract]. *Br J Cancer* 1991;64 Suppl 15:8.
- Wishart GC, Plumb JA, Going JJ, McNicol AM, McArdle CS, Kaye SB. Is C219 specific for P-glycoprotein? [abstract]. *Br J Cancer* 1990;62(3): 534.
- Wishart GC, Plumb JA, Morrison JG, Hamilton TG, Kaye SB. Adequate tumour quinidine levels for multidrug resistance modulation can be achieved in vivo. *Eur J Cancer* 1992;28(1):28-31.
- Yau J, Li D, Tsao J, Kuo T, Lu K. Mdr-1 gene expression in bone marrow cells of breast cancer patients after combination chemotherapy [abstract]. *Breast Cancer Res Treat* 1988;12(1):126.
- Yee LD, Kacinski BM, Bloodgood RS, Carter D. Human breast carcinoma cell levels of expression of the multiple drug resistance gene mdr-1 P-glycoprotein correlate negatively and reciprocally with their progesterone receptor content [abstract]. *Lab Invest* 1989;60(1):107A.
- Yeh GC, Chou JY, Jamis-Dow CA, Occhipinti SJ, Myers CE. Genetic and biochemical differences of glucose-6-phosphate dehydrogenase in adriamycin-sensitive and -resistant human breast cancer cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2087.
- Yeh GC, Phang JM. Modulation of drug efflux pump P-glycoprotein by chemical carcinogen benzo(a)pyrene in adriamycin-resistant human breast cancer cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2564.
- Young RC. Mechanisms to improve chemotherapy effectiveness. *Cancer* 1990 Feb 1;65(3 Suppl): 815-22.
- Yu G, Ahmad S, Aquino A, Fairchild CR, Trepel JB, Ohno S, Suzuki K, Tsuruo T, Cowan KH, Glazer RI. Transfection with protein kinase C alpha confers increased multidrug resistance to MCF-7 cells expressing P-glycoprotein. *Cancer Commun* 1991 Jun;3(6):181-9.

-Colorectal neoplasms

- Barrand MA, Twentyman PR. Variations in P-glycoprotein expression in response to drug treatment in mouse tumor cell lines [abstract]. *Br J Cancer* 1991;63 Suppl 13:12.
- Bates SE, Currier SJ, Alvarez M, Fojo AT. Modulation of P-glycoprotein phosphorylation and drug transport by sodium butyrate. *Biochemistry* 1992 Jul 21;31(28):6366-72.
- Bates SE, Currier SJ, Fojo AT. Modulation of P-glycoprotein (Pgp) specificity by sodium butyrate (NaB) [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2164.
- Bates SE, Scala S, Dickstein B, Fojo AT. Modulation of P-glycoprotein (Pgp) function by dephosphorylation [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2905.
- Biedler JL. Genetic aspects of multidrug resistance (MDR). Paper presented at: American Cancer Society National Conference on Integration of Molecular Genetics into Cancer Management; 1991 Apr 10-12; Miami, FL.
- Bousquet P, Wardwell S, Keilhauer G, Romerdahl CA. Modulation of multidrug resistance in human xenograft models [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2886.
- Chen AY, Yu C, Potmesil M, Wall ME, Wani MC, Liu LF. Camptothecin overcomes MDR1-mediated resistance in human KB carcinoma cells. *Cancer Res* 1991 Nov 15;51(22):6039-44.
- Chin JE, Soffir R, Noonan KE, Choi K, Roninson IB. Structure and expression of the human mdr p-glycoprotein gene family. *Mol Cell Biol* 1989; 9(9):3808-20.
- Chin KV, Chauhan SS, Pastan I, Gottesman MM. Regulation of mdr RNA levels in response to cytotoxic drugs in rodent cells. *Cell Growth Differ* 1990 Aug;1(8):361-5.
- Choi PM, Weinstein IB. Multidrug resistance is independent of protein kinase C activity in HT29 colon cancer cells [abstract]. *Gastroenterology* 1991;100(5 Pt 2):A354.
- Cordon-Cardo C, O'Brien JP, Boccia J, Casals D, Bertino JR, Melamed MR. Expression of the multidrug resistance gene product (P-glycoprotein) in human normal and tumor tissues. *J Histochem Cytochem* 1990 Sep;38(9):1277-87.
- Cordon-Cardo C, O'Brien JP, Casals D, Boccia J, Bertino JR. Immunohistochemical and immunopathologic expression of the multidrug resistance gene product. *Cancer Cells* 1989;7: 87-93.
- Critchfield JW, Welsh CJ, Phang JM, Yeh GC. Flavonoids modulate drug accumulation in HCT-15 cells and drug-resistant MCF-7 cells: P-glycoprotein as a possible target [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A793.
- DeHerdt SV, Andrews EL, Marder P, Moore RE, Hoskins J, Bumol TF. Characterization of the multiple drug resistance phenotype of several human colorectal carcinoma cell lines selected with vinca alkaloids [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1419.
- Deutsch Murphy L, Herzog CE, Rudick JB, Fojo AT, Bates SE. Use of the polymerase chain reaction in the quantitation of MDR-1 gene expression. *Biochemistry* 1990;29(45):10351-6.
- Dinota A, Tazzari PL, Michieli M, Visani G, Gobbi M, Bontadini A, Tassi C, Fanin R, Damiani D, Grandi M, et al. In vitro bone marrow purging of multidrug-resistant cells with a mouse monoclonal antibody directed against Mr 170,000 glycoprotein and a saporin-conjugated anti-mouse antibody. *Cancer Res* 1990 Jul 15;50(14):4291-4.
- Dorr RT, Alberts DS, Sami SM, Remers WA. Consistent cytotoxic activity in multidrug resistant tumors for azonafide, a new anthracene analog of amonafide [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:408.
- Dorr RT, Liddil JD, Von Hoff DD, Soble M, Osborne CK. Antitumor activity and murine pharmacokinetics of parenteral acronycine. *Cancer Res* 1989;49(2):340-4.
- Duensing TD, Slate DL. Characterization of p-glycoprotein (p170) expression and the multidrug (MDR) phenotype in a panel of human cell lines representing chemoresistant tumors [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2801.
- Durand RE, LePard NE. Doxorubicin uptake and efflux in spheroids of human WiDR versus hamster V79 cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2172.
- Durivage HJ, Buzaid AC, Todd MB, Poo WJ, March JC, Davis CA, Hait WN. A phase I-II study of pulse cyclosporin-A (CsA) plus vinblastine (VBL) in selected refractory malignancies [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1991;10:A335.
- Elliott WL, Roberts BJ, Steinkampf RW, Leopold WR, Klohs WD. In vivo studies on multidrug-resistant (MDR) tumors with the new chemosensitizer, tioperidone [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2858.

- Erlichman C, Bjarnason G, Bunting P, DeAngelis C, Kerr I, Maki E, Moore M, Rahemtulla C, Thiessen J, Walker S. Cyclosporin A (CyA) modulation of doxorubicin (D): a pharmacokinetic/ pharmacodynamic trial [abstract]. Proc Annu Meet Am Soc Clin Oncol 1991;10:A314.
- Fan D, Wilmanns C, O'Brian CA, Kuo MT, Teeter LD, Bucana CD, Ward NE, Fidler IJ. Orthotopic and ectopic modulation of P-glycoprotein and resistance to adriamycin of human colon carcinoma cells in nude mice [abstract]. Proc Annu Meet Am Assoc Cancer Res 1992;33:A2794.
- Ferguson PJ, Cheng YC. Phenotypic instability of drug sensitivity in a human colon carcinoma cell line. Cancer Res 1989;49(5):1148-53.
- Fine RL, Monks A, Patel J, Jett M, Ahn C, Anderson W, Shoemaker R, Chabner BA. Staurosporine a potent inhibitor of protein kinase C is equally toxic to sensitive and multidrug-resistant mdr human cancer cells [abstract]. Proc Annu Meet Am Assoc Cancer Res 1988;29:301.
- Fojo T, McAtee N, Allegra C, Bates S, Mickley L, Keiser H, Linehan M, Steinberg S, Tucker E, Goldstein L, et al. Use of quinidine and amiodarone to modulate multidrug resistance mediated by the mdr1 gene [abstract]. Proc Annu Meet Am Soc Clin Oncol 1989;8:A262.
- Fuqua SAW, Fitzgerald SD, Kern DH, Mcguire WL. The use of polymerase chain reaction to detect expression of MDR-1 RNA in human tumors [abstract]. J Cell Biochem Suppl 1989;13 Pt E: 284.
- Genne P, Dimanche-Boitrel MT, Mauvernay RY, Gutierrez G, Duchamp O, Petit JM, Martin F, Chauffert B. Cinchonine, a potent efflux inhibitor to circumvent anthracycline resistance in vivo. Cancer Res 1992 May 15;52(10):2797-801.
- Georges E, Bradley G, Garipey J, Ling V. Detection of P-glycoprotein isoforms by gene-specific monoclonal antibodies. Proc Natl Acad Sci U S A 1990 Jan;87(1):152-6.
- Goldsmith ME, Morrow CS, Madden MJ, Cowan KH. Nucleoprotein binding sites on the human MDR1 promoter [abstract]. Proc Annu Meet Am Assoc Cancer Res 1992;33:A2818.
- Goldstein L, Galski H, Fojo A, Willingham M, Green A, Crist W, Gottesman M, Pastan I. Expression of a multidrug-resistance gene in human tumors [abstract]. Proc Annu Meet Am Assoc Cancer Res 1988;29:A1184.
- Goldstein L, Galski H, Fojo A, Willingham M, Lai SL, Gazdar A, Pirker R, Green A, Crist W, et al. Expression of a multidrug resistance gene in human cancers. J Natl Cancer Inst 1989;81(2):116-24.
- Gottesman MM, Goldstein LJ, Pastan I. Expression of the multidrug-resistance (MDR1) gene in breast cancer and other cancers. Paper presented at: Biennial International Breast Cancer Research Conference; 1989 Mar 5-9; Tel Aviv University, Tel Aviv.
- Gottesman MM, Goldstein LJ, Willingham MC, Pastan I. Molecular biology of a human multidrug transporter. Paper presented at: Molecular Diagnostics of Human Cancer. Cold Spring Harbor Meeting on Cancer Cells; 1988 Sep 7-11; Cold Spring Harbor, NY.
- Gottesman MM, Pastan I. A membrane protein that transports natural product cytotoxic drugs. Sero Symp Publ Raven Press 1989;64:81-7.
- Grandi M, Capolongo L, Ballinari D, Giuliani FC, Mongelli N. Cytotoxicity and intracellular levels of distamycin A in sensitive and DX-resistant cells [abstract]. Proc Annu Meet Am Assoc Cancer Res 1989;30:A2015.
- Herzog CE, Trepel JB, Mickley LA, Bates SE, Fojo AT. Various methods of analysis of mdr-1/P-glycoprotein in human colon cancer cell lines. J Natl Cancer Inst 1992 May 6;84(9):711-6.
- Herzog CE, Tsokos M, Fojo AT, Bates SE. Calcium channel blockers (CCBs) induce P-glycoprotein (Pgp) in human colon carcinoma (HCC) cell lines [abstract]. Proc Annu Meet Am Assoc Cancer Res 1991;32:A2185.
- Hitselberger Kanitz MH, Mastro JM, Starling JJ. In vivo expression of P-glycoprotein in two human colon carcinoma xenografts is rapidly modulated following therapy with a free or monoclonal antibody-conjugated vinca alkaloid [abstract]. Proc Annu Meet Am Assoc Cancer Res 1992;33:A2805.
- Hitselberger MH, Starling JJ. Two human colon tumor cell lines which express comparable P-glycoprotein display a five thousand-fold difference in in vitro sensitivity to a vinca alkaloid [abstract]. Proc Annu Meet Am Assoc Cancer Res 1991;32: A2207.
- Hunter J, Hirst BH, Simmons NL. Epithelial secretion of vinblastine by human intestinal adenocarcinoma cell (HCT-8 and T84) layers expressing P-glycoprotein. Br J Cancer 1991 Sep;64(3):437-44.
- Husain SR, Sela S, Rafaeloff R, Potkul RK, Rahman A. Combination of verapamil and liposomal encapsulated doxorubicin (LED) potentiates cytotoxicity in MCF-7/ADR cells [abstract]. Proc Annu Meet Am Assoc Cancer Res 1992;33:A2882.
- Ichikawa M, Yoshimura A, Furukawa T, Sumizawa T, Akiyama S. Modulators of the multidrug-transporter, P-glycoprotein, exist in the human plasma. Biochem Biophys Res Commun 1990 Jan 15;166(1):74-80.

- Ikegami T, Kubota N, Matsui K, Funabiki T, Shuin T, Natsumeda Y. Dipyridamole enhances the cellular accumulation of etoposide and its cytotoxic effect in various cancer cells [abstract]. Proc Annu Meet Am Assoc Cancer Res 1989;30:A2031.
- Ince P, Appleton DR, Finney KJ, Moorghen M, Sunter JP, Watson AJ. Verapamil sensitizes normal and neoplastic rodent intestinal tissues to the stathmokinetic effect of vincristine in-vivo. Br J Cancer 1988;57(4):348-52.
- Ince P, Elliott K, Appleton DR, Moorghen M, Finney KJ, Sunter JP, Harris AL, Watson AJ. Modulation by verapamil of vincristine pharmacokinetics and sensitivity to metaphase arrest of the normal rat colon in organ culture. Biochem Pharmacol 1991 Apr 15;41(8):1217-25.
- Keith WN, Stallard S, Brown R. Expression of *mdr1* and *gst-pi* in human breast tumours: comparison to in vitro chemosensitivity. Br J Cancer 1990 May; 61(5):712-6.
- Keller RP, Altermatt HJ, Donatsch P, Zihlmann H, Laissue JA, Hiestand PC. Pharmacologic interactions between the resistance-modifying cyclosporine SDZ PSC 833 and etoposide (VP 16-213) enhance in vivo cytostatic activity and toxicity. Int J Cancer 1992 May 28;51(3):433-8.
- Kim R, Hirabayashi N, Nishiyama M, Jinushi K, Toge T, Okada K. Factors contributing to adriamycin sensitivity in human xenograft tumors: the relationship between expression of the *MDR1*, *GST-pi* and topoisomerase II genes and tumor sensitivity to adriamycin. Anticancer Res 1992 Jan-Feb;12(1):241-5.
- Kramer RA, Arceci R, Weber T, Summerhayes I. Both glycosylation and phosphorylation are required for P-glycoprotein function in human colon carcinoma cells [abstract]. Proc Annu Meet Am Assoc Cancer Res 1992;33:A2842.
- Kramer RA, Morse B, Summerhayes I. C-HA-RAS-I oncogene-induced differentiation and decreased *MDR1* gene expression in a human colorectal carcinoma cell line [abstract]. Proc Annu Meet Am Assoc Cancer Res 1991;32:A2189.
- Krapcho AP, Getahun Z, Avery KL Jr, Vargas KJ, Hacker MP, Spinelli S, Pezzoni G, Manzotti C. Synthesis and antitumor evaluations of symmetrically and unsymmetrically substituted 1,4-bis[(aminoalkyl)amino]anthracene-9,10-diones and 1,4-bis[(aminoalkyl)amino]-5,8-dihydroxyanthracene-9,10-diones. J Med Chem 1991 Aug;34(8):2373-80.
- Kuo-Pao PY, Samaan NA. Intrinsic drug resistance in a human medullary thyroid carcinoma cell line: association with a multidrug resistance gene expression and low proliferation fraction [abstract]. Anticancer Res 1990;10(5B):1404.
- Lai GM, Chen YN, Mickley LA, Fojo AT, Bates SE. Intrinsic and acquired resistance (R) to adriamycin (Ad) in human colon carcinoma cell lines (HCCCL) [abstract]. Proc Annu Meet Am Assoc Cancer Res 1990;31:A2254.
- Lai GM, Chen YN, Mickley LA, Fojo AT, Bates SE. P-glycoprotein expression and schedule dependence of adriamycin cytotoxicity in human colon carcinoma cell lines. Int J Cancer 1991;49(5): 696-703.
- Lai GM, Currier SJ, Mickley LA, Herzog CE, Tsokos M, Bates SE, Fojo AT. Modulation of P-glycoprotein (Pgp) phosphorylation and multidrug resistance (MDR) by sodium butyrate (NaB) [abstract]. Proc Annu Meet Am Assoc Cancer Res 1991;32:A2242.
- Lai GM, Moscow JA, Alvarez MG, Fojo AT, Bates SE. Contribution of glutathione and glutathione-dependent enzymes in the reversal of adriamycin resistance in colon carcinoma cell lines. Int J Cancer 1991;49(5):688-95.
- Lai GM, Shieh CY, Fojo AT, Bates SE. Multidrug resistance in adriamycin-selected SW620 colon carcinoma cells [abstract]. Proc Annu Meet Am Soc Clin Oncol 1989;8:A322.
- Lee KY, Park JG, Gazdar AF, Goldstein LJ, Hwang ES, Kim JP. Correlation between *MDR1* gene expression and in vitro drug sensitivity testing (DST) of human cancer cell lines [abstract]. Proc Annu Meet Am Soc Clin Oncol 1990;9:A219.
- Long BH, Wang L, Lorico A, Wang RCC, Brattain MG, Casazza M. Mechanisms of resistance to etoposide and teniposide in acquired resistant human colon and lung carcinoma cell lines. Cancer Res 1991;51(19):5275-83.
- Loor F, Boesch D, Gaveriaux C, Jachez B, Pourtier-Manzanedo A, Emmer G. SDZ 280-446, a novel semi-synthetic cyclopeptide: in vitro and in vivo circumvention of the P-glycoprotein-mediated tumour cell multidrug resistance. Br J Cancer 1992 Jan;65(1):11-8.
- McEwan GT, Hunter J, Hirst BH, Simmons NL. Volume-activated Cl⁻ secretion and transepithelial vinblastine secretion mediated by P-glycoprotein are not correlated in cultured human T84 intestinal epithelial layers. FEBS Lett 1992 Jun 15;304(2-3): 233-6.
- Mickley L, Spengler B, Biedler JL, Fojo AT. Genetic polymorphism as a tool for examining the evolution of *mdr-1*/P-glycoprotein (PGP) expression in multidrug-resistant cell lines [abstract]. Proc Annu Meet Am Assoc Cancer Res 1992;33:A2832.

- Mickley LA, Bates SE, Richert ND, Currier S, Tanaka S, Foss F, Rosen N, Fojo AT. Modulation of the expression of a multidrug resistance gene *mdr-1*-P-glycoprotein by differentiating agents. *J Biol Chem* 1989;264(30):18031-40.
- Mickley LA, Rothenberg ML, Hamilton TC, Ozols RF, Fojo AT. Expression of a multidrug resistance gene in normal tissue and human tumors [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29: A1180.
- Molecular diagnostics of human cancer. *Cancer Cells* 1989;7:1-414.
- Moore R, Hoskins J, Deherdt S, Bumol T. Cloning of full-length human *mdr-1* and its use as a probe to study the expression of *mdr-1* in caco-2 calcium carbonate colorectal carcinoma cells [abstract]. In: Hershberger CL, Queener SW, Hegeman G, editors. *Genetics and molecular biology of industrial microorganisms*. 4th ASM Conference; 1988; Bloomington, IN. Washington (DC): American Society for Microbiology; 1989. p. 368.
- Morrow CS, Nakagawa M, Goldsmith ME, Madden MJ, Cowan KH. Mechanism of sodium butyrate-mediated induction of *mdr1* gene expression in human colon cancer cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2817.
- Muindi JF, Young CW. Characterization of the sodium-proton exchanger of the multidrug resistant human colon adenocarcinoma cell line (LoVo/Dx) [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1170.
- Mukaiyama T, Mitsui I, Shibata H, Inoue K, Ogawa M. Analysis of multidrug-resistance gene expression in human cancers: correlation between expression level and chemosensitivity [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29: A1218.
- Mukhopadhyay T, Batsakis JG, Kuo MT. Expression of the *mdr* P-glycoprotein gene in Chinese hamster digestive tracts. *J Natl Cancer Inst* 1988;80(4): 269-75.
- Murphy LD, Herzog CE, Rudick JB, Fojo AT, Bates SE. Use of the polymerase chain reaction in the quantitation of *mdr-1* gene expression. *Biochemistry* 1990 Nov 13;29(45):10351-6.
- Nasioulas G, Granzow C, Stohr M, Ponstingl H. Sensitization of multidrug-resistant mouse ascites HD33 and Chinese hamster ovary CHRC5S3 cells by a photoreactive vinblastine derivative, NAPAVIN. *Cancer Res* 1990 Jan 15;50(2):403-8.
- Noonan KE, Chin JE, Roninson IB. Analysis of multidrug resistance gene expression by enzymatic amplification of randomly primed cDNA [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30: A1982.
- Nooter K, Herweijer H, Sonneveld P, Verweij J, Hagenbeek A, Stoter G. Detection of multidrug resistance (MDR) in refractory cancer patients [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2092.
- O'Brian CA, Fan D, Ward NE, Dong Z, Iwamoto L, Gupta KP, Earnest LE, Fidler IJ. Transient enhancement of multidrug resistance by the bile acid deoxycholate in murine fibrosarcoma cells in vitro. *Biochem Pharmacol* 1991 Mar 1;41(5): 797-806.
- Ohkouchi E, Takamori R, Kawabata H, Sugimoto Y, Hamada H, Tsuruo T. Expression of P-glycoprotein and its mRNA in human renal and colon tumor cell lines, as a determinant for natural drug resistance [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1217.
- Oudard S, Thierry A, Jorgensen TJ, Rahman A. Sensitization of multidrug-resistant colon cancer cells to doxorubicin encapsulated in liposomes. *Cancer Chemother Pharmacol* 1991;28(4):259-65.
- Ozols RF. Reversal of drug resistance: laboratory data and clinical trials. Paper presented at: *Biology and Therapy of Breast Cancer. Joint NCI-IST Symposium/3rd IST International Symposium*; 1989 Sep 25-27; Genoa, Italy.
- Pastan I, Willingham MC, Gottesman MM. Multidrug resistance. Paper presented at: *6th NCI-EORTC Symposium on New Drugs in Cancer Therapy*; 1989 Mar 7-10; Amsterdam.
- Pavelic ZP, Sever Z, Fontaine RN, Baker VV, Reising J, Denton DM, Pavelic L, Khalily M. Detection of P-glycoprotein with JSB-1 monoclonal antibody in B-5 fixed and paraffin-embedded cell lines and tissues. *Sel Cancer Ther* 1991 Summer;7(2):49-58.
- Pearson JW, Fogler WE, Volker K, Usui N, Goldenberg SK, Gruys E, Riggs CW, Komschlies K, Wiltrout RH, Tsuruo T, et al. Reversal of drug resistance in a human colon cancer xenograft expressing MDR1 complementary DNA by in vivo administration of MRK-16 monoclonal antibody. *J Natl Cancer Inst* 1991 Oct 2;83(19):1386-91.
- Pileri SA, Sabattini E, Falini B, Tazzari PL, Gherlinzoni F, Michieli MG, Damiani D, Zucchini L, Gobbi M, Tsuruo T, et al. Immunohistochemical detection of the multidrug transport protein P170 in human normal tissues and malignant lymphomas. *Histopathology* 1991 Aug; 19(2):131-40.
- Pirker R, Wallner J, Gsur A, Gotzl M, Scheithauer W, Depisch D. MDR1 gene expression does not indicate prognosis in primary colorectal carcinomas [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2785.
- Rabier MJ, Bruno NA, Slate DL. Multifactorial resistance in LS174T human colon carcinoma cells

- selected with doxorubicin. *Int J Cancer* 1991 Oct 21;49(4):601-7.
- Redmond SM, Joncourt F, Buser K, Ziemiecki A, Altermatt HJ, Fey M, Margison G, Cerny T. Assessment of P-glycoprotein, glutathione-based detoxifying enzymes and O6-alkylguanine-DNA alkyltransferase as potential indicators of constitutive drug resistance in human colorectal tumors. *Cancer Res* 1991 Apr 15;51(8):2092-7.
- Riccardi A, Invernizzi R, Ucci G, Luoni R, Danova M, Giordano M, Zambelli ML, Rastaldi MP, Ascari E. [p170 in multiple myeloma and acute leukemia]. *Haematologica* 1991 Jun;76 Suppl 3:177-80. (Ita).
- Rivoltini L, Colombo MP, Supino R, Ballinari D, Tsuruo T, Parmiani G. Modulation of multidrug resistance by verapamil or *mdr1* anti-sense oligodeoxynucleotide does not change the high susceptibility to lymphokine-activated killers in *mdr*-resistant human carcinoma (LoVo) line. *Int J Cancer* 1990 Oct 15;46(4):727-32.
- Ronchi E, Sanfilippo O, Di Fronzo G, Bani MR, Della Torre G, Catania S, Silvestrini R. Detection of the 170 kDa P-glycoprotein in neoplastic and normal tissues. *Tumori* 1989 Dec 31;75(6):542-6.
- Roninson IB, Chin JE, Choi K, Morse BS, Noonan KE, Chen CJ, Patel MC, Coon JS, Lee I, Weinstein RS. Molecular biology of multidrug resistance in human tumor cells. Paper presented at: 6th NCI-EORTC Symposium on New Drugs in Cancer Therapy; 1989 Mar 7-10; Amsterdam.
- Roninson IB, Patel MC, Lee I, Noonan KE, Chen CJ, Choi K, Chin JE, Kaplan R, Tsuruo T. Molecular mechanism and diagnostics of multidrug resistance in human tumor cells. *Cancer Cells* 1989;7:81-6.
- Satta T, Isobe K, Yamauchi M, Nakashima I, Akiyama S, Itou K, Watanabe T, Takagi H. Establishment of drug resistance in human gastric and colon carcinoma xenograft lines. *Jpn J Cancer Res* 1991 May;82(5):593-8.
- Satta T, Isobe K, Yamauchi M, Nakashima I, Takagi H. Expression of MDR1 and glutathione S transferase- π genes and chemosensitivities in human gastrointestinal cancer. *Cancer* 1992 Feb 15;69(4):941-6.
- Scala S, Murphy LD, Tortora G, Cho-Chung Y, Bates S. Effects of differentiating agents (DA) on P-glycoprotein (Pgp) expression in a multidrug resistant breast cancer cell line [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2240.
- Slate DL, Bruno N, Carver LA, Rabier M. Isolation and characterization of multiple drug resistant carcinoma cell lines [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A1975.
- Slovak ML, Coccia M, Meltzer PS, Trent JM. Molecular analysis of two human doxorubicin-resistant cell lines: evidence for differing multidrug resistance mechanisms. *Anticancer Res* 1991 Jan-Feb;11(1):423-8.
- Slovak ML, Hoeltge GA, Dalton WS, Trent JM. Pharmacological and biological evidence for differing mechanisms of doxorubicin resistance in two human tumor cell lines. *Cancer Res* 1988; 48(10):2793-7.
- Slovak ML, Mirski SEL, Cole SPC, Gerlach JH, Yochem KH, Trent JM. Tumorigenic multidrug-resistant HT1080 cells do not overexpress receptors for epidermal growth factor. *Br J Cancer* 1991;64(2):296-8.
- Solary E, Velay I, Chauffert B, Bidan JM, Caillot D, Dumas M, Guy H. Sufficient levels of quinine in the serum circumvent the multidrug resistance of the human leukemic cell line K562/ADM. *Cancer* 1991 Oct 15;68(8):1714-9.
- Spiegel EC, Dekker H, Broxterman HJ, Lankelma J. The effect of cyclosporin A and verapamil on daunomycin accumulation rate in the murine colon carcinoma cell line C-26 [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A1929.
- Spiegel EC, Dekker H, Schuurhuis GJ, Broxterman HJ, Lankelma J. P-glycoprotein drug efflux pump involved in the mechanisms of intrinsic drug resistance in various colon cancer cell lines. Evidence for a saturation of active daunorubicin transport. *Biochem Pharmacol* 1991;41(3):349-60.
- Thorgeirsson SS, Silverman JA, Gant TW, Marino PA. Multidrug resistance gene family and chemical carcinogens. *Pharmacol Ther* 1991;49(3):283-92.
- Toffoli G, Viel A, Maestro R, Tumiotta L, Biscontin G, Boiocchi M. In-vitro and in-vivo studies on multidrug-resistance gene (*mdr1*) in human colon carcinomas [abstract]. *Invest New Drugs* 1989; 7(4):440.
- Toffoli G, Viel A, Tumiotta L, Biscontin G, Boiocchi M. Multidrug-resistance in human colon carcinoma cell lines [abstract]. *Anticancer Res* 1990;10(5B):1406-7.
- Toffoli G, Viel A, Tumiotta L, Biscontin G, Rossi C, Boiocchi M. Pleiotropic-resistant phenotype is a multifactorial phenomenon in human colon carcinoma cell lines. *Br J Cancer* 1991 Jan; 63(1):51-6.
- Toffoli G, Viel A, Tumiotta L, Maestro R, Biscontin G, Boiocchi M. Prognostic significance of *mdr-1* mRNA expression in untreated human colon carcinomas. Paper presented at: Symposium on Mechanisms of Drug and Radiation Resistance of Tumor Cells; 1989 Jun 28-30; Villejuif, France.

- Trujillo JM, Yang LY, Su YZ, Gercovich G, Hai S, Williams A. Cytotoxicity synergism of interferon (IFN) and adriamycin (AdR) on lovo human colon tumor cell line and its multidrug resistant (MDR) subclone [abstract]. Proc Annu Meet Am Assoc Cancer Res 1991;32:A2033.
- Tsuruo T. Mechanisms of multidrug resistance and implications for therapy. Jpn J Cancer Res 1988 Mar;79(3):285-96.
- Tsuruo T. Multidrug resistance: a transport system of antitumor agents and xenobiotics. Int Symp Princess Takamatsu Cancer Res Fund 1990;21:241-51.
- Tsuruo T. Proteins involved in multidrug resistance and their implication for therapy. Pezcoller Found Symp 1990;1:131-43.
- Tsuruo T, Yusa K, Sudo Y, Takamori R, Sugimoto Y. A fluorine-containing anthracycline me-2303 as a new antitumor agent against murine and human tumors and their multidrug-resistant sublines. Cancer Res 1989;49(20):5537-42.
- Ueda K, Pastan I, Gottesman MM. Isolation and sequence of the promotor region of the human multidrug resistance (P-glycoprotein) gene. J Biol Chem 1987;262(36):17432-6.
- Ueda K, Yamano Y, Kioka N, Kakehi Y, Yoshida O, Gottesman MM, Pastan I, Komano T. Detection of multidrug resistance (MDR1) gene RNA expression in human tumors by a sensitive ribonuclease protection assay. Jpn J Cancer Res 1989 Nov;80(11):1127-32.
- Van de Vrie W, Gheuens EE, Bijma A, De Bruijn EA, Marquet RL, Van Oosterom AT, Eggermont AM. A syngeneic in vivo model of a multidrug-resistant colon carcinoma, CC531 in the WAG rat [abstract]. Proc Annu Meet Am Assoc Cancer Res 1991;32:A1270.
- Van de Vrie W, Gheuens EE, Durante NM, De Bruijn EA, Marquet RL, Van Oosterom AT, Eggermont AM. Cyclosporin-A and its analog PSC 833 can reverse intrinsic multidrug resistance in a rat colon carcinoma [abstract]. Proc Annu Meet Am Assoc Cancer Res 1992;33:A2893.
- van der Graaf WT, de Vries EG, Uges DR, Nanninga AG, Meijer C, Timmer-Bosscha H, Mulder NH. Multidrug resistance (MDR) modulation with amiodarone (AM) in human tumor cell lines and patients [abstract]. Proc Annu Meet Am Assoc Cancer Res 1990;31:A2076.
- van der Graaf WT, de Vries EG, Uges DR, Nanninga AG, Meijer C, Vellenga E, Mulder PO, Mulder NH. In vitro and in vivo modulation of multi-drug resistance with amiodarone. Int J Cancer 1991 Jun 19;48(4):616-22.
- Vollrath V, Chianale J, Gonzalez S, Duarte I, Andrade L, Ibanez L. Multidrug resistance gene and P-glycoprotein expression in gastric adenocarcinoma and precursor lesions. Virchows Arch B Cell Pathol 1991;60(2):133-8.
- Wang L, Yang CP, Trail P, Horwitz SB, Casazza AM. Reversal of the multidrug resistance (MDR) phenotype with megestrol acetate (MA) [abstract]. Proc Annu Meet Am Assoc Cancer Res 1991;32:A2239.
- Watanabe M, Komeshima N, Nakajima S, Tsuruo T. Mx-2 a morpholinoanthracycline as a new antitumor agent against drug-sensitive and multidrug-resistant human and murine tumor cells. Cancer Res 1988;48(23):6653-7.
- Weinstein RS, Jakate SM, Dominguez JM, Lebovitz MD, Koukoulis GK, Kuszak JR, Klusens LF, Grogan TM, Saclarides TJ, Roninson IB, et al. Relationship of the expression of the multidrug resistance gene product (P-glycoprotein) in human colon carcinoma to local tumor aggressiveness and lymph node metastasis. Cancer Res 1991 May 15;51(10):2720-6.
- Weinstein RS, Kuszak JR, Jakate SM, Lebovitz MD, Klusens LF, Coon JS. ABO blood type predicts the cytolocalization of anti-P-glycoprotein monoclonal antibody reactivity in human colon and ureter. Hum Pathol 1990 Sep;21(9):949-58.
- Wu L, Smythe AM, Stinson SF, Mullendore LA, Monks A, Scudiero DA, Paull KD, Koutsoukos AD, Rubinstein LV, Boyd MR, et al. Multidrug-resistant phenotype of disease-oriented panels of human tumor cell lines used for anticancer drug screening. Cancer Res 1992 Jun 1;52(11):3029-34.
- Yahanda AM, Adler KM, Hardy R, Brophy NA, Halsey J, Sikic BI. A phase I trial of etoposide (E) with cyclosporine (CSA) as a modulator of multidrug resistance (MDR) [abstract]. Proc Annu Meet Am Soc Clin Oncol 1991;10:A276.
- Yamauchi M, Satta T, Yaguchi T, Takeshima E, Onishi Y, Watanabe T, Isobe K, Takagi H. Expression of a multidrug-resistance gene and effectiveness of anticancer agents in human stomach and colon cancer cell lines [abstract]. Proc Annu Meet Am Assoc Cancer Res 1989;30:A2060.
- Yang KP, Liang YF, Samaan NA. Intrinsic drug resistance in a human medullary thyroid carcinoma cell line: association with overexpression of mdrl gene and low proliferation fraction. Anticancer Res 1991;11(3):1065-8.
- Yang LY, Su YZ, Trujillo JM, Hai S. Distinct P-glycoprotein (P-GP) expressions in two different multidrug resistant (MDR) subclones simultaneously selected from a human colon carcinoma cell line by cisplatin (CDDP) [abstract]. Proc Annu Meet Am Assoc Cancer Res 1991;32:A2199.

Yang LY, Trujillo JM. Biological characterization of multidrug-resistant human colon carcinoma sublines induced/selected by two methods. *Cancer Res* 1990 Jun 1;50(11):3218-25.

Yang LY, Trujillo JM. Different mechanisms for multidrug resistance in two models of adriamycin-resistant subclones derived from a human colon carcinoma cell line [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2053.

Young RC. Mechanisms to improve chemotherapy effectiveness. *Cancer* 1990 Feb 1;65(3 Suppl): 815-22.

-Fibrosarcomas

Barrand MA, Twentyman PR. Differential recognition of *mdr1a* and *mdr1b* gene products in multidrug resistant mouse tumour cell lines by different monoclonal antibodies. *Br J Cancer* 1992 Feb; 65(2):239-45.

Barrand MA, Twentyman PR. Variations in P-glycoprotein expression in response to drug treatment in mouse tumor cell lines [abstract]. *Br J Cancer* 1991;63 Suppl 13:12.

Bucana CD, Giavazzi R, Nayar R, O'Brian CA, Seid C, Earnest LE, Fan D. Retention of vital dyes correlates inversely with the multidrug-resistant phenotype of adriamycin-selected murine fibrosarcoma variants. *Exp Cell Res* 1990 Sep; 190(1):69-75.

Fan D, Bucana CD, O'Brian CA, Zwelling LA, Seid C, Fidler IJ. Enhancement of murine tumor cell sensitivity to adriamycin by presentation of the drug in phosphatidylcholine-phosphatidylserine liposomes. *Cancer Res* 1990 Jun 15;50(12): 3619-26.

Fine RL, Monks A, Patel J, Jett M, Ahn C, Anderson W, Shoemaker R, Chabner BA. Staurosporine a potent inhibitor of protein kinase C is equally toxic to sensitive and multidrug-resistant *mdr* human cancer cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:301.

Harder S. Verapamil, a promising agent for circumvention of multidrug-resistance. *Onkologie* 1991;14(3):212-7.

Hofsli E, Nissen-Meyer J. Effect of erythromycin and tumor necrosis factor on the drug resistance of multidrug-resistant cells reversal of drug resistance by erythromycin. *Int J Cancer* 1989;43(3):520-5.

Hofsli E, Nissen-Meyer J. Reversal of drug resistance by erythromycin erythromycin increases the accumulation of actinomycin D and doxorubicin in multidrug-resistant cells. *Int J Cancer* 1989;44(1): 149-54.

O'Brian CA, Fan D, Ward NE, Dong Z, Iwamoto L, Gupta KP, Earnest LE, Fidler IJ. Transient enhancement of multidrug resistance by the bile acid deoxycholate in murine fibrosarcoma cells in vitro. *Biochem Pharmacol* 1991 Mar 1;41(5): 797-806.

Ronchi E, Sanfilippo O, Di Fronzo G, Bani MR, Della Torre G, Catania S, Silvestrini R. Detection of the 170 kDa P-glycoprotein in neoplastic and normal tissues. *Tumori* 1989 Dec 31;75(6):542-6.

- Sanfilippo O, Silvestrini R, Ronchi E, Di Fronzo G. P-glycoprotein (PGP) expression and resistance to doxorubicin (DX) in human tumors [abstract]. Proc Annu Meet Am Soc Clin Oncol 1989;8:A217.
- Seid CA, Fidler IJ, Clyne RK, Earnest LE, Fan D. Overcoming murine tumor cell resistance to vinblastine by presentation of the drug in multilamellar liposomes consisting of phosphatidylcholine and phosphatidylserine. *Sel Cancer Ther* 1991 Fall;7(3):103-12.
- Shalinsky DR, Slovak ML, Howell SB. Dipyridamole enhances colony formation by augmenting adhesion of multidrug resistant HT1080/DR4 cells [abstract]. Proc Annu Meet Am Assoc Cancer Res 1991;32:A2557.
- Shalinsky DR, Slovak ML, Howell SB. Modulation of vinblastine sensitivity by dipyridamole in multidrug resistant fibrosarcoma cells lacking *mdr1* expression. *Br J Cancer* 1991 Oct;64(4):705-9.
- Singh G, Wilson BC, Sharkey SM, Browman GP, Deschamps P. Resistance to photodynamic therapy in radiation induced fibrosarcoma-1 and Chinese hamster ovary-multi-drug resistant. *Cells in vitro. Photochem Photobiol* 1991 Aug;54(2):307-12.
- Slovak ML, Coccia M, Meltzer PS, Trent JM. Molecular analysis of two human doxorubicin-resistant cell lines: evidence for differing multidrug resistance mechanisms. *Anticancer Res* 1991 Jan-Feb;11(1):423-8.
- Slovak ML, Hoeltge GA, Dalton WS, Trent JM. Pharmacological and biological evidence for differing mechanisms of doxorubicin resistance in two human tumor cell lines. *Cancer Res* 1988; 48(10):2793-7.
- Slovak ML, Mirski SEL, Cole SPC, Gerlach JH, Yohem KH, Trent JM. Tumorigenic multidrug-resistant HT1080 cells do not overexpress receptors for epidermal growth factor. *Br J Cancer* 1991;64(2):296-8.
- Van Belle S, Stockman D, De Smet M, Storme G. Influence of verapamil on the uptake of vinblastine by MO4 cells [abstract]. Proc Annu Meet Am Assoc Cancer Res 1989;30:A2253.
- Ward NE, O'Brian CA. Distinct patterns of phorbol-ester-induced downregulation of protein kinase C activity in adriamycin-selected multidrug resistant and parental murine fibrosarcoma cells. *Cancer Lett* 1991;58(3):189-94.
- Zwelling LA, Slovak ML, Doroshow JH, Hinds M, Chan D, Parker E, Mayes J, Sie KL, Meltzer PS, Trent JM. HT1080/DR4: a P-glycoprotein-negative human fibrosarcoma cell line exhibiting resistance to topoisomerase II-reactive drugs despite the presence of a drug-sensitive topoisomerase II. *J Natl Cancer Inst* 1990 Oct 3;82(19):1553-61.
- Kidney neoplasms**
- Agarwala S, Bahnson R, Wilson J, Szumowski J, Downs M, Ernstoff M. Evaluation of the combination of vinblastine and quinidine in patients with metastatic renal cell carcinoma - a phase I study [abstract]. Proc Annu Meet Am Assoc Cancer Res 1991;32:A1161.
- Bak M Jr, Efferth T, Mickisch G, Mattern J, Volm M. Detection of drug resistance and P-glycoprotein in human renal cell carcinomas. *Eur Urol* 1990; 17(1):72-5.
- Baker RM, Fredericks WJ, Chen Y, Murawski MJ, Meegan RL, Rustom YM, Karakousis C, Piver MS. Detection of P-glycoprotein in human tumors by immunoblot analyses. *Pezcoller Found Symp* 1990;1:167-88.
- Benson MC, Giella J, Whang IS, Buttyan R, Hensle TW, Karp F, Olsson CA. Flow cytometric determination of the multidrug resistant phenotype in transitional cell cancer of the bladder: implications and applications. *J Urol* 1991 Oct; 146(4):982-6; discussion 986-7.
- Biedler JL. Genetic aspects of multidrug resistance (MDR). Paper presented at: American Cancer Society National Conference on Integration of Molecular Genetics into Cancer Management; 1991 Apr 10-12; Miami, FL.
- Bremer S, Hoof T, Wilke M, Busche R, Scholte B, Riordan JR, Maass G, Tummler B. Quantitative expression patterns of multidrug-resistance P-glycoprotein (MDR1) and differentially spliced cystic-fibrosis transmembrane-conductance regulator mRNA transcripts in human epithelia. *Eur J Biochem* 1992 May 15;206(1):137-49.
- Broxterman HJ, Pinedo HM, Kuiper CM, Van Der Hoeven JJM, De Lange P, Quak JJ, Scheper RJ, Keizer HG, Jan Schuurhuis G, Lankelma J. Immunohistochemical detection of p-glycoprotein in human tumor cells with a low degree of drug resistance. *Int J Cancer* 1989;43(2):340-3.
- Chin JE, Soffir R, Noonan KE, Choi K, Roninson IB. Structure and expression of the human *mdr* p-glycoprotein gene family. *Mol Cell Biol* 1989; 9(9):3808-20.
- Chin KV, Chauhan SS, Pastan I, Gottesman MM. Regulation of *mdr* RNA levels in response to cytotoxic drugs in rodent cells. *Cell Growth Differ* 1990 Aug;1(8):361-5.
- Chin KV, Tanaka S, Darlington G, Pastan I, Gottesman MM. Heat shock and arsenite increase expression of the multidrug resistance (MDR1) gene in human renal carcinoma cells. *J Biol Chem* 1990 Jan 5; 265(1):221-6.

- Cohen D, Piekarz RL, Hsu SI, DePinho RA, Carrasco N, Horwitz SB. Structural and functional analysis of the mouse *mdr1b* gene promoter. *J Biol Chem* 1991 Feb 5;266(4):2239-44.
- Cordon-Cardo C, O'Brien J, Lee A, Finstad C, Vaia V, Motzer R, Reuter V. P-glycoprotein (Pgp) expression during fetal kidney development: a model of Pgp expression in renal cell carcinomas [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A1412.
- Cordon-Cardo C, O'Brien JP, Boccia J, Casals D, Bertino JR, Melamed MR. Expression of the multidrug resistance gene product (P-glycoprotein) in human normal and tumor tissues. *J Histochem Cytochem* 1990 Sep;38(9):1277-87.
- Cordon-Cardo C, O'Brien JP, Casals D, Boccia J, Bertino JR. Immunohistochemical and immunopathologic expression of the multidrug resistance gene product. *Cancer Cells* 1989; 7:87-93.
- Cordon-Cardo C, O'Brien JP, Casals D, Rittman-Grauer L, Biedler JL, Melamed MR, Bertino JR. Multidrug-resistance gene p-glycoprotein is expressed by endothelial cells at blood-brain barrier sites. *Proc Natl Acad Sci U S A* 1989;86(2):695-8.
- De Lannoy IAM, Koren G, Silverman M. Cyclosporin and quinidine inhibition of the renal transport of digoxin in-vivo studies in the dog [abstract]. *J Am Soc Nephrol* 1991;2(3):772.
- Dorr RT, Liddil JD, Von Hoff DD, Soble M, Osborne CK. Antitumor activity and murine pharmacokinetics of parenteral acronycine. *Cancer Res* 1989;49(2):340-4.
- Duensing TD, Slate DL. Characterization of p-glycoprotein (p170) expression and the multidrug (MDR) phenotype in a panel of human cell lines representing chemoresistant tumors [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2801.
- Durivage HJ, Buzaid AC, Todd MB, Poo WJ, March JC, Davis CA, Hait WN. A phase I-II study of pulse cyclosporin-A (CsA) plus vinblastine (VBL) in selected refractory malignancies [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1991;10:A335.
- Dutt A, Heath LA, Pan BF, Nelson JA. Role of P-glycoprotein in organic cation secretion in the mammalian kidney [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A113.
- Dutt A, Priebe TS, Teeter LD, Kuo MT, Nelson JA. Postnatal development of MDR1 gene expression and organic cation transport in mouse kidney [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A91.
- Dutt A, Priebe TS, Teeter LD, Kuo MT, Nelson JA. Postnatal development of organic cation transport and *mdr* gene expression in mouse kidney. *J Pharmacol Exp Ther* 1992 Jun;261(3):1222-30.
- Efferth T, Lohrke H, Volm M. Correlations between natural resistance to doxorubicin, proliferative activity, and expression of P-glycoprotein 170 in human kidney tumor cell lines. *Urol Res* 1990; 18(5):309-12.
- Efferth T, Lohrke H, Volm M. Reciprocal correlation between expression of P-glycoprotein and accumulation of rhodamine 123 in human tumors. *Anticancer Res* 1989 Nov-Dec;9(6):1633-7.
- Erlichman C, Bjarnason G, Bunting P, DeAngelis C, Kerr I, Maki E, Moore M, Rahemtulla C, Thiessen J, Walker S. Cyclosporin A (CyA) modulation of doxorubicin (D): a pharmacokinetic/ pharmacodynamic trial [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1991;10:A314.
- Fine RL, Monks A, Patel J, Jett M, Ahn C, Anderson W, Shoemaker R, Chabner BA. Staurosporine a potent inhibitor of protein kinase C is equally toxic to sensitive and multidrug-resistant *mdr* human cancer cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:301.
- Fine RL, Sachs CW, Albers M, Williams A. Tamoxifen potentiates the cytotoxicity of vinblastine by increasing intracellular drug accumulation [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2226.
- Fojo T, McAtee N, Allegra C, Bates S, Mickley L, Keiser H, Linehan M, Steinberg S, Tucker E, Goldstein L, et al. Use of quinidine and amiodarone to modulate multidrug resistance mediated by the *mdr1* gene [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1989;8:A262.
- Fredericks WJ, Murawski MJ, Slocum HK, Gerlach JH, Ling V, Baker RM. Incidence of elevated P-glycoprotein expression in human tumors [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29: A1200.
- Goldberg H, Ling V, Wong PY, Skorecki K. Reduced cyclosporin accumulation in multidrug-resistant cells. *Biochem Biophys Res Commun* 1988;152(2): 552-8.
- Goldstein L, Galski H, Fojo A, Willingham M, Green A, Crist W, Gottesman M, Pastan I. Expression of a multidrug-resistance gene in human tumors [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1184.
- Goldstein L, Galski H, Fojo A, Willingham M, Lai SL, Gazdar A, Pirker R, Green A, Crist W, et al. Expression of a multidrug resistance gene in human cancers. *J Natl Cancer Inst* 1989;81(2):116-24.

- Gottesman MM, Goldstein LJ, Pastan I. Expression of the multidrug-resistance (MDR1) gene in breast cancer and other cancers. Paper presented at: Biennial International Breast Cancer Research Conference; 1989 Mar 5-9; Tel Aviv University, Tel Aviv.
- Gottesman MM, Goldstein LJ, Willingham MC, Pastan I. Molecular biology of a human multidrug transporter. Paper presented at: Molecular Diagnostics of Human Cancer. Cold Spring Harbor Meeting on Cancer Cells; 1988 Sep 7-11; Cold Spring Harbor, NY.
- Gottesman MM, Pastan I. A membrane protein that transports natural product cytotoxic drugs. *Serono Symp Publ Raven Press* 1989;64:81-7.
- Harker WG, Tom C, McGregor JR, Slade L, Samlowski WE. Human tumor cell line resistance to chemotherapeutic agents does not predict resistance to natural killer or lymphokine-activated killer cell-mediated cytotoxicity. *Cancer Res* 1990 Sep 15;50(18):5931-6.
- Hollt V, Kouba M, Dietel M, Vogt G. Stereoisomers of calcium antagonists which differ markedly in their potencies as calcium blockers are equally effective in modulating drug transport by P-glycoprotein. *Biochem Pharmacol* 1992 Jun 23; 43(12):2601-8.
- Horio M, Chin KV, Currier SJ, Goldenberg S, Williams C, Pastan I, Gottesman MM, Handlers J. Transepithelial transport of drugs by the multidrug transporter in cultured Madin-Darby canine kidney cell epithelia. *J Biol Chem* 1989;264(25):14880-4.
- Horton JK, Thimmaiah KN, Houghton JA, Horowitz ME, Houghton PJ. Modulation by verapamil of vincristine pharmacokinetics and toxicity in mice bearing human tumor xenografts. *Biochem Pharmacol* 1989;38(11):1727-36.
- Hunter J, Hirst BH, Simmons NL. Transepithelial vinblastine secretion mediated by P-glycoprotein is inhibited by forskolin derivatives. *Biochem Biophys Res Commun* 1991 Dec 16;181(2):671-6.
- Ichikawa M, Yoshimura A, Furukawa T, Sumizawa T, Nakazima Y, Akiyama SI. Glycosylation of P-glycoprotein in a multidrug-resistant KB cell line and in the human tissues. *Biochim Biophys Acta* 1991;1073(2):309-15.
- Ichikawa M, Yoshimura A, Furukawa T, Sumizawa T, Akiyama S. Modulators of the multidrug-transporter, P-glycoprotein, exist in the human plasma. *Biochem Biophys Res Commun* 1990 Jan 15;166(1):74-80.
- Ichikawa M, Yoshimura A, Sumizawa T, Shudo N, Kuwazuru Y, Furukawa T, Akiyama S. Interaction of organic chemicals with P-glycoprotein in the adrenal gland, kidney, and a multidrug-resistant KB cell. *J Biol Chem* 1991 Jan 15;266(2): 903-8.
- Ikegami T, Kubota N, Matsui K, Funabiki T, Shuin T, Natsumeda Y. Dipyridamole enhances the cellular accumulation of etoposide and its cytotoxic effect in various cancer cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2031.
- Kageyama Y, Katoh M, Okada K, Yoshida K, Tsuruo T. Detection of P-glycoprotein in human urogenital carcinomas and its relationship to epidermal growth factor receptor expression. *Eur Urol* 1991;20(1):58-61.
- Takechi Y, Kanamaru H, Yoshida O, Ohkubo H, Nakanishi S, Gottesman MM, Pastan I. Measurement of multidrug-resistance messenger RNA in urogenital cancers elevated expression in renal cell carcinoma is associated with intrinsic drug resistance. *J Urol* 1988;139(4):862-5.
- Kanamaru H, Takechi Y, Yoshida O, Nakanishi S, Pastan I, Gottesman MM. Mdr1 RNA levels in human renal cell carcinomas correlation with grade and prediction of reversal of doxorubicin resistance by quinidine in tumor explants. *J Natl Cancer Inst* 1989;81(11):844-9.
- Keller RP, Altermatt HJ, Nooter K, Poschmann G, Laissue JA, Bollinger P, Hiestand PC. SDZ PSC-833, a non-immunosuppressive cyclosporine: its potency in overcoming P-glycoprotein-mediated multidrug resistance of murine leukemia. *Int J Cancer* 1992 Feb 20;50(4):593-7.
- Klein EA. The multidrug resistance gene in renal cell carcinoma. *Semin Urol* 1989 Nov;7(4):207-14.
- Kohno K, Sato S, Takano H, Matsuo K, Kuwano M. The direct activation of human multidrug resistance gene (MDR1) by anticancer agents. *Biochem Biophys Res Commun* 1989 Dec 29;165(3): 1415-21.
- Kohno K, Sato S, Uchiumi T, Takano H, Kato S, Kuwano M. Tissue-specific enhancer of the human multidrug-resistance (MDR1) gene. *J Biol Chem* 1990 Nov 15;265(32):19690-6.
- Kramer RA, Morse B, Summerhayes I. C-HA-RAS-I oncogene-induced differentiation and decreased MDR1 gene expression in a human colorectal carcinoma cell line [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2189.
- LaQuaglia MP, Kopp EB, Spengler BA, Meyers MB, Biedler JL. Altered state of transformation and/or differentiation in multidrug-resistant human neuroblastoma cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A1704.

- Lieberman DM, Reithmeier RAF, Ling V, Charuk JHM, Goldberg H, Skorecki KL. Identification of p-glycoprotein in renal brush border membranes. *Biochem Biophys Res Commun* 1989;162(1):244-52.
- List AF, Spier C, Greer J, Azar C, Hutter J, Wolff S, Salmon S, Futscher B, Dalton W. Biochemical modulation of anthracycline resistance in acute leukemia with cyclosporin-A (CSA) [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1992;11: A865.
- Mackensen DG, Resch PA, Hradecky LK, Sherwood KN, Rittmann-Grauer LS. Localization of multidrug-resistant tumor xenografts in nude mice with anti-p-glycoprotein monoclonal antibody HYB-241 [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2800.
- Mickisch G, Bier H, Bergler W, Bak M, Tschada R, Alken P. P-170 glycoprotein, glutathione and associated enzymes in relation to chemoresistance of primary human renal cell carcinomas. *Urol Int* 1990;45(3):170-6.
- Mickisch G, Keilhauer G, Schlick E, Tschada R, Alken P. Calcium antagonists reverse multidrug resistance (MDR) of primary human renal cell carcinomas (RCC) [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2116.
- Mickisch G, Keilhauer G, Schlick E, Tschada R, Alken P. Effects of R-verapamil (R-vpm) on P-170-mediated multidrug resistance (mdr) of human renal cell carcinoma (rcc) [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1990;31:A2423.
- Mickisch GH, Kossig J, Keilhauer G, Schlick E, Tschada RK, Alken PM. Effects of calcium antagonists in multidrug resistant primary human renal cell carcinomas. *Cancer Res* 1990 Jun 15; 50(12):3670-4.
- Mickisch GH, Kossig J, Tschada RK, Keilhauer G, Schlick E, Alken PM. Circumvention of multidrug resistance mediated by P-170 glycoprotein using calcium antagonists in primary human renal cell carcinoma. *Urol Int* 1991;47(3):118-25.
- Mickisch GH, Roehrich K, Koessig J, Forster S, Tschada RK, Alken PM. Mechanisms and modulation of multidrug resistance in primary human renal cell carcinoma. *J Urol* 1990 Sep; 144(3):755-9.
- Mickley LA, Rothenberg ML, Hamilton TC, Ozols RF, Fojo AT. Expression of a multidrug resistance gene in normal tissue and human tumors [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29: A1180.
- Molecular diagnostics of human cancer. *Cancer Cells* 1989;7:1-414.
- Moriyama M, Sugawara I, Hamada H, Tsuruo T, Kato T, Sato K, Hikage T, Watanuki T, Mori S. Elevated expression of P-glycoprotein in kidney and urinary bladder cancers. *Tohoku J Exp Med* 1991 Jul;164(3):191-201.
- Natazuka T, Ogawa R, Fujii Y, Suzuki M, Matsui T, Nakao Y, Isobe T, Fujita T. [Ectopic salivary amylase-producing IgA- lambda-type multiple myeloma with expression of MDR-1/P-glycoprotein]. *Rinsho Ketsueki* 1991 Jun; 32(6):686-9. (Jpn).
- Noonan KE, Chin JE, Roninson IB. Analysis of multidrug resistance gene expression by enzymatic amplification of randomly primed cDNA [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30: A1982.
- Nygren P, Larsson R. Verapamil and cyclosporin A sensitize human kidney tumor cells to vincristine in absence of membrane P-glycoprotein and without apparent changes in the cytoplasmic free Ca²⁺ concentration. *Biosci Rep* 1990 Apr;10(2):231-7.
- Ohkouchi E, Takamori R, Kawabata H, Sugimoto Y, Hamada H, Tsuruo T. Expression of P-glycoprotein and its mRNA in human renal and colon tumor cell lines, as a determinant for natural drug resistance [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1217.
- Ozols RF. Reversal of drug resistance: laboratory data and clinical trials. Paper presented at: Biology and Therapy of Breast Cancer. Joint NCI-IST Symposium/3rd IST International Symposium; 1989 Sep 25-27; Genoa, Italy.
- Pastan I, Gottesman MM, Ueda K, Lovelace E, Rutherford AV, Willingham MC. A retrovirus carrying an mdr1 complementary DNA confers multidrug resistance and polarized expression of P-glycoprotein in MDCK cells. *Proc Natl Acad Sci U S A* 1988;85(12):4486-90.
- Pastan I, Willingham MC, Gottesman M. Molecular manipulations of the multidrug transporter: a new role for transgenic mice. *FASEB J* 1991 Aug; 5(11):2523-8.
- Pastan I, Willingham MC, Gottesman MM. Multidrug resistance. Paper presented at: 6th NCI-EORTC Symposium on New Drugs in Cancer Therapy; 1989 Mar 7-10; Amsterdam.
- Pavelic ZP, Sever Z, Fontaine RN, Baker VV, Reising J, Denton DM, Pavelic L, Khalily M. Detection of P-glycoprotein with JSB-1 monoclonal antibody in B-5 fixed and paraffin-embedded cell lines and tissues. *Sel Cancer Ther* 1991 Summer;7(2):49-58.
- Philip PA, Monkman S, Idle J, Carmichael J, Harris AL. A phase I study of nifedipine with etoposide in metastatic tumors [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1990;9:A323.

- Pileri SA, Sabbatini E, Falini B, Tazzari PL, Gherlinzoni F, Michieli MG, Damiani D, Zucchini L, Gobbi M, Tsuruo T, et al. Immunohistochemical detection of the multidrug transport protein P170 in human normal tissues and malignant lymphomas. *Histopathology* 1991 Aug; 19(2):131-40.
- Preisegger KH, Brown PC, Silverman JA, Thorgeirsson SS. Extrahepatic induction of MDR expression in the rat by xenobiotics [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2827.
- Rochlitz CF, Lobeck H, Peter S, Reuter J, Mohr B, de Kant E, Huhn D, Herrmann R. Multiple drug resistance gene expression in human renal cell cancer is associated with the histologic subtype. *Cancer* 1992 Jun 15;69(12):2993-8.
- Ronchi E, Sanfilippo O, Di Fronzo G, Bani MR, Della Torre G, Catania S, Silvestrini R. Detection of the 170 kDa P-glycoprotein in neoplastic and normal tissues. *Tumori* 1989 Dec 31;75(6):542-6.
- Sachs C, Ballas L, Hannun Y, Loomis C, Carroll I, Bell R, Fine RL. Protein kinase C inhibitors increase drug accumulation and decrease resistance of multidrug resistant cell lines [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2218.
- Samuels B, Ratain M, Mick R, Vogelzang NJ, Schilsky R, O'Brien S, Harrison H. Phase I trial of multidrug resistance modulation with cyclosporine A [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A1163.
- Satta T, Isobe K, Yamauchi M, Nakashima I, Takagi H. Expression of MDR1 and glutathione S transferase-pi genes and chemosensitivities in human gastrointestinal cancer. *Cancer* 1992 Feb 15;69(4):941-6.
- Savaraj N, Lu K, Guo T, Castello C, Tapiero H, Lampidis T. Reduced drug accumulation with increased p-glycoprotein expression in normal cell line [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1164.
- Shuin T, Masuda M, Yao M, Kubota Y, Sugimoto Y, Tsuruo T. Chemosensitivity and expression of multidrug resistant gene (MDR1 gene) in human kidney cancer cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1222.
- Sonneveld P, Durie BG, Lokhorst HM, Marie JP, Solbu G, Suciu S, Zittoun R, Lowenberg B, Nooter K. Modulation of multidrug-resistant multiple myeloma by cyclosporin. The Leukaemia Group of the EORTC and the HOVON. *Lancet* 1992 Aug 1; 340(8814):255-9.
- Stavrovskaja AA, Stromskaia TP, Chernova OB, Dzhuraeva FK. [Multiple drug resistance and differentiation in the population of transformed dog kidney cells MDCK]. *Mol Gen Mikrobiol Virusol* 1990 May;(5):3-7. (Rus).
- Sugawara I, Kataoka I, Morishita Y, Hamada H, Tsuruo T, Itoyama S, Mori S. Tissue distribution of P-glycoprotein encoded by a multidrug-resistant gene as revealed by a monoclonal antibody MRK 16. *Cancer Res* 1988;48(7):1926-9.
- Sugawara I, Koji T, Ueda K, Pastan I, Gottesman MM, Nakane PK, Mori S. In situ localization of the human multidrug-resistance gene mRNA using thymine-thymine dimerized single-stranded cDNA. *Jpn J Cancer Res* 1990 Sep;81(9):949-55.
- Symes MO, Collins CM, Lai T, Smith PJ. The influence of tumor stage on in vitro sensitivity of renal carcinoma cells to mizorantinone. Paper presented at: 3rd International Congress on the Neoadjuvant Chemotherapy; 1991 Feb 6-9; France. (Eng, Fre).
- Teeter LD, Eckersberg T, Tsai Y, Kuo MT. Analysis of the Chinese hamster P-glycoprotein/multidrug resistance gene pgp1 reveals that the AP-1 site is essential for full promoter activity. *Cell Growth Differ* 1991 Sep;2(9):429-37.
- Thiebaut F, Tsuruo T, Hamada H, Gottesman MM, Pastan I, Willingham MC. Immunohistochemical localization in normal tissues of different epitopes in the multidrug transport protein p170 evidence for localization in brain capillaries and crossreactivity of one antibody with a muscle protein. *J Histochem Cytochem* 1989;37(2):159-64.
- Tsuruo T. Mechanisms of multidrug resistance and implications for therapy. *Jpn J Cancer Res* 1988;79(3):285-96.
- Tsuruo T. Multidrug resistance: a transport system of antitumor agents and xenobiotics. *Int Symp Princess Takamatsu Cancer Res Fund* 1990;21: 241-51.
- Ueda K, Pastan I, Gottesman MM. Isolation and sequence of the promoter region of the human multidrug resistance (P-glycoprotein) gene. *J Biol Chem* 1987;262(36):17432-6.
- Ueda K, Yamano Y, Kioka N, Kakehi Y, Yoshida O, Gottesman MM, Pastan I, Komano T. Detection of multidrug resistance (MDR1) gene RNA expression in human tumors by a sensitive ribonuclease protection assay. *Jpn J Cancer Res* 1989 Nov;80(11):1127-32.
- van der Valk P, van Kalken CK, Ketelaars H, Broxterman HJ, Scheffer G, Kuiper CM, Tsuruo T,

- Lankelma J, Meijer CJ, Pinedo HM, et al. Distribution of multi-drug resistance-associated P-glycoprotein in normal and neoplastic human tissues. Analysis with 3 monoclonal antibodies recognizing different epitopes of the P-glycoprotein molecule. *Ann Oncol* 1990;1(1):56-64.
- van Kalken CK, van der Valk P, Hadisaputro MM, Pieters R, Broxterman HJ, Kuiper CM, Scheffer GL, Veerman AJ, Meyer CJ, Scheper RJ, et al. Differentiation dependent expression of P-glycoprotein in the normal and neoplastic human kidney. *Ann Oncol* 1991 Jan;2(1):55-62.
- Volm M. In vivo multidrug-resistance of animal and human tumors [abstract]. *J Chemother Infect Dis Malig* 1989;Suppl 1:A307.
- Volm M, Efferth T. Relationship of DNA ploidy to chemoresistance of tumors as measured by in vitro tests. *Cytometry* 1990;11(3):406-10.
- Volm M, Pommerenke EW, Efferth T, Lohrke H, Mattern J. Circumvention of multi-drug resistance in human kidney and kidney carcinoma in vitro. *Cancer* 1991 May 15;67(10):2484-9.
- Weiss GH, Mcatee N, Mickley L, Robertson CN, Gottesman MM, Pastan IH, Linehan WM, Fojo T. Clinical trial of amiodarone to suppress function of multidrug resistance gene product during chemotherapy for renal cell carcinoma [abstract]. *J Urol* 1990;143(4 Suppl):385a.
- Willingham MC. Morphologic aspects of the basic cell biology of cancer. *Acta Histochem Cytochem* 1988;21(5):507-18.
- Wu L, Smythe AM, Stinson SF, Mullendore LA, Monks A, Scudiero DA, Paull KD, Koutsoukos AD, Rubinstein LV, Boyd MR, et al. Multidrug-resistant phenotype of disease-oriented panels of human tumor cell lines used for anticancer drug screening. *Cancer Res* 1992 Jun 1;52(11):3029-34.
- Yahanda AM, Adler KM, Hardy R, Brophy NA, Halsey J, Sikic BI. A phase I trial of etoposide (E) with cyclosporine (CSA) as a modulator of multidrug resistance (MDR) [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1991;10:A276.
- Yamauchi M, Satta T, Yaguchi T, Takeshima E, Onishi Y, Watanabe T, Isobe K, Takagi H. Expression of a multidrug-resistance gene and effectiveness of anticancer agents in human stomach and colon cancer cell lines [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2060.
- Leukemias**
- Abraham I, Wolf CL, Sampson KE, McGovren JP, DeKoning TF. Tirilazad mesylate, a 21 aminosteroid, and the reversal of multidrug resistance [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2866.
- Adams DJ, Knick VC. MDR and non-MDR forms of cellular resistance to 5'-nor-anhydrovinblastine (navelbine) [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2760.
- Adamson PC, Poplack DG, Balis FM. Pharmacology and drug resistance in childhood lymphoblastic leukemia. *Hematol Oncol Clin North Am* 1990 Oct;4(5):871-94.
- Ahn CH, Fine RL, Anderson WB. Possible involvement of protein-kinase C in the modulation of multidrug resistance [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1182.
- Aihara M, Aihara Y, Schmidt-Wolf G, Schmidt-Wolf I, Sikic BI, Blume KG, Chao NJ. A combined approach for purging multidrug-resistant leukemic cell lines in bone marrow using a monoclonal antibody and chemotherapy. *Blood* 1991 May 1; 77(9):2079-84.
- Alabaster O, Woods T, Ortiz-Sanchez V, Jahangeer S. Influence of microenvironmental pH on adriamycin resistance. *Cancer Res* 1989;49(20):5638-43.
- Alade SL, Brown RE, Wormsley S, Wu MC. Cytostatic and tumoricidal effects of quinacrine on a monoblastic cell line (U937) expressing P-glycoprotein [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2247.
- Alton PA, Fry A, Hickson ID, Harris AL. Use of the MTT assay in acute myeloid leukemia to assess mechanisms of resistance [abstract]. *Br J Cancer* 1991;63 Suppl 13:14.
- Andolina M, Agosti E, De Manzini A, Recanati D, Ferrari M, Padrini R, Piovon D. Vincristine and verapamil in resistant relapses and in a conditioning regimen for BMT [abstract]. *J Cell Biochem Suppl* 1991;15 Pt G:37.
- Andreeff M, Hegewisch-Becker S, Haimi J, Rehmann B, Berman E, Bertino J. Multidrug resistance, expression of P-glycoprotein, anthracycline uptake and ARA-C resistance in acute leukemia: assessment by flow cytometry and correlation with response to therapy [abstract]. *J Chemother Infect Dis Malig* 1989;Suppl 1:A480.
- Arceci RJ, Steiglitz K, Croop JM. A monoclonal antibody to an external epitope of the P-glycoprotein [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2815.

- Arienti F, Gambacorti-Passerini C, Borin L, Rivoltini L, Orazi A, Pogliani EM, Corneo G, Parmiani G. Increased susceptibility to lymphokine activated killer (LAK) lysis of relapsing vs. newly diagnosed acute leukemic cells without changes in drug resistance or in the expression of adhesion molecules. *Ann Oncol* 1992;3(2):155-62.
- Arkin H, Ohnuma T, Kamen BA, Holland JF, Vallabhajosula S. Multidrug resistance in a human leukemic cell line selected for resistance to trimetrexate. *Cancer Res* 1989 Dec 1;49(23):6556-61.
- Arkin H, Ohnuma T, Schwartz GK, Cuttner J, Holland JF. Lack of staurosporine (STSN) influence on multidrug resistance (MDR) in human leukemic cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2004.
- Arsenault AL, Ling V, Kartner N. Altered plasma membrane ultrastructure in multidrug-resistant cells. *Biochim Biophys Acta* 1988;938(2):315-21.
- Baccarani M, Michieli M, Geromin A, Michelutti A, Savignano C, Fanin R, Fasola G, Silvestri F, Velisig M. The expression of P170 glycoprotein in acute leukemia (AL) [abstract]. *Exp Hematol* 1991;19(6):534.
- Beck WT, Cirtain MC, Glover CJ, Felsted RL, Safa AR. Effects of indole alkaloids on multidrug resistance and labeling of P-glycoprotein by a photoaffinity analog of vinblastine. *Biochem Biophys Res Commun* 1988;153(3):959-66.
- Bell DR, Friedlander ML, Young G, MA DD. P-glycoprotein expression in clinically drug-resistant hematologic malignancies [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1988;7:A677.
- Berman E, Adams M, Duigou-Osterndorf R, Godfrey L, Clarkson B, Andreeff M. Effect of tamoxifen on cell lines displaying the multidrug-resistant phenotype. *Blood* 1991 Feb 15;77(4):818-25.
- Berman E, McBride M. Comparative cellular pharmacology of daunorubicin and idarubicin in human multidrug-resistant leukemia cells. *Blood* 1992 Jun 15;79(12):3267-73.
- Boesch D, Gaveriaux C, Jachez B, Pourtier-Manzanedo A, Bollinger P, Loor F. In vivo circumvention of P-glycoprotein-mediated multidrug resistance of tumor cells with SDZ PSC 833. *Cancer Res* 1991 Aug 15;51(16):4226-33.
- Boesch D, Muller K, Pourtier-Manzanedo A, Loor F. Restoration of daunomycin retention in multidrug-resistant P388 cells by submicromolar concentrations of SDZ PSC 833, a nonimmunosuppressive cyclosporin derivative. *Exp Cell Res* 1991 Sep;196(1):26-32.
- Bonadonna G, Santoro A. Current issues in the management of advanced Hodgkin's disease. *Blood Rev* 1990 Mar;4(1):69-73.
- Brophy NA, Marie JP, Berry JM, Ehsan MN, Smith SD, Warnke RA, Sikic BI. Expression of the multidrug resistance gene MDR1 in leukemia and lymphoma cells [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1989;8:A211.
- Busche R, Tuemmler B, Riordan JR, Cano-Gauci DF. Preparation and utility of a radioiodinated analogue of daunomycin in the study of multidrug resistance. *Mol Pharmacol* 1989;35(4):414-21.
- Cairo MS, Knoppel E, Gillan E, Feusner J, Gold S, Wells R. MDR expression of pediatric ALL and AML at diagnosis and relapse by PCR amplification: rapid and sensitive detection [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1991;10:A799.
- Cairo MS, Plunkett JM, Gillan E, Weinthal J, Knoppel E, van de Ven C, Sender L. A novel preparative and purging regimen employing verapamil to modulate multiple drug resistance during autologous bone marrow transplant in acute lymphoblastic leukemia: a pilot study [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A1191.
- Cairo MS, Plunkett JM, Kantawala S, Knoppel E, Nguyen A, van de Ven C. Purging of multiple drug resistant acute lymphoblastic leukemia (L100) for autologous bone marrow transplantation with vincristine (V) and VP-16: selective modulation by verapamil (VPL) [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A1017.
- Cairo MS, Toy C, Sender L, VandeVen C. The combination of VP-16 and verapamil to chemo-purge multidrug resistant leukemia cells from human bone marrow: selective tumor cytotoxicity versus marrow toxicity [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A932.
- Campos L, Guyotat D, Archimbaud E, Calmard-Oriol P, Tsuruo T, Troncy J, Treille D, Fiere D. Clinical significance of multidrug resistance P-glycoprotein expression on acute nonlymphoblastic leukemia cells at diagnosis. *Blood* 1992 Jan 15; 79(2):473-6.
- Campos L, Guyotat D, Archimbaud E, Tsuruo T, Solary E. Clinical significance of MDR1/P-170 expression in acute nonlymphoblastic leukemia (ANLL) cells [abstract]. *Exp Hematol* 1991; 19(6):529.
- Capranico G, De Isabella P, Castelli C, Supino R, Parmiani G, Zunino F. P-glycoprotein gene amplification and expression in multidrug-resistant murine p388 and b16 cell lines. *Br J Cancer* 1989; 59(5):682-5.
- Carulli G, Marini A, Caracciolo F. [P-glycoprotein and treatment with plicamycin + hydroxyurea in myeloid

- blastic crisis of chronic myeloid leukemia]. *Medicina (Firenze)* 1989 Oct-Dec;9(4):409-10. (Ita).
- Carulli G, Petrini M. Multidrug resistance: focus in hematology. *Haematologica* 1990 Jul-Aug;75(4):363-74.
- Carulli G, Petrini M, Marini A, Vaglini F, Caracciolo F, Grassi B. P-glycoprotein and drug resistance in acute leukemias and in the blastic crisis of chronic myeloid leukemia. *Haematologica* 1990 Nov-Dec;75(6):516-21.
- Cass CE, Janowska-Wieczorrek A, Lynch MA, Sheinin H, Hindenburg AA, Beck WT. Effect of duration of exposure to verapamil on vincristine activity against multidrug-resistant human leukemic cell lines. *Cancer Res* 1989;49(21):5798-804.
- Cervantes A, Benet I, Ortiz De Salazar I, Solano C, Pascual A, Marugan I, Garcia-Conde J. Immunocytochemical detection of multidrug resistant P-glycoprotein (GP-170) in blast crisis of chronic myeloid leukemia (BC-CML), acute leukemia (AL) and multiple myeloma (MM) [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1991;10:A1069.
- Change BK, Fredericks W, Rustum YM, Baker MR. Levels of P-glycoprotein in pancreatic cancer cell lines: relation to inherent drug resistance [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1988;7:A443.
- Chao NJ, Aihara M, Blume KG, Sikic BI. Modulation of etoposide (VP-16) cytotoxicity by verapamil or cyclosporine in multidrug-resistant human leukemic cell lines and normal bone marrow. *Exp Hematol* 1990 Dec;18(11):1193-8.
- Chen HX, Chang JY, Wang ZQ, Lee KH, Cheng YC. In vitro and in vivo studies on the toxicity and antitumor activity of etoposide (VP-16) and its analogs [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2254.
- Chitnis M, Hegde U, Chavan S, Juvekar A, Advani S. Expression of the multidrug transporter P-glycoprotein and in vitro chemosensitivity: correlation with in vivo response to chemotherapy in acute myeloid leukemia. *Sel Cancer Ther* 1991 Winter;7(4):165-73.
- Cumber P, Padua RA, Holmes J, Carter G, Jacobs A. Multidrug resistance in chronic lymphatic leukemia. Paper presented at: British Association for Cancer Research/Association for Cancer Physicians/Leukaemia Research Fund Joint Winter Meeting on Leukaemia and Lymphomas; 1989 Dec 11-12; London, UK.
- Cumber PM, Jacobs A, Hoy T, Fisher J, Whittaker JA, Tsuruo T, Padua RA. Expression of the multiple drug resistance gene (mdr-1) and epitope masking in chronic lymphatic leukaemia. *Br J Haematol* 1990 Oct;76(2):226-30.
- Cumber PM, Jacobs A, Hoy T, Whittaker JA, Tsuruo T, Padua RA. Increased drug accumulation ex vivo with cyclosporin in chronic lymphatic leukemia and its relationship to epitope masking of P-glycoprotein. *Leukemia* 1991 Dec;5(12):1050-3.
- Dalton WS. Approaches to clinical reversal of multidrug resistance [abstract]. *Invest New Drugs* 1989;7(4):425.
- Damiani D, Michieli M, Michelutti A, Geromin A, Patriarca F, Fanin R, Russo D, Silvestri F, Baccarani M. P-170 expression in adult acute lymphoblastic leukemia (ALL) [abstract]. *Haematologica* 1991;76 Suppl 4:75.
- Deffie AM, Alam T, Seneviratne C, Beenken SW, Batra JK, Shea TC, Henner WD, Goldenberg GJ. Multifactorial resistance to adriamycin relationship of DNA repair glutathione transferase activity drug efflux and P-glycoprotein in cloned cell lines of adriamycin-sensitive and adriamycin-resistant P388 leukemia. *Cancer Res* 1988;48(13):3595-602.
- Demidova NS, Chernova OB, Siyanova EY, Goncharova AS, Kopnin BP. Newly formed chromosome-like structures in independent mouse P388 sublines with developed in vivo mdr1 gene amplification. *Somat Cell Mol Genet* 1991 Nov; 17(6):581-90.
- Dhainaut A, Regnier G, Atassi G, Pierre A, Leonce S, Kraus-Berthier L, Prost JF. New triazine derivatives as potent modulators of multidrug resistance. *J Med Chem* 1992 Jun 26;35(13):2481-96.
- DiCicco L, Gordon K, Wellham L, Thornburgh T, Krishan A. Cellular differentiation and daunorubicin retention [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2085.
- Dietel M, Bunge A, Heidebrecht HJ, Reymann A, Seidel A. Resistance to the adriamycin-resistance reversing potency of cyclosporin A in P-glycoprotein-positive friend leukemia cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2906.
- Dordal MS, Winter JN, Atkinson AJ Jr. Kinetic analysis of P-glycoprotein-mediated doxorubicin efflux [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2802.
- Dorr RT, Alberts DS, Sami SM, Remers WA. Consistent cytotoxic activity in multidrug resistant tumors for azonafide, a new anthracene analog of amonafide [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:408.
- Dorr RT, Liddil JD. Modulation of mitomycin C-induced multidrug resistance in-vitro. *Cancer Chemother Pharmacol* 1991;27(4):290-4.

- Dorr RT, Liddil JD, Von Hoff DD, Soble M, Osborne CK. Antitumor activity and murine pharmacokinetics of parenteral acronycine. *Cancer Res* 1989;49(2):340-4.
- Dupuis ML, Ramoni C, Yassen A, Samoggia P, Tombesi M, Caserta M, Cianfriglia M. The over-expression of P-glycoprotein in K-562 and DAUDI cells, is associated with a high susceptibility to NK and LAK cells. *J Biol Regul Homeost Agents* 1991 Oct-Dec;5(4):137-41.
- Efferth T, Klett T, Mattern J, Osswald H, Pommerenke EW, Stohr M, Volm M. Reversing multidrug resistance in L1210 tumor cells by hycanthonone or chlorophenoxamine in vitro and in vivo. *Anticancer Res* 1991 May-Jun;11(3):1275-9.
- Efferth T, Lohrke H, Volm M. Reciprocal correlation between expression of P-glycoprotein and accumulation of rhodamine 123 in human tumors. *Anticancer Res* 1989 Nov-Dec;9(6):1633-7.
- Evans SS, Rustum YM. The combined effects of alpha-interferon with doxorubicin (DOX) and vinblastine (VLB) on multidrug-resistant ovarian carcinoma and leukemic cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2101.
- Ferretti A, Barca S, Bozzi A, Chen LL, Di Vito M, Strom R, Podo F, Cianfriglia M. Phosphorus-31 NMR and enzymatic studies on metabolic alterations associated with multi-drug resistance in human leukemic T cells [abstract]. *Eur J Cancer* 1991;27(Suppl 3):S42.
- Fine RL, Monks A, Patel J, Jett M, Ahn C, Anderson W, Shoemaker R, Chabner BA. Staurosporine a potent inhibitor of protein kinase C is equally toxic to sensitive and multidrug-resistant mdr human cancer cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:301.
- Finlay GJ, Baguley BC, Snow K, Judd W. Multiple patterns of resistance of human leukemia cell sublines to amsacrine analogues. *J Natl Cancer Inst* 1990 Apr 18;82(8):662-7.
- Ford JM, Hait WN. Further characterization of the thioxanthene class of multidrug resistance antagonists [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:570.
- Fracasso PM, Slapak CA, Levy SB. Differential amplification of the MDR gene family in two multidrug resistant murine erythroleukemia cell lines [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2176.
- Fredericks WJ, Murawski MJ, Slocum HK, Gerlach JH, Ling V, Baker RM. Incidence of elevated P-glycoprotein expression in human tumors [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1200.
- Funato T, Bando Y, Kato H, Tokuhiko H, Shimoda Y, Ohtani H. [Analysis of P-glycoprotein in patients with acute leukemias by flow cytometry]. *Rinsho Byori* 1989 Aug;37(8):899-904. (Jpn).
- Furusawa S, Fujimura T, Kawauchi H, Sasaki K, Takayanagi Y. Potentiation of pirarubicin cytotoxicity by dipyrindamole in doxorubicin-resistant mouse P388 leukemia cells. *Res Commun Chem Pathol Pharmacol* 1991 Mar;71(3):321-36.
- Ganapathi R, Grabowski D, Ford J, Heiss C, Kerrigan D, Pommier Y. Progressive resistance to doxorubicin in mouse leukemia L1210 cells with multidrug resistance phenotype: reductions in drug-induced topoisomerase II-mediated DNA cleavage. *Cancer Commun* 1989;1(4):217-24.
- Ganapathi R, Kamath N, Constantinou A, Grabowski D, Ford J, Anderson A. Effect of the calmodulin inhibitor trifluoperazine on phosphorylation of P-glycoprotein and topoisomerase II: Relationship to modulation of subcellular distribution, DNA damage and cytotoxicity of doxorubicin in multidrug resistant L1210 mouse leukemia cells. *Biochem Pharmacol* 1991 Jun 15;41(12):R21-6.
- Ganapathi R, Kuo T, Teeter L, Grabowski D, Ford J. Relationship between expression of P-glycoprotein and efficacy of trifluoperazine in multidrug-resistant cells. *Mol Pharmacol* 1991 Jan;39(1):1-8.
- Gekeler V, Frese G, Diddens H, Probst H. Expression of a P-glycoprotein gene is inducible in a multidrug-resistant human leukemia cell line. *Biochem Biophys Res Commun* 1988;155(2): 754-60.
- Genne P, Dimanche-Boitrel MT, Mauvernay RY, Gutierrez G, Duchamp O, Petit JM, Martin F, Chauffert B. Cinchonine, a potent efflux inhibitor to circumvent anthracycline resistance in vivo. *Cancer Res* 1992 May 15;52(10):2797-801.
- Gervasoni JE Jr, Fields SZ, Krishna S, Baker MA, Rosado M, Thuraisamy K, Hindenburg AA, Taub RN. Subcellular distribution of daunorubicin in P-glycoprotein-positive and -negative drug-resistant cell lines using laser-assisted confocal microscopy. *Cancer Res* 1991 Sep 15;51(18):4955-63.
- Giai M, Biglia N, Sismondi P. Chemoresistance in breast tumors. *Eur J Gynaecol Oncol* 1991; 12(5):359-73.
- Gieseler F, Boege F, Biersack H, Spohn B, Wilms K. Characterization of three HL-60 sublines with different types of multidrug resistance [abstract]. *Onkologie* 1991;14 Suppl 2:54.
- Giglio AD, Savaraj N, Castello C, Tapiero H, White L, Lampidis TJ. Comparative effects of menogaril and adriamycin on cardiac and multi-drug resistant

- tumor cells [abstract]. Proc Annu Meet Am Assoc Cancer Res 1989;30:A2441.
- Gillan E, Knoppel E, Feusner J, Wells R, Cairo MS. Increased detection of multiple drug-resistance expression of pediatric leukemias at diagnosis and relapse by reverse transcriptase polymerase chain reaction [abstract]. Proc Annu Meet Am Assoc Cancer Res 1992;33:A1566.
- Gisslinger H, Wallner J, Gsur A, Gilly B, Pirker R. MDR1 and MDR3 gene expression in chronic lymphocytic leukemia [abstract]. Onkologie 1991;14 Suppl 2:54.
- Goldstein L, Galski H, Fojo A, Willingham M, Green A, Crist W, Gottesman M, Pastan I. Expression of a multidrug-resistance gene in human tumors [abstract]. Proc Annu Meet Am Assoc Cancer Res 1988;29:A1184.
- Goldstein L, Galski H, Fojo A, Willingham M, Lai SL, Gazdar A, Pirker R, Green A, Crist W, et al. Expression of a multidrug resistance gene in human cancers. J Natl Cancer Inst 1989;81(2):116-24.
- Gollapudi S, McDonald T, Gardner P, Kang N, Gupta S. Role of chloride channels in multidrug resistance [abstract]. Proc Annu Meet Am Assoc Cancer Res 1991;32:A2192.
- Gollapudi S, Patel K, Jain V, Gupta S. Protein kinase C isoforms in multidrug resistant P388/ADR cells: a possible role in daunorubicin transport. Cancer Lett 1992 Feb 14;62(1):69-75.
- Gollapudi S, Patel K, Nguyen E, Gupta S. Effect of calphostin, a specific inhibitor of protein kinase C (PKC), on daunorubicin transport and cytotoxicity in multidrug-resistant (MDR) P388/ADR and HL60/AR cells [abstract]. Proc Annu Meet Am Assoc Cancer Res 1992;33:A2734.
- Gosland MP, Brophy NA, Duran GE, Yahanda AM, Adler KM, Hardy RI, Halsey J, Sikic BI. Bilirubin: a physiological substrate for the multidrug transporter [abstract]. Proc Annu Meet Am Assoc Cancer Res 1991;32:A2533.
- Gottesman MM, Goldstein LJ, Pastan I. Expression of the multidrug-resistance (MDR1) gene in breast cancer and other cancers. Paper presented at: Biennial International Breast Cancer Research Conference; 1989 Mar 5-9; Tel Aviv University, Tel Aviv.
- Gottesman MM, Schoenlein PV, Currier SJ, Bruggemann EP, Pastan I. Biochemical basis for multidrug resistance in cancer. Biochem Mol Aspects Sel Cancers 1991;1:339-71.
- Grandi M, Ballinari D, Capolongo L, Pastori A, Ripamonti M, Suarato A, Spreafico F. [New anthracyclines and multidrug resistance]. Haematologica 1991 Jun;76 Suppl 3:181-3. (Ita).
- Gruber A, Vitols S, Norgren S, Arestrom I, Bjorkholm M, Reizenstein P, Peterson C, Luthman H. Quantitative determination of *mdr1* gene expression in leukemic cells from patients with acute leukemia [abstract]. Proc Annu Meet Am Assoc Cancer Res 1992;33:A1408.
- Gupta S, Kim J, Gollapudi S. Reversal of daunorubicin resistance in P388/ADR cells by itraconazole. J Clin Invest 1991 Apr;87(4):1467-9.
- Gutierrez PL, Wilder PJ, Biswal N. In vitro multidrug resistance of P388 murine leukemia selected for resistance to diaziquone. Cancer Commun 1989; 1(3):181-90.
- Hagiwara M, Wakusawa S, Miyamoto K, Hidaka H. Obviation of drug resistance and affinity purification of P-glycoprotein by isoquinolinesulfonamides. Cancer Lett 1991 Nov;60(2):103-7.
- Hait WN, Aftab DT. Rational design and pre-clinical pharmacology of drugs for reversing multidrug resistance. Biochem Pharmacol 1992;43(1):103-7.
- Hait WN, Choudhury S, Srimatkandada V. Characterization of a human chronic myelogenous leukemia cell line expressing the multidrug resistance gene [abstract]. Proc Annu Meet Am Assoc Cancer Res 1991;32:A2186.
- Hait WN, Stein JM, Koletsky AJ, Harding MW, Handschumacher RE. Activity of cyclosporin A and a non-immunosuppressive cyclosporin against multidrug resistant leukemic cell lines. Cancer Commun 1989;1(1):35-43.
- Hamada H, Tsuruo T. Characterization of the ATPase activity of the M-R 170000 to 180000 membrane glycoprotein P-glycoprotein associated with multidrug resistance in K562-ADM cells. Cancer Res 1988;48(17):4926-32.
- Hamada H, Tsuruo T. Purification of the 170- to 180-kilodalton membrane glycoprotein associated with multidrug resistance. 170- to 180-kilodalton membrane glycoprotein is an ATPase. J Biol Chem 1988;263(3):1454-8.
- Harder S. Verapamil, a promising agent for circumvention of multidrug-resistance. Onkologie 1991;14(3):212-7.
- Hasmann M, Valet GK, Tapiero H, Trevorrow K, Lampidis T. Membrane potential differences between adriamycin-sensitive and resistant cells as measured by flow cytometry. Biochem Pharmacol 1989;38(2):305-12.
- Hegewisch-Becker S, Fliegner M, Hossfeld D, Zander A. Clinical relevance of P-glycoprotein expression and drug uptake [abstract]. Proc Annu Meet Am Assoc Cancer Res 1991;32:A2584.

- Heike Y, Hamada H, Inamura N, Sone S, Ogura T, Tsuruo T. Monoclonal anti-P-glycoprotein antibody-dependent killing of multidrug-resistant tumor cells by human mononuclear cells. *Jpn J Cancer Res* 1990 Nov;81(11):1155-61.
- Henderson GB. Mediation of cellular anion detoxification in leukemic cells by unidirectional efflux pumps. *Adv Enzyme Regul* 1989;29:61-72.
- Hendricks CB, Rowinsky EK, Grochow LB, Donehower RC, Kaufmann SH. Effect of P-glycoprotein expression on the accumulation and cytotoxicity of topotecan (SK&F 104864), a new camptothecin analogue. *Cancer Res* 1992 Apr 15; 52(8):2268-78.
- Hennequin E, Delvincourt C, Okiemy MG, Jardillier JC. Detection of MDR1 gene in cell lines and human cancers. Paper presented at: European Association for Cancer Research 10th Biennial Meeting; 1989 Sep 10-13; Galway, Ireland.
- Herweijer H, Nooter K, Beishuizen A, Sonneveld P, Oostrum RG, Hesseling-Janssen AL, van Dongen JI. Expression of *mdr1* and *mdr3* multidrug-resistance genes in hairy cell leukaemia [letter]. *Eur J Cancer* 1991;27(3):297-8.
- Herweijer H, Sonneveld P, Baas F, Nooter K. Expression of *mdr1* and *mdr3* multidrug-resistance genes in human acute and chronic leukemias and association with stimulation of drug accumulation by cyclosporine. *J Natl Cancer Inst* 1990 Jul 4; 82(13):1133-40.
- Hill AB, Beck WT, Trent JM. Cytogenetic and molecular characterization of tumors in nude mice derived from a multidrug resistant human leukemia cell line. *Cancer Res* 1988;48(2):393-8.
- Ho AD, Thaler J, Stryckmans P, Coiffier B, Luciani M, Sonneveld P, Lechner K, Rodenhuis S, Peetermans ME, deCataldo F, et al. Pentostatin in refractory chronic lymphocytic leukemia: a phase II trial of the European Organization for Research and Treatment of Cancer. *J Natl Cancer Inst* 1990 Sep 5;82(17):1416-20.
- Hoffmann D, Gerken M, Hermentin P, Sedlacek HH. B 880308 -- a new anthracycline derivative demonstrating maintained activity against multidrug resistant cell lines [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2410.
- Holmes JA, Jacobs A, Carter G, Whittaker JA, Bentley DP, Padua RA. Is the *mdr 1* gene relevant in chronic lymphocytic leukemia? *Leukemia* 1990 Mar;4(3):216-8.
- Hu XF, Martin TJ, Bell DR, de Luise M, Zalberg JR. Combined use of cyclosporin A and verapamil in modulating multidrug resistance in human leukemia cell lines. *Cancer Res* 1990 May 15;50(10):2953-7.
- Ikegami T, Kubota N, Matsui K, Funabiki T, Shuin T, Natsumeda Y. Dipyridamole enhances the cellular accumulation of etoposide and its cytotoxic effect in various cancer cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2031.
- Ishida Y, Ohtsu T, Hamada H, Sugimoto Y, Tobinai K, Minato K, Tsuruo T, Shimoyama M. Multidrug resistance in cultured human leukemia and lymphoma cell lines detected by a monoclonal antibody, MRK16. *Jpn J Cancer Res* 1989 Oct; 80(10):1006-13.
- Ishii S, Nagasawa M, Kariya Y, Yamamoto H, Inouye S, Kondo S. Antitumor activity of pyrimidamycins A and B. *J Antibiot (Tokyo)* 1989 Nov;42(11): 1713-7.
- Ito T, Ohnuma T, Holland JF, Mattern MR. Altered DNA topoisomerase (TOPO) II activity in human leukemia sublines resistant to trimetrexate (TMQ) [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2078.
- Ito Y, Tanimoto M, Kumazawa T, Okumura M, Morishima Y, Ohno R, Saito H. Increased P-glycoprotein expression and multidrug-resistant gene (*mdr1*) amplification are infrequently found in fresh acute leukemia cells. Sequential analysis of 15 cases at initial presentation and relapsed stage. *Cancer* 1989 Apr 15;63(8):1534-8.
- Ivy SP, Smith JK, Speciale A, Sather H, Hammond GD, Reaman GH. Detection of *mdr1* gene expression using polymerase chain reaction (PCR) in childhood acute lymphoblastic leukemia (ALL) at diagnosis [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2826.
- Jackson RC, Leopold WR, Sebolt JS. Biochemical and experimental chemotherapy studies of the pyrazoloacridines [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:536-8.
- Jaffrezou JP, Herbert JM, Levade T, Gau MN, Chatelain P, Laurent G. Reversal of multidrug resistance by calcium channel blocker SR33557 without photoaffinity labeling of P-glycoprotein. *J Biol Chem* 1991 Oct 15;266(29):19858-64.
- Hollt V, Kouba M, Dietel M, Vogt G. Stereoisomers of calcium antagonists which differ markedly in their potencies as calcium blockers are equally effective in modulating drug transport by P-glycoprotein. *Biochem Pharmacol* 1992 Jun 23; 43(12):2601-8.

- Kaczorowski S, Porwit A, Christensson B. Expression of P-glycoprotein in non-Hodgkin's lymphomas. *Leuk Lymphoma* 1991;5(5-6):379-86.
- Kamath N, Grabowski D, Ford J, Drake F, Kerrigan D, Pommier Y, Ganapathi R. Trifluoperazine modulation of resistance to the topoisomerase II inhibitor etoposide in doxorubicin resistant L1210 murine leukemia cells. *Cancer Commun* 1991 Feb; 3(2):37-44.
- Kato S, Ideguchi H, Muta K, Nishimura J, Nawata H. Absence of correlation between cytotoxicity and drug transport by P-glycoprotein in clinical leukemic cells. *Eur J Haematol* 1991 Aug; 47(2):146-51.
- Kato S, Ideguchi H, Muta K, Nishimura J, Nawata H. Mechanisms involved in the development of adriamycin resistance in human leukemic cells. *Leuk Res* 1990;14(6):567-73.
- Kaye SB, Kerr DJ. Multidrug resistance: clinical relevance in hematological malignancies. *Blood Rev* 1991;5(1):38-41.
- Keller RP, Altermatt HJ, Nooter K, Poschmann G, Laissue JA, Bollinger P, Hiestand PC. SDZ PSC-833, a non-immunosuppressive cyclosporine: its potency in overcoming P-glycoprotein-mediated multidrug resistance of murine leukemia. *Int J Cancer* 1992 Feb 20;50(4):593-7.
- Kemnitz J, Freund M, Dominis M, Cohnert TR, Uysal A, Georgii A. Detection of cells with multidrug-resistant phenotype in myeloproliferative disorders before therapy. *Hematol Pathol* 1989;3(2):73-8.
- Kere J, Ruutu T, Davies KA, Roninson IB, Watkins PC, Winqvist R, De La Chapelle A. Chromosome 7 long arm deletion in myeloid disorders a narrow breakpoint region in 7q22 defined by molecular mapping. *Blood* 1989;73(1):230-4.
- Kessel D. Effects of phorbol esters on doxorubicin transport systems. *Biochem Pharmacol* 1988; 37(11):2297-3000.
- Kessel D. Exploring multidrug resistance using rhodamine 123. *Cancer Commun* 1989;1(3):145-9. Published erratum appears in *Cancer Commun* 1989 Nov;1(5):335.
- Kessel D. Probing modes of multi-drug resistance via photodynamic effects of anthrapyrazoles. In: Tapiero H, Robert J, Lampidis TJ, editors. *1st International Interface of Clinical and Laboratory Responses to Anticancer Drugs*; 1989 Mar 13-15; Villejuif, France. Paris: Les Editions Inserm; 1989. p. 223-32. (Colloque INSERM; 191).
- Kessel D, Beck WT, Kukuruga D, Schulz V. Characterization of multidrug resistance by fluorescent dyes. *Cancer Res* 1991 Sep 1; 51(17):4665-70.
- Kessel D, Erickson C. Porphyrin photosensitization of multi-drug resistant cell types. *Photochem Photobiol* 1992 Mar;55(3):397-9.
- Kimmig A, Gekeler V, Neumann M, Frese G, Handgretinger R, Kardos G, Diddens H, Niethammer D. Susceptibility of multidrug-resistant human leukemia cell lines to human interleukin 2-activated killer cells. *Cancer Res* 1990 Nov 1;50(21):6793-9.
- Kiue A, Sano T, Naito A, Inada H, Suzuki K, Okumura M, Kikuchi J, Sato S, Takano H, Kohno K, et al. Reversal by two dihydropyridine compounds of resistance to multiple anticancer agents in mouse P388 leukemia in vivo and in vitro. *Jpn J Cancer Res* 1990 Oct;81(10):1057-64.
- Klohs WD, Sebolt JS, Steinkampf RW, Havlick MJ, Berman EM, Werbel LM, Leopold WR, Jackson RC. Correlation between in vitro and in vivo testing of DNA-binders versus antifolates in multiple drug resistant (MDR) P388 cells (P388R) [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1271.
- Klohs WD, Steinkampf RW. The effect of lysosomotropic agents and secretory inhibitors on anthracycline retention and activity in multiple drug-resistant cells. *Mol Pharmacol* 1988;34(2): 180-5.
- Knick VC, Miller CG. In vivo derivation of a murine P388 leukemia subline resistant to 5'-nor-anhydrovinblastine (navelbine) and its cross-resistance profile [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2759.
- Knight C, Slade DL, Harker WG. Multidrug resistance in mitoxantrone-selected CEM leukemia cells appears to be unrelated to P-glycoprotein expression [abstract]. *Clin Res* 1991;39(1):68A.
- Kobayashi H, Takemura Y, Miyachi H, Ohnuma T. Alterations of MDR1 and dihydrofolate reductase genes in human leukemia sublines resistant to various folate analogs [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A1932.
- Koizumi S. Rapid and sensitive detection of low-grade multidrug resistance (MDR) in leukemic cells, using the fluorescent indicator, fluo-3 [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2875.
- Konig R, Ashwell G, Hanover JA. Overexpression and biosynthesis of CD4 in Chinese hamster ovary cells: coamplification using the multiple drug resistance gene. *Proc Natl Acad Sci U S A* 1989 Dec;86(23):9188-92.

- Kopnin BP, Sokova OI, Demidova NS. Regularities of karyotypic evolution during stepwise amplification of genes determining drug resistance. *Mutat Res* 1992 May;276(3):163-77.
- Koseki Y, Sweatman TW, Israel M. Comparative effects of saponins PF-3 and digitonin on adriamycin accumulation in parent sensitive (P388/S) and multidrug resistant (P388/ADR) murine leukemia cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2374.
- Krapcho AP, Getahun Z, Avery KL Jr, Vargas KJ, Hacker MP, Spinelli S, Pezzoni G, Manzotti C. Synthesis and antitumor evaluations of symmetrically and unsymmetrically substituted 1,4-bis[(aminoalkyl)amino]anthracene-9,10-diones and 1,4-bis[(aminoalkyl)amino]-5,8-dihydroxyanthracene-9,10-diones. *J Med Chem* 1991 Aug;34(8):2373-80.
- Krishan A, Burke P, Gordon K, Wellham L, Sauerteig A. Flow cytometric determination of drug efflux phenotype in human leukemic cells. *Cytometry* 1988;Suppl 2:41.
- Kulkarni SS, Wang ZM, Spitzer G, Taha M, Hamada H, Tsuruo T, Dicke KA. Elimination of drug-resistant myeloma tumor cell lines by monoclonal anti-P-glycoprotein antibody and rabbit complement. *Blood* 1989 Nov 1;74(6):2244-51.
- Kuo-Pao PY, Samaan NA. Intrinsic drug resistance in a human medullary thyroid carcinoma cell line: association with a multidrug resistance gene expression and low proliferation fraction [abstract]. *Anticancer Res* 1990;10(5B):1404.
- Kuwazuru Y, Hanada S, Furukawa T, Yoshimura A, Sumizawa T, Utsunomiya A, Ishibashi K, Saito T, Uozumi K, Maruyama M, et al. Expression of P-glycoprotein in adult T-cell leukemia cells. *Blood* 1990 Nov 15;76(10):2065-71.
- Kuwazuru Y, Yoshimura A, Hanada S, Ichikawa M, Saito T, Uozumi K, Utsunomiya A, Arima T, Akiyama S. Expression of the multidrug transporter, P-glycoprotein, in chronic myelogenous leukaemia cells in blast crisis. *Br J Haematol* 1990 Jan;74(1):24-9.
- Lahmy S, Salmon JM, Vigo J, Viallet P. Identification of multi-drug resistant cells in sensitive Friend leukemia cells by quantitative videomicrofluorimetry. *Cell Biochem Funct* 1992 Mar;10(1):9-17.
- Lampidis TJ, Castello C, del Giglio A, Pressman BC, Viallet P, Trevorrow KW, Valet GK, Tapiero H, Savaraj N. Relevance of the chemical charge of rhodamine dyes to multiple drug resistance. *Biochem Pharmacol* 1989 Dec 1;38(23):4267-71.
- Lampidis TJ, Castello C, Savaraj N, Kuo MT, Lu K, Li DJ, Fourcade A, Tapiero H. Rapid induction of high levels of cross-resistance to adriamycin and MDR1 gene expression in murine cells by rhodamine 123 [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2107.
- Lampidis TJ, Kolonias D, Tapiero H, Savaraj N, Cahn J. In-vitro cardiac potencies of multi-drug resistance modulators [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1990;31:373.
- Lee SC, Deutsch C, Beck WT. Comparison of ion channels in multidrug-resistant and multidrug-sensitive human leukemic cells. *Proc Natl Acad Sci U S A* 1988;85(6):2019-23.
- Li XK, Ohnuma T, Acs G, Cuttner J, Holland JF. Expressions of dihydrofolate reductase (DHFR) and P-glycoprotein (P-G) genes in trimetrexate (TMQ)-resistant human leukemia cell lines [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1990;31:A2683.
- Limonta M, Ubezio P. [Anthracycline resistance: cytofluorometric study on infantile lymphoblastic leukemia]. *Medicina (Firenze)* 1989 Oct-Dec;9(4):406-8. (Ita).
- Ling YH, Yang LY, Priebe W, Perez-Soler R. Characterization of DNA lesions induced by 2'-I-3'-oh-4'-epi-4-demethoxy-doxorubicin (A), a non-cross-resistant doxorubicin (D) analog with high affinity for lipid membranes [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2909.
- Liso V, Specchia G, Pansini N, Mininni D, Colucci A, Mestice A, Vaira A, Magno M, DeBillis G. Expression of P-170 glycoprotein in adult acute lymphoblastic leukemia (ALL) [abstract]. *Haematologica* 1991;76 Suppl 4:75.
- List AF, Spier C, Greer J, Azar C, Hutter J, Wolff S, Salmon S, Futscher B, Dalton W. Biochemical modulation of anthracycline resistance in acute leukemia with cyclosporin-A (CSA) [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1992;11: A865.
- List AF, Spier CM, Cline A, Doll DC, Garewal H, Morgan R, Sandberg AA. Expression of the multidrug resistance gene product P-glycoprotein in myelodysplasia is associated with a stem cell phenotype. *Br J Haematol* 1991;78(1):28-34.
- Loor F, Boesch D, Gaveriaux C, Jachez B, Pourtier-Manzanedo A, Emmer G. SDZ 280-446, a novel semi-synthetic cyclopeptide: in vitro and in vivo circumvention of the P-glycoprotein-mediated tumour cell multidrug resistance. *Br J Cancer* 1992 Jan;65(1):11-8.
- Lothstein L, Sweatman TW, Israel M. P-glycoprotein (P-gp) mediated resistance to N-benzyladriamycin-14-valerate AD-198 without enhanced drug efflux [abstract]. *J Cancer Res Clin Oncol* 1990; 116 Suppl Pt 1:415.

- Lutzky J, Madrid KK, Krishna S, Bhalla K, Hindenburg AA, Taub RN. Effect of glutathione depletion plus verapamil on HL60 and HL60/AR cells [abstract]. Proc Annu Meet Am Assoc Cancer Res 1991;32:A2203.
- Lyttleton MPA, Hart S, Ganeshaguru K, Prentice HG, Hoffbrand AV, Mehta AB. Multidrug resistance in acute leukaemia: a comparative study of immunocytochemical and RNA slot blot detection of P-glycoprotein expression. Leuk Lymphoma 1991; 5(5-6):357-64.
- Ma L, Marquardt D, Takemoto L, Center MS. Analysis of P-glycoprotein phosphorylation in HL60 cells isolated for resistance to vincristine. J Biol Chem 1991;266(9):5593-9.
- Marie JP, Brophy NA, Berry JM, Ehsan MN, Smith SD, Warnke RA, Sikic BI. Expression of the multidrug-resistance gene *mdr1* in human leukemia and lymphoma cells: comparison of RNA slot blotting, in situ RNA hybridization, and detection of P-glycoprotein by immunocytochemistry [abstract]. Proc Annu Meet Am Assoc Cancer Res 1989;30:A1976.
- Marie JP, Helou C, Thevenin D, Delmer A, Zittoun R. In vitro effect of P-glycoprotein (P-gp) modulators on drug sensitivity of leukemic progenitors (CFU-L) in acute myelogenous leukemia (AML). Exp Hematol 1992 Jun;20(5):565-8.
- Marie JP, Seman M, Oddos T, Aumont P, Zhou D, Suberville AM, Zittoun R. Use of MS2, a monoclonal antibody recognizing external epitope of P-gp, in cell lines and adult acute myeloid leukemias [abstract]. Proc Annu Meet Am Assoc Cancer Res 1991;32:A2167.
- Marie JP, Zittoun R, Sikic BI. Multidrug resistance (*mdr1*) gene expression in adult acute leukemias: correlations with treatment outcome and in vitro drug sensitivity. Blood 1991 Aug 1;78(3):586-92.
- Marquardt D, McCrone S, Center MS. Mechanisms of multidrug resistance in HL60 cells: detection of resistance-associated proteins with antibodies against synthetic peptides that correspond to the deduced sequence of P-glycoprotein. Cancer Res 1990 Mar 1;50(5):1426-30.
- Mason J, Bessent E, Mullen M, Shea T. P-glycoprotein expression on mobilized peripheral blood progenitor cells correlated with CD34 [abstract]. Proc Annu Meet Am Assoc Cancer Res 1992;33:A1189.
- McCrary CW, Huang X, Massey GV, Yanovich S, Pettit GR, Carchman RA. Expression of the multidrug resistance (MDR) gene does not confer resistance to the cytostatic effects of bryostatin 1 [abstract]. Proc Annu Meet Am Assoc Cancer Res 1989;30:A2210.
- McGrath T, Latoud C, Arnold ST, Safa AR, Felsted RL, Center MS. Mechanisms of multidrug resistance in HL60 cells. Analysis of resistance associated membrane proteins and levels of *mdr* gene expression. Biochem Pharmacol 1989 Oct 15; 38(20):3611-9.
- McLachlin JR, Eglitis MA, Ueda K, Lovelace E, Gottesman MM, Anderson WF, Pastan I. Retroviral gene transfer and expression of the multidrug resistance gene in murine hematopoietic cells [abstract]. J Cell Biochem Suppl 1988; 12 Pt B:181.
- McMichael A, Klohs W, Steinkampf R, Elliott W, Ramu A. Tioperidone: a new chemosensitizer for multidrug resistance [abstract]. Proc Annu Meet Am Assoc Cancer Res 1991;32:A2243.
- Meese E, Olson S, Horwitz S, Trent J. Gene amplification is mediated by extrachromosomal elements in the multidrug resistant J774.2 murine cell line [abstract]. Proc Annu Meet Am Assoc Cancer Res 1990;31:A2252.
- Merriman RL, Dantzig AH, Engelhardt J, Minor PL, Poore GA, Shackelford KA, Tanzer LR, VanPelt C, Winter MA, Beck WT, et al. Increased toxicity of vincristine (VCR) when combined with the multidrug-resistance (MDR) modulator, trimethoxybenzoylyohimbine (TMBY) [abstract]. Proc Annu Meet Am Assoc Cancer Res 1990; 31:A2142.
- Meyers MB, Biedler JL, Scotto K, Sirotak FM. Antibodies to P-glycoprotein (PGP) cross-react with a 50- to 55-KD protein in multidrug-resistant mouse tumor cells and in luminal intestinal epithelium of the mouse [abstract]. Proc Annu Meet Am Assoc Cancer Res 1990;31:A2099.
- Meyers MB, Rittmann-Grauer L, O'Brien JP, Safa AR. Characterization of monoclonal antibodies recognizing a m-r 180000 p-glycoprotein differential expression of the m-r 180000 and m-r 170000 p-glycoproteins in multidrug-resistant human tumor cells. Cancer Res 1989;49(12):3209-14.
- Meyers MB, Rittmann-Grauer L, O'Brien JP, Safa AR, Cordon-Cardo C, Biedler JL. The 180-KD resistance-related membrane protein recognized by monoclonal antibodies raised against vincristine-resistant human neuroblastoma cells is a P-glycoprotein [abstract]. Proc Annu Meet Am Assoc Cancer Res 1989;30:A2008.
- Michaeli J, Richon VM, Marks PA, Rifkind RA. Vincristine resistant murine erythroleukemia and HL-60 cells have marked sensitivity to induction of differentiation by hexamethylene bisacetamide

- [abstract]. Proc Annu Meet Am Assoc Cancer Res 1989;30:A1703.
- Michieli M, Damiani D, Geromin A, Michelutti A, Fanin R, Raspadori D, Russo D, Visani G, Dinota A, Pileri S, et al. Overexpression of multidrug resistance-associated p170-glycoprotein in acute non-lymphocytic leukemia. *Eur J Haematol* 1992 Feb;48(2):87-92.
- Michieli M, Geromin A, Michelutti A, Damiani D, Savignano C, Patriarca F, Velisig M, Raspadori D, Baccarani M. Multidrug resistance (MDR)-associated P-170 glycoprotein in acute nonlymphocytic leukemia (ANLL) [abstract]. *Haematologica* 1991;76 Suppl 4:75.
- Michieli M, Raspadori D, Damiani D, Geromin A, Gallizia C, Michelutti A, Fanin R, Fasola G, Russo D, Tazzari P, et al. The expression of the multidrug resistance-associated glycoprotein in B-cell chronic lymphocytic leukaemia. *Br J Haematol* 1991 Apr;77(4):460-5.
- Miller LP, Bauer K, Roninson I, Tsuruo T. Detection of P-glycoprotein by flow cytometry in pediatric acute nonlymphoblastic leukemia (ANLL) [abstract]. Proc Annu Meet Am Soc Clin Oncol 1989;8:A848.
- Miyachi H, Takemura Y, Kobayashi H, Ohnuma T. CB3717 induced enhancement of multidrug resistance (MDR) in a trimetrexate (TMQ)-resistant human acute lymphoblastic leukemia cell line [abstract]. Proc Annu Meet Am Assoc Cancer Res 1990;31:A2251.
- Miyamoto K, Wakusawa S, Inoko K, Takagi K, Koyama M. Reversal of vinblastine resistance by a new staurosporine derivative, NA-382, in P388/ADR cells. *Cancer Lett* 1992 Jun 15; 64(2):177-83.
- Mizuno Y, Hara T, Nagata M, Tawa A, Tsuruo T, Ueda K. Detection of multidrug-resistant protein, P-glycoprotein in childhood leukaemia and lymphoma. *Eur J Pediatr* 1991 Apr;150(6):416-8.
- Molecular diagnostics of human cancer. *Cancer Cells* 1989;7:1-414.
- Muller MR, Twentyman PR, Lambert E, Cox H, Watson JV, Baglin TP, Rees JH. P-glycoprotein (PGp) expression and glutathione (GSH) content in human leukemia cells determined by flow-cytometry (FCM). Paper presented at: British Association for Cancer Research/Association for Cancer Physicians/Leukaemia Research Fund Joint Winter Meeting on Leukaemia and Lymphomas; 1989 Dec 11-12; London, UK.
- Murren JR, Cooper DL, Honig J, Edelson RL, Hait WN, Flynn SD. The multidrug-resistant phenotype is prevalent in Sezary Syndrome (SS) [abstract]. Proc Annu Meet Am Soc Clin Oncol 1992;11: A1130.
- Musto P, Melillo L, Lombardi G, Matera R, di Giorgio G, Carotenuto M. High risk of early resistant relapse for leukaemic patients with presence of multidrug resistance associated P-glycoprotein positive cells in complete remission. *Br J Haematol* 1991 Jan;77(1):50-3.
- Naito M, Hamada H, Tsuruo T. ATP-magnesium-dependent binding of vincristine to the plasma membrane of multidrug-resistant K562 cells. *J Biol Chem* 1988;263(24):11887-91.
- Naito M, Oh-hara T, Yamazaki A, Danki T, Tsuruo T. Reversal of multidrug resistance by an immunosuppressive agent FK-506. *Cancer Chemother Pharmacol* 1992;29(3):195-200.
- Naito M, Tsuruo T. Competitive inhibition by verapamil of atp-dependent high affinity vincristine binding to the plasma membrane of multidrug-resistant k562 cells without calcium ion involvement. *Cancer Res* 1989;49(6):1452-5.
- Naito M, Tsuruo T. Functionally active homodimer of P-glycoprotein in multidrug-resistant tumor cells. *Biochem Biophys Res Commun* 1992 May 29; 185(1):284-90.
- Nara N. [Multidrug resistance in acute leukemia]. *Rinsho Ketsueki* 1989 Mar;30(3):275-81. (Jpn).
- Narayana K, Grabowski D, Ford J, Drake F, Kerrigan D, Pommier Y, Ganapathi R. Trifluoperazine modulation of resistance to the topoisomerase II inhibitor etoposide in doxorubicin resistant L1210 murine leukemia cells. *Cancer Commun* 1991;3(2): 37-44.
- Nooter K, Herweijer H, Sonneveld P, van Dongen J, Mulder A. Expression of the MDR3 multidrug resistance gene in human B-cell malignancies [abstract]. Proc Annu Meet Am Assoc Cancer Res 1991;32:A1157.
- Nooter K, Oostrum R, Jonker R, Van Dekken H, Stokdijk W, Van Den Engh G. Effect of cyclosporin A on daunorubicin accumulation in multidrug-resistant p388 leukemia cells measured by real-time flow cytometry. *Cancer Chemother Pharmacol* 1989;23(5):296-300.
- Nooter K, Sonneveld P, Janssen A, Oostrum R, Boersma T, Herweijer H, Valerio D, Hagemeyer A, Baas F. Expression of the mdr3 gene in prolymphocytic leukemia: association with cyclosporin-A-induced increase in drug accumulation. *Int J Cancer* 1990 Apr 15; 45(4):626-31.
- Nooter K, Sonneveld P, Oostrum R, Herweijer H, Hagenbeek T, Valerio D. Overexpression of the mdr1 gene in blast cells from patients with acute

- myelocytic leukemia is associated with decreased anthracycline accumulation that can be restored by cyclosporin-A. *Int J Cancer* 1990 Feb 15;45(2): 263-8.
- Norris MD, Haber M, Gilbert J, Madafiglio J, Kavallaris M, Stewart BW, Mechetner EB, Gudkov AV, Roninson IB. Selection for MDR1 gene expression by high concentration methotrexate [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2840.
- Nuessler V, Hasmann M, Pelka-Fleischer R, Loeser R, Wilmanns W. Droloxifene--a new modulator of the multidrug-resistance (MDR) phenotype in a human leukemia cell line [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A1544.
- Ogura M, Takatori T, Sugimoto Y, Tsuruo T. Identification of DNA binding proteins on MDR1 promoter in drug-sensitive and adriamycin-resistant human myelogenous leukemia K562 cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1990;31: A2669.
- Ohe Y, Nakagawa K, Fujiwara Y, Sasaki Y, Minato K, Bungo M, Niimi S, Horichi N, Fukuda M, Saijo N. In vitro evaluation of the new anticancer agents KT6149, MX 2, SM5887, menogaril, and liblomycin using cisplatin or adriamycin resistant human cancer cell lines. *Cancer Res* 1989;49(15): 4098-102.
- Ohkouchi E, Takamori R, Kawabata H, Sugimoto Y, Hamada H, Tsuruo T. Expression of P-glycoprotein and its mRNA in human renal and colon tumor cell lines, as a determinant for natural drug resistance [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1217.
- Okabe Kado J, Hayashi M, Honma Y, Hozumi M, Tsuruo T. Inhibition by erythroid differentiation factor (activin A) of P-glycoprotein expression in multidrug resistant human K562 erythroleukemia cells. *Cancer Res* 1991;51(10):2582-6.
- Osann K, Sweet P, Slater LM. Synergistic interaction of cyclosporin A and verapamil on vincristine and daunorubicin resistance in multidrug-resistant human leukemia cells in vitro. *Cancer Chemother Pharmacol* 1992;30(2):152-4.
- Parekh H, Chavan S, Chitnis M. Modulation of thiol pools by vitamin K3 and its effect on survival of sensitive and resistant murine tumor cells. *Anticancer Drugs* 1991 Apr;2(2):159-68.
- Parekh HK, Mansuri-Torshizi H, Srivastava TS, Chitnis MP. Circumvention of adriamycin resistance: effect of 2-methyl-1,4-naphthoquinone (vitamin K3) on drug cytotoxicity in sensitive and MDR P388 leukemia cells. *Cancer Lett* 1992 Jan 10;61(2): 147-56.
- Pastan I, Willingham MC, Gottesman MM. Multidrug resistance. Paper presented at: 6th NCI-EORTC Symposium on New Drugs in Cancer Therapy; 1989 Mar 7-10; Amsterdam.
- Pearce HL, Safa AR, Bach NJ, Winter MA, Cirtain MC, Beck WT. Essential features of the p-glycoprotein pharmacophore as defined by a series of reserpine analogs that modulate multidrug resistance. *Proc Natl Acad Sci U S A* 1989;86(13): 5128-32.
- Pearce HL, Winter MA, Beck WT. Structural characteristics of compounds that modulate P-glycoprotein-associated multidrug resistance. In: Weber G, editor. 30th Symposium on Regulation of Enzyme Activity and Synthesis in Normal and Neoplastic Tissues; 1989 Oct 2-3; Indianapolis. Oxford (England): Pergamon Press; 1990. p. 357-74. (*Advances in enzyme regulation*; 30).
- Pierre A, Leonce S, Kraus-Berthier L, Guilbaud N, Saint-Dizier D, Atassi G. Characterization of the reversal of multidrug resistance by S 9788, a new triazinoaminopiperidine derivative [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2879.
- Pincus R, Goldman ID. Decreased tight binding of mitoxantrone in P388 leukemia cells with multiple drug resistance [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1185.
- Pincus R, Goldman ID. Evidence for impaired mitoxantrone and vinblastine binding in P388 murine leukemia cells with multidrug resistance. *Biochem Pharmacol* 1990 Dec 15;40(12):2625-35.
- Pirker R, Goldstein L, Ludwig H, Linkesch W, Lechner C, Gottesman MM, Pastan I. Multidrug resistance (MDR1) gene expression in leukemias [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2056.
- Pirker R, Goldstein LJ, Ludwig H, Linkesch W, Lechner C, Gottesman MM, Pastan I. Expression of a multidrug resistance gene in blast crisis of chronic myelogenous leukemia. *Cancer Commun* 1989;1(2):141-4.
- Pirker R, Gotzl M, Gsur A, Havelec L, Wallner J, Haas OA, Knapp W, Linkesch W, Lechner K. MDR1 gene expression: an independent prognostic factor in acute myeloid leukemia [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1992;11:A912.
- Pirker R, Wallner J, Geissler K, Linkesch W, Haas OA, Bettelheim P, Hopfner M, Scherrer R, Valent P, Havelec L, et al. MDR1 gene expression and treatment outcome in acute myeloid leukemia. *J Natl Cancer Inst* 1991 May 15;83(10):708-12.
- Pirker R, Wallner J, Geissler K, Valent P, Bettelheim P, Lechner K, Hopfner M, Linkesch W, Ludwig H. MDR1 gene expression affects clinical outcome in

- acute myelogenous leukemia [abstract]. *Ann Oncol* 1990;1 Suppl:67.
- Politi PM, Sinha BK. Role of differential drug uptake efflux and binding of etoposide in sensitive and resistant human tumor cell lines implications for the mechanisms of drug resistance. *Mol Pharmacol* 1989;35(3):271-8.
- Pommerenke EW, Osswald H, Hahn EW, Volm M. Activity of various amphiphilic agents in reversing multidrug resistance of L 1210 cells. *Cancer Lett* 1990 Nov 19;55(1):17-23.
- Pourtier-Manzanedo A, Boesch D, Loor F. FK-506 (fujimycin) reverses the multidrug resistance of tumor cells in vitro. *Anticancer Drugs* 1991 Jun; 2(3):279-83.
- Preisler HD, Gottesman M, Raza A, Pastan I, Day R. The clinical significance of expression of the multidrug resistance (MDR) gene in acute nonlymphocytic leukemia (ANLL) [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1989;8:A782.
- Qian XD, Beck WT. Interaction of a photoactive anthracycline analog, [3H]-N-azido-benzoyldaunomycin (AB-DNR) with P-glycoprotein (Pgp) from multidrug-resistant human leukemic lymphoblasts (CEM/VLB5K) [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2160.
- Qian XD, Beck WT. Progesterone photoaffinity labels P-glycoprotein in multidrug-resistant human leukemic lymphoblasts. *J Biol Chem* 1990 Nov 5; 265(31):18753-6.
- Rahman A, Madhu M, Siddiqui J, Yokozaki H, Clair T, Tortora G, Cho-Chung YS, Center M, Glazer RI. Potentiation of the cytotoxicity of adriamycin by 8-Cl-cAMP in multidrug resistant HL-60 leukemia cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2217.
- Ramu A, Ramu N, Gorodetsky R. Reduced ouabain-sensitive potassium entry as a possible mechanism of multidrug-resistance in P388 cells. *Biochem Pharmacol* 1991 Oct 9;42(9):1699-704.
- Ramu A, Ramu N, Rosario LM. Circumvention of multidrug-resistance in P388 cells is associated with a rise in the cellular content of phosphatidylcholine. *Biochem Pharmacol* 1991 May 15;41(10):1455-61.
- Ramu N, Ramu A. Circumvention of adriamycin resistance by dipyridamole analogues a structure-activity relationship study. *Int J Cancer* 1989; 43(3):487-91.
- Raymond M, Rose E, Housman DE, Gros P. Physical mapping, amplification, and overexpression of the mouse *mdr* gene family in multidrug-resistant cells. *Mol Cell Biol* 1990 Apr;10(4):1642-51.
- Redner A, Hegewisch S, Haimi J, Steinherz P, Jhanwar S, Andreeff M. A study of multidrug resistance and cell kinetics in a child with near-haploid acute lymphoblastic leukemia. *Leuk Res* 1990;14(9): 771-7.
- Reizenstein P, Gruber A, Luthman H, Kaczorowska M, Norgren S, Peterson C, Porvit A, Vitols S. Multiple drug resistance: expression of the MDR1 gene in leukemic blasts in relation to treatment and effect of verapamil isomers on cellular vincristine accumulation [abstract]. *Anticancer Res* 1990; 10(5B):1400-1.
- Reymann A, Erttmann KD, Erttmann R, Dietel M. Concentration-response study of chemosensitizers and of their mutual interaction in anthracycline accumulation studies performed in multidrug-resistant Friend leukemia cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2249.
- Richon VM, Weich N, Leng L, Kiyokawa H, Ngo L, Rifkind RA, Marks PA. Characteristics of erythroleukemia cells selected for vincristine resistance that have accelerated inducer-mediated differentiation. *Proc Natl Acad Sci U S A* 1991 Mar 1;88(5):1666-70.
- Roberts D, Foglesong PD, Parganas E, Wiggins L. Reduced formation of lesions in the DNA of a multidrug-resistant 11210 subline selected for teniposide resistance. *Cancer Chemother Pharmacol* 1989;23(3):161-8.
- Roninson IB, Shen DW, Chin JE, Choi K, Fojo A, Soffir R, Richert N, Gros P, Housman DE, Gottesman MM, Pastan I. Multidrug resistance in human cells the role of the *mdr-1* gene. In: Minna J, Kuehl WM, editors. *Cellular and molecular biology of tumors and potential clinical applications; selected papers from an Abbott-UCLA Symposium; 1986 Jan 20-25; Steamboat Springs, CO.* New York: Alan R. Liss; 1987. p. 287-96. (UCLA symposia on molecular and cellular biology new series; 56).
- Ross D, Ordonez J, Cuddy D, Wooten P, Lee E, Thompson B, Schiffer C. Verapamil enhancement of daunorubicin uptake in subpopulations of blast cells from AML patients: relation to clinical response [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1989;8:A806.
- Ross D, Wooten P, Ordonez JV, Sridhara R, Lee E, Schiffer C. MDR1 expression and effects of cyclosporin-A, verapamil and progesterone on daunorubicin cytotoxicity in blast cells from acute myelogenous leukemia patients [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2839.
- Ross DD. Cellular and pharmacologic aspects of drug resistance in acute myeloid leukemia. *Curr Opin Oncol* 1991 Feb;3(1):21-9.

- Ross DD, Thompson BW, Ordonez JV, Joneckis CC. Improvement of flow-cytometric detection of multidrug-resistant cells by cell-volume normalization of intracellular daunorubicin content. *Cytometry* 1989;10(2):185-91.
- Rothenberg ML, Mickley LA, Cole DE, Balis FM, Tsuruo T, Poplack DG, Fojo AT. Expression of the *mdr-1*-p-170 gene in patients with acute lymphoblastic leukemia. *Blood* 1989;74(4):1388-95.
- Rowinsky EK. Current developments in antitumor antibiotics epipodophyllotoxins and vinca alkaloids. *Curr Opin Oncol* 1991;3(6):1060-9.
- Salmon SE, Soehnlen B, Dalton WS, Meltzer P, Scuderi P. Effects of tumor necrosis factor on sensitive and multidrug resistant human leukemia and myeloma cell lines. *Blood* 1989;74(5):1723-7.
- Sato H, Gottesman MM, Goldstein LJ, Pastan I, Block AM, Sandberg AA, Preisler HD. Expression of the multidrug resistance gene in myeloid leukemias. *Leuk Res* 1990;14(1):11-21.
- Sato H, Preisler H, Day R, Raza A, Larson R, Browman G, Goldberg J, Vogler R, Grunwald H, Gottlieb A, et al. MDR1 transcript levels as an indication of resistant disease in acute myelogenous leukaemia. *Br J Haematol* 1990 Jul;75(3):340-5.
- Sato W, Fukazawa N, Suzuki T, Yusa K, Tsuruo T. Circumvention of multidrug resistance by a newly synthesized quinoline derivative, MS-073. *Cancer Res* 1991 May 1;51(9):2420-4.
- Savaraj N, Lu K, Guo T, Castello C, Tapiero H, Lampidis T. Reduced drug accumulation with increased p-glycoprotein expression in normal cell line [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1164.
- Savaraj N, Teeter L, Kuo MT, Wu CJ, Tapiero H, Lampidis T. Characteristics of rhodamine and adriamycin-induced multidrug-resistant cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2187.
- Schaefer A, Westendorf J, Lingelbach K, Schmidt C, Marquardt H. Doxorubicin-resistant Friend erythroleukemia cells are less resistant towards N,N-dimethylated anthracyclines [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2171.
- Schwartz GK, Arkin H, Holland JF, Ohnuma T. Protein kinase C (PKC) activity and the effects of staurosporine (STSN) in a multidrug-resistant (MDR) human acute lymphoblastic leukemia cell line [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2111.
- Schwartz GK, Arkin H, Holland JF, Ohnuma T. Protein kinase C activity and multidrug resistance in MOLT-3 human lymphoblastic leukemia cells resistant to trimetrexate. *Cancer Res* 1991 Jan 1; 51(1):55-61.
- Sebolt J, Havlick M, Hamelehle K, Nelson J, Leopold W, Jackson R. Activity of the pyrazoloacridines against multidrug-resistant tumor cells. *Cancer Chemother Pharmacol* 1989;24(4):219-24.
- Selassie CD, Hansch C, Khwaja TA. Structure-activity relationships of antineoplastic agents in multidrug resistance. *J Med Chem* 1990 Jul;33(7): 1914-9.
- Seneviratne C, Goldenberg GJ. Further characterization of drug-sensitivity and cross-resistance profiles of cloned cell lines of Adriamycin-sensitive and -resistant P388 leukemia. *Cancer Commun* 1989;1(1):21-7.
- Shibata H, Furusawa S, Kawauchi H, Sasaki K, Takayanagi Y. [Modulation of anthracycline resistance by reserpine in P388 leukemia cells]. *Nippon Yakurigaku Zasshi* 1991 Jul;98(1):1-6. (Jpn).
- Shibata H, Sato T, Gamoh M, Tshioka C, Kanamaru R, Wakui A. Expression of P-glycoprotein mRNA and erythroid differentiation in multidrug-resistant K562 cell lines treated with sodium butyrate [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A1159.
- Shimm DS, Olson S, Hill AB. Radiation resistance in a multidrug resistant human T-cell leukemia line. *Int J Radiat Oncol Biol Phys* 1988;15(4):931-6.
- Shimoyama M. Detection of multidrug resistant (MDR) cancer cells by monoclonal antibodies. Paper presented at: Drug resistance as a biochemical target in cancer chemotherapy. 13th Bristol-Myers Squibb Symposium on Cancer Research; 1990 May 10-11; Tokyo, Japan.
- Shinoda H, Inaba M, Tsuruo T. In vivo circumvention of vincristine resistance in mice with P388 leukemia using a novel compound, AHC 52. *Cancer Res* 1989;49(7):1722-6.
- Shustik C, Gorulx N, Gros P. Analysis of multidrug resistance MDR-1 gene expression in chronic lymphocytic leukemia (CLL). *Br J Haematol* 1991; 79(1):50-6.
- Siddiqui J, Madhu M, Center M, Glazer R, Dritschilo A, Rahman A. Modulation of multidrug resistance in HL-60 leukemia cells by adriamycin encapsulated in liposomes [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2230.
- Slapak CA, Daniel JC, Levy SB. Sequential emergence of distinct resistance phenotypes in murine erythroleukemia cells under adriamycin selection: decreased anthracycline uptake precedes increased

- P-glycoprotein expression. *Cancer Res* 1990 Dec 15;50(24):7895-901.
- Slapak CA, Lecerf JM, Daniel JC, Levy SB. Energy-dependent accumulation of daunorubicin into subcellular compartments of human leukemia cells and cytoplasts. *J Biol Chem* 1992 May 25; 267(15):10638-44.
- Slapak CA, Levy SB. Frequency and phenotype of early adriamycin-resistant mammalian leukemia cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2019.
- Slater LM, Sweet P, Gupta S. Cyclosporin A (CsA) and verapamil (Vp) effects on altered mitochondrial potentials (MoP) in multidrug-resistant (mdr) acute lymphatic leukemia (ALL) [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2260.
- Slater LM, Sweet P, Hsu TC, Chan PK. Novel nucleolar and nuclear morphology in a vincristine-dependent human leukemia cell line (L100). *Exp Cell Res* 1992 Jan;198(1):170-4.
- Slater LM, Wetzel M, Cho J, Sweet P. Development of cyclosporin A mediated immunity in L1210 leukaemia. *Br J Cancer* 1991 Dec;64(6):1098-102.
- Solary E, Velay I, Chauffert B, Bidan JM, Caillot D, Dumas M, Guy H. Sufficient levels of quinine in the serum circumvent the multidrug resistance of the human leukemic cell line K562/ADM. *Cancer* 1991 Oct 15;68(8):1714-9.
- Solary E, Velay I, Chauffert B, Caillot D, Bidan JM, Dumas M, Casasnovas O, Guy H. Quinine circumvents the doxorubicin resistance of a multidrug resistant human leukemic cell-line, K562/DXR. *Nouv Rev Fr Hematol* 1990;32(5): 361-3.
- Sonneveld P, Nooter K. Reversal of drug-resistance by cyclosporin-A in a patient with acute myelocytic leukaemia. *Br J Haematol* 1990 Jun;75(2):208-11.
- Sonneveld P, Nooter K, Burghouts JT, Herweijer H, Adriaansen HJ, van Dongen JJ. High expression of the mdr3 multidrug-resistance gene in advanced-stage chronic lymphocytic leukemia. *Blood* 1992 Mar 15;79(6):1496-500.
- Sonneveld P, Nooter K, Herweyer H, te Boekhorst P, van Kapel J, Lowenberg B. Multidrug resistance (mdr1) in leukemia and myeloma: detection, clinical relevance and circumvention [abstract]. *Haematologica* 1991;76 Suppl 4:74.
- Staats J, Marquardt D, Center MS. Characterization of a membrane-associated protein kinase of multidrug-resistant HL60 cells which phosphorylates P-glycoprotein. *J Biol Chem* 1990 Mar 5;265(7):4084-90.
- Steinhoff A, Muenchmeyer M, Looft G, Erttmann R. Measurements of anthracycline-accumulation in multidrug-resistant (MDR) and sensitive leukemia cells by fluorometry effect of verapamil and other membrane-transport modulation drugs [abstract]. *Naunyn Schmiedebergs Arch Pharmacol* 1989;339 Suppl:R42.
- Su IJ, Chang IC, Cheng AL. Expression of growth related genes and drug resistance genes in HTLV-I positive and HTLV-I negative post thymic T-cell malignancies. *Ann Oncol* 1991;2 Suppl 2:151-5.
- Sugawara I, Ikeuchi T, Fukuchi K, Yoshikai Y, Sugiyama H, Kodo H, Mori S. Establishment and characterization of a non-T, non-B cell lymphoma cell line with T cell receptor beta- and gamma-chain gene rearrangement and possessing MRK 20 monoclonal antibody-defined 85KD protein. *Hum Cell* 1990 Mar;3(1):57-64.
- Sugawara I, Kataoka I, Morishita Y, Hamada H, Tsuruo T, Itoyama S, Mori S. Tissue distribution of P-glycoprotein encoded by a multidrug-resistant gene as revealed by a monoclonal antibody MRK 16. *Cancer Res* 1988;48(7):1926-9.
- Sugawara I, Nakahama M, Hamada H, Tsuruo T, Mori S. Apparent stronger expression in the human adrenal cortex than in the human adrenal medulla of MR 170000-180000 P-glycoprotein. *Cancer Res* 1988;48(16):4611-4.
- Sugimoto Y, Asami N, Tsuruo T. Expression of P-glycoprotein mRNA in human gastric tumors. *Jpn J Cancer Res* 1989 Oct;80(10):993-9.
- Sukhanov VA, D'Yakov VL, Lalaev VV, Yakh'Yaev AV, Voronkova IM, Donenko FV, Borovkova NB, Moroz LV. [P-glycoprotein expression in P-388 leukemia cell with induced resistance to doxorubicin]. *Byull Eksp Biol Med* 1991;111(3): 290-1. (Rus).
- Sunkara PS, Zwolshen JH, Stemerick DM, Edwards ML. 1-(2,5-dimethoxy phenyl)-3-[4(dimethylamino)phenyl]-2-methyl-2-propen-1-one (DDMP, MDL 27,048): novel antimitotic agent with activity against vinca alkaloid resistant tumors [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A1954.
- Sweatman TW, Koseki Y, Seshadri R, Israel M, Beck WT. Activity of n-benzyladriamycin-14-valerate (AD 198) in vitro against mechanistically different multidrug-resistant CEM cell lines [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1076.
- Sweet P, Chan PK, Slater LM. Cyclosporin a and verapamil enhancement of daunorubicin-produced nucleolar protein b23 translocation in daunorubicin-resistant and sensitive human and murine tumor cells. *Cancer Res* 1989;49(3):677-80.

- Takeda Y, Nishio K, Sugimoto Y, Kasahara K, Kubo S, Fujiwara Y, Niitani H, Saijo N. Establishment of a human leukemia subline resistant to the growth-inhibitory effect of 12-O-tetradecanoylphorbol 13-acetate (TPA) and showing non-P-glycoprotein-mediated multi-drug resistance. *Int J Cancer* 1991 Jul 30;48(6):931-7.
- Takemura Y, Ohnuma T, Miyachi H, Sekiguchi S. A human leukemia cell line made resistant to two folate analogues, trimetrexate and N10-propargyl-5,8-dideazafolic acid (CB3717). *J Cancer Res Clin Oncol* 1991;117(6):519-25.
- Tong W, Berman E, Lin S. Pharmacokinetic study of high-dose tamoxifen with daunorubicin: a phase I trial with escalation of tamoxifen [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A3156.
- Treichel RS, Olken S. The relationship between multidrug resistance and resistance to natural-killer-cell and lymphokine-activated killer-cell lysis in human leukemic cell lines. *Int J Cancer* 1992 Jan 21; 50(2):305-10.
- Trevorrow KW, Valet G, Lampidis TJ. Effects of carboxylic ionophores on the uptake and retention of rhodamine 123 in sensitive and multidrug-resistant Friend leukemia cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2108.
- Tsuruo T, Naito M, Takamori R, Tsukahara S, Yamabe-Mitsuhashi J, Yamazaki A, Oh-hara T, Sudo Y, Nakaike S, Yamagishi T. A benzophenazine derivative, N-beta-dimethylaminoethyl 9-carboxy-5-hydroxy-10-methoxy-benzof[a]phenazine-6-carboxamide, as a new antitumor agent against multidrug-resistant and sensitive tumors. *Cancer Chemother Pharmacol* 1990;26(2):83-7.
- Tsuruo T, Sugimoto Y, Hamada H, Roninson I, Okumura M, Adachi K, Morishima Y, Ohno R. Detection of multidrug resistance markers, P-glycoprotein and *mdr1* and *mRNA*, in human leukemia cells. *Jpn J Cancer Res* 1987;78(12): 1415-9.
- Tsuruo T, Yusa K, Sudo Y, Takamori R, Sugimoto Y. A fluorine-containing anthracycline me-2303 as a new antitumor agent against murine and human tumors and their multidrug-resistant sublines. *Cancer Res* 1989;49(20):5537-42.
- Ubezio P, Limonta M, D'Incalci M, Damia G, Maserà G, Giudici G, Wolverson JS, Beck WT. Failure to detect the P-glycoprotein multidrug resistant phenotype in cases of resistant childhood acute lymphocytic leukaemia. *Eur J Cancer Clin Oncol* 1989 Dec;25(12):1895-9.
- Umeda Y, Tsuruo T, Mori S, Arimori S, Sugawara I. High-level expression of P-glycoprotein and 85 kD protein as assessed by flow cytometry and immunocytochemistry in leukemias and malignant lymphomas. *Tokai J Exp Clin Med* 1990 May; 15(2-3):179-87.
- Vasanthakumar G, Ahmed NK. Antisense oligonucleoside methylphosphonate modulates daunorubicin transport in multidrug-resistant K562 cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1990;31:A2121.
- Vasanthakumar G, Ahmed NK. Modulation of drug resistance in a daunorubicin resistant subline with oligonucleoside methylphosphonates. *Cancer Commun* 1989;1(4):225-32. Published erratum appears in *Cancer Commun* 1990;2(8):295.
- Volm M. In vivo multidrug-resistance of animal and human tumors [abstract]. *J Chemother Infect Dis Malig* 1989;Suppl 1:A307.
- Volm M, Mattern J, Pommerenke EW. Time course of MDR gene amplification during in vivo selection for doxorubicin-resistance and during reversal in murine leukemia L 1210. *Anticancer Res* 1991 Mar-Apr;11(2):579-85.
- Wakusawa S, Nakamura S, Aritsuka K, Miyamoto KI, Koshiura R, Hagiwara M, Hidaka H. Effect of protein kinase inhibitors on the drug-efflux system in multidrug-resistant tumor cells [abstract]. *Jpn J Pharmacol* 1990;52 Suppl 1:[86p.].
- Wakusawa S, Nakamura S, Tajima K, Miyamoto K, Hagiwara M, Hidaka H. Overcoming of vinblastine resistance by isoquinolinesulfonamide compounds in adriamycin-resistant leukemia cells. *Mol Pharmacol* 1992 Jun;41(6):1034-8.
- Waldman S, Savaraj N, Castello C, Lampidis T. Rapid analysis of rhodamine analogue in multiple drug resistance *mdr* tumor cell by high performance liquid chromatography (HPLC) [abstract]. *J Clin Pharmacol* 1988;28(10):952.
- Warren L, Jardillier JC, Malarska A, Akeli MG. Increased accumulation of drugs in multidrug-resistant cells induced by liposomes. *Cancer Res* 1992 Jun 1;52(11):3241-5.
- Warren L, Jardillier JC, Ordentlich P. Secretion of lysosomal enzymes by drug-sensitive and multiple drug-resistant cells. *Cancer Res* 1991 Apr 15; 51(8):1996-2001.
- Watanabe M, Komeshima N, Naito M, Isoe T, Otake N, Tsuruo T. Cellular pharmacology of MX2, a new morpholino anthracycline, in human pleiotropic drug-resistant cells. *Cancer Res* 1991 Jan 1;51(1): 157-61.

- Watanabe M, Komeshima N, Nakajima S, Tsuruo T. Mx-2 a morpholinoanthracycline as a new antitumor agent against drug-sensitive and multidrug-resistant human and murine tumor cells. *Cancer Res* 1988; 48(23):6653-7.
- Watanabe T, Inaba M, Sugiyama Y. Saturable process involved in active efflux of vincristine as a mechanism of multidrug resistance in P388 leukemia cells. *Pharm Res* 1989 Aug;6(8):690-6.
- Waud WR, Harrison SD Jr, Temple CG Jr, Griswold DP Jr. Antitumor drug cross-resistance in vivo in a murine P388 leukemia resistant to ethyl 5-amino-1,2-dihydro-2-methyl-3-phenylpyrido[3,4-b]pyrazin-7 - ylcabamate 2-hydroxyethanesulfonate hydrate (NSC 370,147) 370147. *Cancer Chemother Pharmacol* 1992;29(3):190-4.
- Weide R, Dowding C, Paulsen W, Goldman J. The role of the MDR-1/P-170 mechanism in the development of multidrug resistance in chronic myeloid leukemia. *Leukemia* 1990 Oct;4(10):695-9.
- Willman CL, Kopecky KJ, Weick J, Appelbaum F, Grever MR, Head DR, Elias L, Balcerzak SP, Mills GM, Hynes HE. Biologic parameters that predict treatment response in de novo acute myeloid leukemia (AML): CD34, but not multidrug resistance (MDR) gene expression, is associated with a decreased complete remission (CR) rate and CD34+ patients more frequently achieve CR with high-dose cytosine arabinoside [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1992;11:A857.
- Woodcock DM, Linsenmeyer ME, Chojnowski G, Krieger AB, Nink V, Webster LK, Sawyer WH. Reversal of multidrug resistance by surfactants. *Br J Cancer* 1992 Jul;66(1):62-8.
- Wooten P, Cuddy D, Felsted P, Pan S, Ross D. Comparison of anti-P-glycoprotein monoclonal antibodies MRK16, 265/F4 and C219 in the detection of multidrug resistant cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2105.
- Yang KP, Liang YF, Samaan NA. Intrinsic drug resistance in a human medullary thyroid carcinoma cell line: association with overexpression of mdrl gene and low proliferation fraction. *Anticancer Res* 1991;11(3):1065-8.
- Yanovich S, Hall RE, Gewirtz DA. Characterization of a k562 multidrug-resistant cell line. *Cancer Res* 1989;49(16):4499-503.
- Yanovich S, Hall RE, Gewirtz DA. Resistance to natural killer (NK) cell lysis is associated with multiple drug resistance (MDR) [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1082.
- Yasuo K, Shuichi H, Tatsuhiko F, Akihiko Y, Tomoyuki S, Atae U, Kazuaki I, Takeshi S, Kimiharu U, Masao M, Minoru I, Terukatsu A, Shin Ichi A. Expression of P-glycoprotein in adult T-cell leukemia cells. *Blood* 1990;76(10):2065-71.
- Yin MB, Bankusli I, Rustum YM. Effect of verapamil, DMDP (RO11-2933), a tiapamil analog, and dipyridamole, a nucleoside transport inhibitor, on the extent and duration of doxorubicin-induced DNA single strand breaks in multidrug-resistant P-388 cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2103.
- Yusa K, Sato W, Yamazaki A, Tsukahara S, Tsuruo T. Cross-resistance of human multidrug-resistant cells to mitomycin C. *Anticancer Res* 1991 May-Jun; 11(3):1301-4.
- Yusa K, Tsuruo T. Reversal mechanism of multidrug resistance by verapamil: verapamil binds to P-glycoprotein on specific sites and is transported outward across the plasma membrane [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2058.
- Zalcborg JR, Krauer K, Hur XF, McKenzie IF, Pietersz G. Anthracycline conjugates bypass cellular mechanisms of resistance in multidrug resistant (MDR) cells [abstract]. Paper presented at: Cancer in the 1990's: is more aggressive treatment better? 17th Annual Scientific Meeting of the Clinical Oncological Society of Australia Inc.; 1990 Nov 26-28; Melbourne, Australia.
- Zamora JM, Pearce HL, Beck WT. Physical-chemical properties shared by compounds that modulate multidrug resistance in human leukemic cells. *Mol Pharmacol* 1988;33(4):454-62.

-Liver neoplasms

- Arias IM, Gatmaitan Z, Mazzanti R, Shu H, Kumamoto Y. Structure and function of P-glycoprotein in the normal liver and intestine. *Int Symp Princess Takamatsu Cancer Res Fund* 1990;21:229-39.
- Bradley G, Georges E, Ling V. Immunohistochemical localization of P-glycoprotein isoforms [abstract]. *J Chemother Infect Dis Malig* 1989;Suppl 1:A306.
- Bradley G, Sharma RK, Rajalakshmi S, Ling V. Expression of P-glycoprotein (Pgp) during hepatocarcinogenesis [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A582.
- Bremer S, Hoof T, Wilke M, Busche R, Scholte B, Riordan JR, Maass G, Tummler B. Quantitative expression patterns of multidrug-resistance P-glycoprotein (MDR1) and differentially spliced cystic-fibrosis transmembrane-conductance regulator mRNA transcripts in human epithelia. *Eur J Biochem* 1992 May 15;206(1):137-49.
- Burk RK, Garfield S, Johnson K, Thorgeirsson SS. Transformation of rat liver epithelial cells with V-H-RAS or V-RAF causes expression of MDR-1 glutathione-S-transferase-P and increased resistance to cytotoxic chemicals. *Carcinogenesis* 1988;9(12):2329-32.
- Burt RK, Thorgeirsson SS. Coinduction of MDR-1 multidrug-resistance and cytochrome P-450 genes in rat liver by xenobiotics. *J Natl Cancer Inst* 1988;80(17):1383-6.
- Buscher HP. Defective drug uptake contributing to multidrug resistance in hepatoma cells can be evaluated in vitro. *Klin Wochenschr* 1990 May 4;68(9):443-6.
- Chapekar MS, Huggett AC, Cheng C. Dexamethasone prevents the growth inhibitory effects of recombinant tumor necrosis factor in a rat hepatoma cell line Reuber-RC-3: an association with the changes in the messenger RNA levels for multidrug resistance gene. *Biochem Biophys Res Commun* 1991 Dec 31;181(3):1524-31.
- Chapekar MS, Huggett AC, Cheng CC, Hampton LL, Lin KH, Thorgeirsson SS. Isolation and characterization of a rat liver epithelial cell line resistant to the antiproliferative effects of transforming growth factor beta (type 1). *Cancer Res* 1990 Jun 15;50(12):3600-4.
- Chin JE, Soffir R, Noonan KE, Choi K, Roninson IB. Structure and expression of the human mdr p-glycoprotein gene family. *Mol Cell Biol* 1989;9(9):3808-20.
- Chin KV, Chauhan SS, Pastan I, Gottesman MM. Regulation of mdr RNA levels in response to cytotoxic drugs in rodent cells. *Cell Growth Differ* 1990 Aug;1(8):361-5.
- Chin KV, Tanaka S, Darlington G, Pastan I, Gottesman MM. Heat shock and arsenite increase expression of the multidrug resistance (MDR1) gene in human renal carcinoma cells. *J Biol Chem* 1990 Jan 5;265(1):221-6.
- Duensing TD, Slate DL. Characterization of p-glycoprotein (p170) expression and the multidrug (MDR) phenotype in a panel of human cell lines representing chemoresistant tumors [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2801.
- Ellis AL, Gewirtz DA, Munger C, Woods KE, Randolph JK, Boise L, Yanovich S. Multifactorial drug resistance in the rat hepatoma [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A1999.
- Ellis AL, Munger CE, Bunch RT, Woods KE, Randolph JK, Boise L, Swerdlow PS, Zwelling LA, Hinds M, Yanovich S, et al. Components of intrinsic drug resistance in the rat hepatoma. *Biochem Pharmacol* 1992 Jan 22;43(2):331-42.
- Erlichman C, Bjarnason G, Bunting P, DeAngelis C, Kerr I, Maki E, Moore M, Rahemtulla C, Thiessen J, Walker S. Cyclosporin A (CyA) modulation of doxorubicin (D): a pharmacokinetic/pharmacodynamic trial [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1991;10:A314.
- Fan D, Wilmanns C, O'Brian CA, Kuo MT, Teeter LD, Bucana CD, Ward NE, Fidler IJ. Orthotopic and ectopic modulation of P-glycoprotein and resistance to adriamycin of human colon carcinoma cells in nude mice [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2794.
- Fardel O, Ratanasavanh D, Loyer P, Ketterer B, Guillouzo A. Overexpression of the multidrug resistance gene product in adult rat hepatocytes during primary culture. *Eur J Biochem* 1992 Apr 15;205(2):847-52.
- Fine RM. Multidrug resistance. *Cancer Chemother Biol Response Modif* 1988;10:73-84.
- Gant TW, Silverman JA, Thorgeirsson SS. Regulation of P-glycoprotein gene expression in hepatocyte cultures and liver cell lines by a trans-acting transcriptional repressor. *Nucleic Acids Res* 1992 Jun 11;20(11):2841-6.
- Goldstein L, Galski H, Fojo A, Willingham M, Green A, Crist W, Gottesman M, Pastan I. Expression of a multidrug-resistance gene in human tumors [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1184.

- Goldstein L, Galski H, Fojo A, Willingham M, Lai SL, Gazdar A, Pirker R, Green A, Crist W, et al. Expression of a multidrug resistance gene in human cancers. *J Natl Cancer Inst* 1989;81(2):116-24.
- Gottesman MM, Goldstein LJ, Pastan I. Expression of the multidrug-resistance (MDR1) gene in breast cancer and other cancers. Paper presented at: Biennial International Breast Cancer Research Conference; 1989 Mar 5-9; Tel Aviv University, Tel Aviv.
- Gottesman MM, Goldstein LJ, Willingham MC, Pastan I. Molecular biology of a human multidrug transporter. Paper presented at: Molecular diagnostics of human cancer. Cold Spring Harbor Meeting on Cancer Cells; 1988 Sep 7-11; Cold Spring Harbor, NY.
- Gottesman MM, Pastan I. A membrane protein that transports natural product cytotoxic drugs. *Serono Symp Publ Raven Press* 1989;64:81-7.
- Gruber A, Vitols S, Norgren S, Arestrom I, Bjorkholm M, Reizenstein P, Peterson C, Luthman H. Quantitative determination of *mdr1* gene expression in leukemic cells from patients with acute leukemia [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A1408.
- Hitchins RN, Harman DH, Davey RA, Bell DR. Identification of a multidrug resistance associated antigen P-glycoprotein in normal human tissues. *Eur J Cancer Clin Oncol* 1988;24(3):449-54.
- Ho AD, Thaler J, Stryckmans P, Coiffier B, Luciani M, Sonneveld P, Lechner K, Rodenhuis S, Peetermans ME, deCataldo F, et al. Pentostatin in refractory chronic lymphocytic leukemia: a phase II trial of the European Organization for Research and Treatment of Cancer. *J Natl Cancer Inst* 1990 Sep 5;82(17):1416-20.
- Horton JK, Thimmaiah KN, Houghton JA, Horowitz ME, Houghton PJ. Modulation by verapamil of vincristine pharmacokinetics and toxicity in mice bearing human tumor xenografts. *Biochem Pharmacol* 1989;38(11):1727-36.
- Huang CC, Wu MC, Xu GW, Li DZ, Cheng H, Tu ZX, Jiang HQ, Gu JR. Overexpression of the MDR1 gene and P-glycoprotein in human hepatocellular carcinoma. *J Natl Cancer Inst* 1992 Feb 19;84(4):262-4.
- Huitfeldt HS, Brandtzaeg P, Poirier MC. Relation between proliferation, aminofluorene-DNA adduct accumulation, and multidrug resistance gene expression in rat liver during continuous acetylaminofluorene feeding [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A452.
- Ichikawa M, Yashimura A, Furukawa T, Sumizawa T, Nakazima Y, Akiyama SI. Glycosylation of P-glycoprotein in a multidrug-resistant KB cell line and in the human tissues. *Biochim Biophys Acta* 1991;1073(2):309-15.
- Ichikawa M, Yoshimura A, Furukawa T, Sumizawa T, Akiyama S. Modulators of the multidrug-transporter, P-glycoprotein, exist in the human plasma. *Biochem Biophys Res Commun* 1990 Jan 15;166(1):74-80.
- Ikeguchi M, Teeter LD, Eckersberg T, Ganapathi R, Kuo MT. Structural and functional analyses of the promoter of the murine multidrug resistance gene *mdr3/mdr1a* reveal a negative element containing the AP-1 binding site. *DNA Cell Biol* 1991 Nov; 10(9):639-49.
- Ishikawa T, Mueller M, Klunemann C, Schaub T, Keppler D. ATP-dependent primary active transport of cysteinyl leukotrienes across liver canalicular membrane. Role of the ATP-dependent transport system for glutathione S-conjugates. *J Biol Chem* 1990;265(31):19279-86.
- Kamijo K, Taketani S, Yokota S, Osumi T, Hashimoto T. The 70-kDa peroxisomal membrane protein is a member of the Mdr (P-glycoprotein)-related ATP-binding protein superfamily. *J Biol Chem* 1990 Mar 15;265(8):4534-40.
- Kamimoto Y, Gatmaitan Z, Hsu J, Arias IM. The function of gp170 the multidrug resistance gene product in rat liver canalicular membrane vesicles. *J Biol Chem* 1989;264(20):11693-8.
- Kitamura T, Jansen P, Hardenbrook C, Kamimoto Y, Gatmaitan Z, Arias IM. Defective ATP-dependent bile canalicular transport of organic anions in mutant (TR-) rats with conjugated hyperbilirubinemia. *Proc Natl Acad Sci U S A* 1990 May;87(9):3557-61.
- Larcher F, Aldaz CM, Slaga TJ, Conti CJ. Multidrug resistance gene in mouse epidermal tumors in vivo and in vitro [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A637.
- Lincke CR, van der Blik AM, Schuurhuis GJ, van der Velde-Koerts T, Smit JJ, Borst P. Multidrug resistance phenotype of human BRO melanoma cells transfected with a wild-type human *mdr1* complementary DNA. *Cancer Res* 1990 Mar 15; 50(6):1779-85.
- Marino PA, Gottesman MM, Pastan I. Regulation of the multidrug resistance gene in regenerating rat liver. *Cell Growth Differ* 1990 Feb;1(2):57-62.

- Merriman RL, Dantzig AH, Engelhardt J, Minor PL, Poore GA, Shackelford KA, Tanzer LR, VanPelt C, Winter MA, Beck WT, et al. Increased toxicity of vincristine (VCR) when combined with the multidrug-resistance (MDR) modulator, trimethoxybenzoylohimine (TMBY) [abstract]. Proc Annu Meet Am Assoc Cancer Res 1990;31: A2142.
- Miyamoto K, Wakusawa S, Nakamura S, Tajima K, Hidaka H. Multidrug resistance in Yoshida rat ascites hepatoma cell lines. *Anticancer Res* 1992 May-Jun;12(3):649-53.
- Nakatsukasa H, Everts RP, Silverman JA, Marsden E, Thorgeirsson SS. Expression of multidrug-resistance (MDR) and glutathione-transferase-P (GST-P) genes in rat hepatocarcinogenesis [abstract]. *FASEB J* 1991;5(5):A1247.
- Noonan KE, Chin JE, Roninson IB. Analysis of multidrug resistance gene expression by enzymatic amplification of randomly primed cDNA [abstract]. Proc Annu Meet Am Assoc Cancer Res 1989;30: A1982.
- Park SC, Kim EG, Kwak SJ, Kim SO, Woo KM, Kim SH, Rha YH, Lee KU, Kim ST. Induction and mechanism of drug-resistance in experimental hepatocarcinogenesis and human hepatoma tissues expression of *mdr* and cytochrome P-450. *Korean J Biochem* 1989;21(1):13-20.
- Pastan I, Willingham MC, Gottesman M. Molecular manipulations of the multidrug transporter: a new role for transgenic mice. *FASEB J* 1991 Aug; 5(11):2523-8.
- Pastan I, Willingham MC, Gottesman MM. Multidrug resistance. Paper presented at: 6th NCI-EORTC Symposium on New Drugs in Cancer Therapy; 1989 Mar 7-10; Amsterdam.
- Pileri SA, Sabattini E, Falini B, Tazzari PL, Gherlinzoni F, Michieli MG, Damiani D, Zucchini L, Gobbi M, Tsuruo T, et al. Immunohistochemical detection of the multidrug transport protein P170 in human normal tissues and malignant lymphomas. *Histopathology* 1991 Aug; 19(2):131-40.
- Preisegger KH, Brown PC, Silverman JA, Thorgeirsson SS. Extrahepatic induction of MDR expression in the rat by xenobiotics [abstract]. Proc Annu Meet Am Assoc Cancer Res 1992;33:A2827.
- Riou GF, Zhou D, Ahomadegbe JC, Gabillot M, Duvillard P, Lhomme C. Expression of multidrug-resistance (MDR1) gene in normal epithelia and in invasive carcinomas of the uterine cervix. *J Natl Cancer Inst* 1990 Sep 19; 82(18):1493-6. Published erratum appears in *J Natl Cancer Inst* 1990 Nov 7; 82(21):1724.
- Schrenk D, Gant TW, Silverman JA, Marino PA, Thorgeirsson SS. Induction of *mdr* expression by cholestasis: P-glycoprotein functions as a biliary excretion pump [abstract]. Proc Annu Meet Am Assoc Cancer Res 1992;33:A181.
- Schuetz J, Schuetz E, Stromm S, Schroeder V. Regulation of P-glycoprotein in human hepatocytes [abstract]. Proc Annu Meet Am Assoc Cancer Res 1991;32:A2155.
- Schuetz JD, Schuetz EG, Gebhardt R, Burger HJ, Furuya K. Extracellular matrix regulates p-glycoprotein (PGP) expression in rat liver [abstract]. Proc Annu Meet Am Assoc Cancer Res 1992;33:A9.
- Shen DW, Lu YG, Chin KV, Pastan I, Gottesman MM. Human hepatocellular carcinoma cell lines exhibit multidrug resistance unrelated to MRD1 gene expression. *J Cell Sci* 1991 Mar;98(Pt 3):317-22.
- Sutter C, Volm M. Genomic organization and expression of multidrug resistance specific sequences in S-180 mouse tumor cell lines and normal tissues of mice [abstract]. *Eur J Cell Biol Suppl* 1989;(26):86.
- Suzuki H, Tomida A, Nishimura T. Cytocidal activity of a synthetic isoprenoid, N-solaneyl-N,N'-bis(3,4-dimethoxybenzyl)ethylenediamine, and its potentiation of antitumor drugs against multidrug-resistant and sensitive cells in vitro. *Jpn J Cancer Res* 1990 Mar;81(3):298-303.
- Tatsuta T, Shimizu K, Nishimura T, Suzuki H. Enhancement of activities of anti-tumor drugs by dipyrindamole against multidrug-resistant human hepatoma PLC/PRF/5 cells. *Anticancer Drug Des* 1991 Jul;6(3):179-88.
- Teeter LD, Chan JY, Kuo MT. Coordinate activation of multidrug-resistance (P-glycoprotein) genes *mdr2* and *mdr3* during mouse liver regeneration. *Mol Carcinog* 1991;4(5):358-61.
- Teeter LD, Eckersberg T, Tsai Y, Kuo MT. Analysis of the Chinese hamster P-glycoprotein/multidrug resistance gene *pgp1* reveals that the AP-1 site is essential for full promoter activity. *Cell Growth Differ* 1991 Sep;2(9):429-37.
- Teeter LD, Petersen DD, Nebert DW, Kuo MT. Murine *mdr-1*, *mdr-2*, and *mdr-3* gene expression: no coinduction with the *Cyp1a-1* and *Nmo-1* genes in liver by 2,3,7,8-tetrachlorodibenzo-p-dioxin. *DNA Cell Biol* 1991 Jul-Aug;10(6):433-41.
- Terrier P, Townsend AJ, Coindre JM, Triche TJ, Cowan KH. An immunohistochemical study of pi class glutathione S-transferase expression in normal human tissue. *Am J Pathol* 1990 Oct;137(4): 845-53.
- Thiebaut F, Tsuruo T, Hamada H, Gottesman MM, Pastan I, Willingham MC. Immunohistochemical localization in normal tissues of different epitopes in

- the multidrug transport protein p170 evidence for localization in brain capillaries and crossreactivity of one antibody with a muscle protein. *J Histochem Cytochem* 1989;37(2):159-64.
- Thorgeirsson SS, Silverman JA, Gant TW, Marino PA. Multidrug resistance gene family and chemical carcinogens. *Pharmacol Ther* 1991;49(3):283-92.
- Tran-Paterson R, Davin D, Krauss RD, Rado TA, Miller DM. Expression and regulation of the cystic fibrosis gene during rat liver regeneration. *Am J Physiol* 1992 Jul;263(1 Pt 1):C55-60.
- Ueda K, Pastan I, Gottesman MM. Isolation and sequence of the promoter region of the human multidrug resistance (P-glycoprotein) gene. *J Biol Chem* 1987;262(36):17432-6.
- Van de Vrie W, Gheuens EE, Bijma A, De Bruijn EA, Marquet RL, Van Oosterom AT, Eggermont AM. A syngeneic in vivo model of a multidrug-resistant colon carcinoma, CC531 in the WAG rat [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A1270.
- Van Der Blik AM, Kooiman PM, Schneider C, Borst P. Sequence of *mdr3* complementary DNA encoding a human p-glycoprotein. *Gene* 1988; 71(2):401-12.
- Wakusawa S, Nakamura S, Miyamoto KI, Koshiura R, Hidaka H. Effect of calmodulin inhibitors on membrane transport of vinblastine in multidrug-resistant rat ascites hepatoma (AH66) cells [abstract]. *Jpn J Pharmacol* 1991;55 Suppl 1:96p.
- Willingham MC. Morphologic aspects of the basic cell biology of cancer. *Acta Histochem Cytochem* 1988;21(5):507-18.
- Yamashita K, Adachi M, Kato S, Nakagama H, Ochiai M, Wakabayashi K, Sato S, Nagao M, Sugimura T. DNA adducts formed by 2-amino-3,8-dimethylimidazo[4,5-f]quinoxaline in rat liver: dose-response on chronic administration. *Jpn J Cancer Res* 1990 May;81(5):470-6.
- Lung neoplasms**
- Adams DJ, Knick VC. MDR and non-MDR forms of cellular resistance to 5'-nor-anhydrovinblastine (navelbine) [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2760.
- Arceci RJ, Baas F, Housman D, Croop J. Characterization of a monoclonal antibody to an external epitope of the multidrug resistance P-glycoprotein [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:393.
- Arvelo F, Hanania N, Mangin C, Baldeyrou P, Arriagada R, Le Chevalier T, Ruffie P, Poupon MF. Multidrug resistance and *mdr1* gene expression in a human small cell lung carcinoma before treatment. Paper presented at: Symposium on Mechanisms of Drug and Radiation Resistance of Tumor Cells; 1989 Jun 28-30; Villejuif, France.
- Baas F, Jongsma AP, Broxterman HJ, Arceci RJ, Housman D, Scheffer GL, Riethorst A, van Groenigen M, Nieuwint AW, Joenje H. Non-P-glycoprotein mediated mechanism for multidrug resistance precedes P-glycoprotein expression during in vitro selection for doxorubicin resistance in a human lung cancer cell line. *Cancer Res* 1990 Sep 1;50(17):5392-8.
- Bar-Shira-Maymon B, Michowitz M, Gibli O, Klein O, Pinchasov A, Leibovici J. Effect of a membrane-active agent on uptake of adriamycin in lewis lung carcinoma cells derived from 'primary' and 'metastatic' growths. *Chemotherapy (Basel)* 1992; 38(1):66-73.
- Barrand MA, Twentyman PR. Differential recognition of *mdr1a* and *mdr1b* gene products in multidrug resistant mouse tumour cell lines by different monoclonal antibodies. *Br J Cancer* 1992 Feb; 65(2):239-45.
- Biedler JL, Meyers MB, Spengler BA. Collateral sensitivity of multidrug-resistant Chinese hamster cells to calcium channel blockers: correlation with P-glycoprotein content [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1171.
- Bousquet P, Wardwell S, Keilhauer G, Romerdahl CA. Modulation of multidrug resistance in human xenograft models [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2886.
- Boyle F, Hancox D, Harvie R, Davey R, Friedlander M, McCaughan BC, Bell DR. Detection of P-glycoprotein in non-small cell lung cancer and in nonmalignant lung tissue [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2175.
- Bradley G, Sharma RK, Rajalakshmi S, Ling V. Expression of P-glycoprotein (Pgp) during hepatocarcinogenesis [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A582.

- Bremer S, Hoof T, Wilke M, Busche R, Scholte B, Riordan JR, Maass G, Tummeler B. Quantitative expression patterns of multidrug-resistance P-glycoprotein (MDR1) and differentially spliced cystic-fibrosis transmembrane-conductance regulator mRNA transcripts in human epithelia. *Eur J Biochem* 1992 May 15;206(1):137-49.
- Brigham BA, Gazdar AF, Giaccone G, Oie H, Neckers LM, Tsuruo T, Trepel JB. Doxorubicin exclusion and p170 expression correlated in single cells by multiparameter flow cytometry [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2074.
- Broxterman HJ, Pinedo HM, Kuiper CM, Van Der Hoeven JJM, De Lange P, Quak JJ, Scheper RJ, Keizer HG, Jan Schuurhuis G, Lankelma J. Immunohistochemical detection of p-glycoprotein in human tumor cells with a low degree of drug resistance. *Int J Cancer* 1989;43(2):340-3.
- Broxterman HJ, Schuurhuis GJ, Lankelma J, Baak JP, Pinedo HM. Towards functional screening for multidrug resistant cells in human malignancies. *Pezcoller Found Symp* 1990;1:309-29.
- Cantwell B, Carmichael J, Millward M, Chatterjee M, Harris AL. Intermittent high dose tamoxifen (HDT) with oral etoposide (EPO): phase I and II clinical studies [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1989;8:A252.
- Cantwell BMJ, Bozzino JM, Corris P, Harris AL. The multidrug resistant phenotype in clinical practice evaluation of cross resistance to ifosfamide and mesna after VP-16-213 doxorubicin and vincristine VPAV for small cell lung cancer. *Eur J Cancer Clin Oncol* 1988;24(2):123-30.
- Chin JE, Soffir R, Noonan KE, Choi K, Roninson IB. Structure and expression of the human mdr p-glycoprotein gene family. *Mol Cell Biol* 1989; 9(9):3808-20.
- Coley HM, Twentyman PR, Workman P. 9-Alkyl, morpholinyl anthracyclines in the circumvention of multidrug resistance. *Eur J Cancer* 1990;26(6): 665-7.
- Coley HM, Twentyman PR, Workman P. Improved cellular accumulation is characteristic of anthracyclines which retain high activity in multidrug resistant cell lines, alone or in combination with verapamil or cyclosporin A. *Biochem Pharmacol* 1989 Dec 15;38(24):4467-75.
- Cordon-Cardo C, O'Brien JP, Boccia J, Casals D, Bertino JR, Melamed MR. Expression of the multidrug resistance gene product (P-glycoprotein) in human normal and tumor tissues. *J Histochem Cytochem* 1990 Sep;38(9):1277-87.
- Cordon-Cardo C, O'Brien JP, Casals D, Boccia J, Bertino JR. Immunoanatomic and immunopathologic expression of the multidrug resistance gene product. *Cancer Cells* 1989; 7:87-93.
- Delaporte C, Dautry F, Jacquemin-Sablon A. MYC transfection in 9-OH-ellipticine-resistant cells induces the expression of the pgp3 gene and reverses the MDR phenotype [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2823.
- Delaporte C, Larsen AK, Dautry F, Jacquemin-Sablon A. Influence of myc overexpression on the phenotypic properties of Chinese hamster lung cells resistant to antitumor agents. *Exp Cell Res* 1991 Dec;197(2):176-82.
- Dessy E, Frau G, Mascia R, Mura G, Pusceddu G. Immunohistochemical detection of P-glycoprotein in lung cancer [abstract]. *Am Rev Respir Dis* 1991; 143(4 Pt 2):A202.
- Devine SE, Hussain A, Davide JP, Melera PW. Full length and alternatively spliced pgp1 transcripts in multidrug-resistant Chinese hamster lung cells. *J Biol Chem* 1991 Mar 5;266(7):4545-55.
- Devine SE, Melera PW. Acquisition of the multidrug resistance phenotype [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2838.
- Dorr RT. Mitomycin, ifosfamide, and mesna in the treatment of lung cancer. *Semin Oncol* 1990 Aug;17(4 Suppl 7):2-5.
- Erlichman C, Bjarnason G, Bunting P, DeAngelis C, Kerr I, Maki E, Moore M, Rahemtulla C, Thiessen J, Walker S. Cyclosporin A (CyA) modulation of doxorubicin (D): a pharmacokinetic/ pharmacodynamic trial [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1991;10:A314.
- Figueredo A, Arnold A, Goodyear M, Findlay B, Neville A, Normandeau R, Jones A. Addition of verapamil and tamoxifen to the initial chemotherapy of small cell lung cancer. A phase I/II study. *Cancer* 1990 May 1;65(9):1895-902.
- Fine RL, Carmichael J, Cowan KH, Chabner BA, Patel J. Phosphoprotein and protein kinase C changes in human multidrug-resistant cancer cells. In: Woolley PV 3d, Tew KD, editors. *Mechanisms of drug resistance in neoplastic cells*; 1986 Oct 15-16; Washington, DC. San Diego (CA): Academic Press, Inc.; 1988. p. 87-96 (Bristol-Myers cancer symposia; 9).
- Fine RL, Monks A, Patel J, Jett M, Ahn C, Anderson W, Shoemaker R, Chabner BA. Staurosporine a potent inhibitor of protein kinase C is equally toxic to sensitive and multidrug-resistant mdr human cancer cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:301.

- Fine RM. Multidrug resistance. *Cancer Chemother Biol Response Modif* 1988;10:73-84.
- Glisson BG, Alpeter MA. Comparison of SDZ PSC 833 (PSC) with cyclosporin A (CSA) as resistance modifiers in a multidrug-resistant small cell lung cancer line [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2908.
- Goldstein L, Galski H, Fojo A, Willingham M, Green A, Crist W, Gottesman M, Pastan I. Expression of a multidrug-resistance gene in human tumors [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1184.
- Goldstein L, Galski H, Fojo A, Willingham M, Lai SL, Gazdar A, Pirker R, Green A, Crist W, et al. Expression of a multidrug resistance gene in human cancers. *J Natl Cancer Inst* 1989;81(2):116-24.
- Gottesman MM, Goldstein LJ, Pastan I. Expression of the multidrug-resistance (MDR1) gene in breast cancer and other cancers. Paper presented at: Biennial International Breast Cancer Research Conference; 1989 Mar 5-9; Tel Aviv University, Tel Aviv.
- Harris AL. Mechanisms of anticancer drug resistance. *Dev Oncol* 1990;58:107-15.
- Hitselberger Kanitz MH, Mastro JM, Starling JJ. In vivo expression of P-glycoprotein in two human colon carcinoma xenografts is rapidly modulated following therapy with a free or monoclonal antibody-conjugated vinca alkaloid [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2805.
- Hochhauser D, Harris AL. Drug resistance. *Br Med Bull* 1991 Jan;47(1):178-96.
- Hu XF, Nadalin G, De Luise M, Martin TJ, Wakeling A, Huggins R, Zalberg JR. Circumvention of doxorubicin resistance in multi-drug resistant human leukemia and lung cancer cells by the pure antiestrogen ICI-164384. *Eur J Cancer* 1991; 27(6):773-7.
- Jung S, Kluge M, Keilhauer G, Traugott U. Dose dependent circumvention of multidrug resistance MDR in-vitro and in-vivo by R-verapamil (R-VPM) [abstract]. *J Cancer Res Clin Oncol* 1990; 116 Suppl Pt 1:419.
- Keizer HG, Joenje H. Increased cytosolic pH in multidrug-resistant human lung tumor cells effect of verapamil. *J Natl Cancer Inst* 1989;81(8):706-9.
- Keizer HG, Schuurhuis GJ, Broxterman HJ, Lankelma J, Schoonen WGEJ, Van Rijn J, Pinedo HM, Joenje H. Correlation of multidrug resistance with decreased drug accumulation altered subcellular drug distribution and increased p-glycoprotein expression in cultured sw-1573 human lung tumor cells. *Cancer Res* 1989;49(11):2988-93.
- Knick VC, Miller CG. In vivo derivation of a murine P388 leukemia subline resistant to 5'-nor-anhydrovinblastine (navelbine) and its cross-resistance profile [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2759.
- Krebes KA, Pross HF, Cole SP. Cross-reactivity of a monoclonal antibody (MAb) specific for the multidrug resistant small-cell lung cancer (SCLC) cell line H69AR with peripheral blood mononuclear cells (PBMCs) [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2206.
- Lai SL, Goldstein LJ, Gottesman MM, Pastan I, Tsai CM, Johnson BE, Mulshine JL, Ihde DC, Kayser K, Gazdar AF. Mdr1 gene expression in lung cancer. *J Natl Cancer Inst* 1989;81(15):1144-50.
- LaQuaglia MP, Kopp EB, Spengler BA, Meyers MB, Biedler JL. Altered state of transformation and/or differentiation in multidrug-resistant human neuroblastoma cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A1704.
- Larsen AK, Jacquemin-Sablon A. Multiple resistance mechanisms in Chinese hamster cells resistant to 9-hydroxyellipticine. *Cancer Res* 1989 Dec 15;49(24 Pt 1):7115-9.
- Larsson R, Bergh J, Nygren P. Combination of cyclosporin A and buthionine sulfoximine (BSO) as a pharmacological strategy for circumvention of multidrug resistance in small cell lung cancer cell lines selected for resistance to doxorubicin. *Anticancer Res* 1991 Jan-Feb;11(1):455-9.
- Long BH, Wang L, Lorico A, Wang RCC, Brattain MG, Casazza M. Mechanisms of resistance to etoposide and teniposide in acquired resistant human colon and lung carcinoma cell lines. *Cancer Res* 1991;51(19):5275-83.
- Mattern J, Bak M, Volm M. Intrinsic and acquired multidrug resistance in human lung carcinomas grown in nude mice. *Anticancer Res* 1990 Jan-Feb;10(1):177-80.
- Mattern J, Bak M, Volm M. Occurrence of a multidrug resistant phenotype in human lung xenografts. *Br J Cancer* 1987;56(4):407-11.
- Mattern J, Efferth T, Volm M. Overexpression of P-glycoprotein in human lung carcinoma xenografts after fractionated irradiation in vivo. *Radiat Res* 1991 Sep;127(3):335-8.
- Meijer C, de Vries EG, Timmer-Bosscha H, Scheper RJ, de Ley L, Berendsen HH, Mulder NH. Resistance mechanisms in three human small cell lung cancer cell lines established from one patient during clinical follow-up [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1221.

- Meyers MB, Mendelsohn J. Dephosphorylation of P-glycoprotein in DC-3F/AD X cells by epidermal growth factor-activated phosphatase activity [abstract]. Proc Annu Meet Am Assoc Cancer Res 1991;32:A2188.
- Meyers MB, Rittmann-Grauer L, O'Brien JP, Safa AR, Cordon-Cardo C, Biedler JL. The 180-kD resistance-related membrane protein recognized by monoclonal antibodies raised against vincristine-resistant human neuroblastoma cells is a P-glycoprotein [abstract]. Proc Annu Meet Am Assoc Cancer Res 1989;30:A2008.
- Milroy R, Plumb JA, Batstone P, Maclay A, Wishart GC, Hay FG, Candlish W, Adamson R, Khan MZ, Banham S, et al. Lack of expression of P-glycoprotein in 7 small cell lung cancer cell lines established both from untreated and from treated patients. *Anticancer Res* 1992 Jan-Feb;12(1): 193-200.
- Minato K, Kanzawa F, Nishio K, Nakagawa K, Fujiwara Y, Saijo N. Characterization of an etoposide-resistant human small-cell lung cancer cell line. *Cancer Chemother Pharmacol* 1990;26(5): 313-7.
- Mirski SE, Dicke FP, Cole SP. Non-P-glycoprotein-mediated multidrug resistance in the small-cell lung cancer (SCLC) cell line, H69AR [abstract]. Proc Annu Meet Am Assoc Cancer Res 1991;32:A2196.
- Morgan SA, Watson JV, Twentyman PR, Smith PJ. Flow cytometric analysis to Hoechst 33342 uptake as an indicator of multi-drug resistance in human lung cancer. *Br J Cancer* 1989;60(3):282-7.
- Mukaiyama T, Mitsui I, Shibata H, Inoue K, Ogawa M. Analysis of multidrug-resistance gene expression in human cancers: correlation between expression level and chemosensitivity [abstract]. Proc Annu Meet Am Assoc Cancer Res 1988;29: A1218.
- Muller MR, Twentyman PR, Lambert E, Cox H, Watson JV, Baglin TP, Rees JH. P-glycoprotein (PGp) expression and glutathione (GSH) content in human leukemia cells determined by flow-cytometry (FCM). Paper presented at: British Association for Cancer Research/Association for Cancer Physicians/Leukaemia Research Fund Joint Winter Meeting on Leukaemia and Lymphomas; 1989 Dec 11-12; London, UK.
- Noonan KE, Chin JE, Roninson IB. Analysis of multidrug resistance gene expression by enzymatic amplification of randomly primed cDNA [abstract]. Proc Annu Meet Am Assoc Cancer Res 1989;30: A1982.
- Nygren P, Larsson R, Gruber A, Peterson C, Bergh J. Doxorubicin selected multidrug-resistant small cell lung cancer cell lines characterised by elevated cytoplasmic Ca²⁺ and resistance modulation by verapamil in absence of P-glycoprotein overexpression. *Br J Cancer* 1991 Dec;64(6): 1011-8.
- Ohe Y, Nakagawa K, Fujiwara Y, Sasaki Y, Minato K, Bungo M, Niimi S, Horichi N, Fukuda M, Saijo N. In vitro evaluation of the new anticancer agents KT6149, MX 2, SM5887, menogaril, and liblomycin using cisplatin or adriamycin resistant human cancer cell lines. *Cancer Res* 1989;49(15): 4098-102.
- Pastan I, Willingham MC, Gottesman MM. Multidrug resistance. Paper presented at: 6th NCI-EORTC Symposium on New Drugs in Cancer Therapy; 1989 Mar 7-10; Amsterdam.
- Plumb JA, Milroy R, Kaye SB. The activity of verapamil as a resistance modifier in vitro in drug resistant human tumour cell lines is not stereospecific. *Biochem Pharmacol* 1990 Feb 15; 39(4):787-92.
- Plumb JA, Milroy R, Kaye SB. Sequential induction of drug resistance in an adherent small-cell lung cancer (SCLC) cell line [abstract]. Proc Annu Meet Am Assoc Cancer Res 1991;32:A2141.
- Preisegger KH, Brown PC, Silverman JA, Thorgeirsson SS. Extrahepatic induction of MDR expression in the rat by xenobiotics [abstract]. Proc Annu Meet Am Assoc Cancer Res 1992;33:A2827.
- Radosevich JA, Robinson PG, Rittmann-Grauer LS, Wilson B, Leung JP, Maminta ML, Warren W, Rosen ST, Gould VE. Immunohistochemical analysis of pulmonary and pleural tumors with the monoclonal antibody HYB-612 directed against the multidrug resistance (MDR-1) gene product-glycoprotein. *Tumour Biol* 1989;10(5):252-7.
- Ramachandran C, Wellham L, Sridhar KS, Krishan A. MDR-1 gene, P-glycoprotein, and doxorubicin cytotoxicity in human lung tumor cell lines [abstract]. Proc Annu Meet Am Assoc Cancer Res 1991;32:A2168.
- Reeve JG, Rabbits PH, Twentyman PR. Amplification and expression of mdr1 gene in a multidrug resistant variant of small cell lung cancer cell line NCI-h69. *Br J Cancer* 1989;60(3):339-42.
- Rhodes T, Twentyman PR. Effects of cyclosporin A and verapamil on cellular pharmacokinetics and chemosensitivity in an MDR cell line which does not express P-glycoprotein [abstract]. *Br J Cancer* 1991;63 Suppl 13:12.
- Roninson IB, Chin JE, Choi K, Morse BS, Noonan KE, Chen CJ, Patel MC, Coon JS, Lee I, Weinstein RS. Molecular biology of multidrug resistance in human

- tumor cells. Paper presented at: 6th NCI-EORTC Symposium on New Drugs in Cancer Therapy; 1989 Mar 7-10; Amsterdam.
- Rowinsky EK. Current developments in antitumor antibiotics epipodophyllotoxins and vinca alkaloids. *Curr Opin Oncol* 1991;3(6):1060-9.
- Safa AR. Photoaffinity labeling of the multidrug-resistance-related P-glycoprotein with photoactive analogs of verapamil. *Proc Natl Acad Sci U S A* 1988;85(19):7187-91.
- Safa AR, Mehta ND, Agresti M. Photoaffinity labeling of p-glycoprotein in multidrug resistant cells with photoactive analogs of colchicine. *Biochem Biophys Res Commun* 1989;162(3): 1402-8.
- Saijo N, Nakagawa K, Fujiwara Y, Bungo M, Horichi N, Sasaki Y, Yokota J, Terada M. Characteristics of clinical and experimental resistance to cisplatin. Paper presented at: 1st International Interface of Clinical and Laboratory Responses to Anticancer Drugs; 1989 Mar 13-15; Villejuif, France.
- Salmon SE, Grogan T, Meltzer PS, Dalton WS. Relevance of multidrug resistance to neoadjuvant therapy of cancer. Paper presented at: 2nd International Congress on Neo-Adjuvant Chemotherapy; 1988 Feb 19-21; Paris.
- Savaraj N, Lu K, Taso J, Feun L, Li DJ, Lampidis T, Donnelly E, Patten J, Kuo M. MDR1 mRNA expression in small cell lung cancer patients [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1989;8:A960.
- Scagliotti GV, Michelotto F, Kalikatzaros G, Leonardo E, Cappia S, Gubetta L, Borasio P, Pozzi E. Detection of multidrug resistance associated P-170 glycoprotein in previously untreated non small cell lung cancer. *Anticancer Res* 1991 Nov-Dec;11(6): 2207-10.
- Scagliotti GV, Michelotto F, Leonardo E, Borasio P, Gubetta L, Pozzi E. Immunohistochemical detection of glycoprotein P-170 and human epidermal growth factor receptor in resected non-small cell lung cancer [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1991;10:A876.
- Scheper RJ, Bulte JWM, Brakkee JGP, Quak JJ, Van Der Schoot E, Balm AJM, Meijer CJLM, Broxterman HJ, Kuiper CM, et al. Monoclonal antibody JSB-1 detects a highly conserved epitope on the P-glycoprotein associated with multi-drug-resistance. *Int J Cancer* 1988;42(3):389-94.
- Scotto KW, Palmer D, Li XK. Regulation of P-glycoprotein gene expression in revertants of verapamil-sensitive MDR cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2834.
- Shin HJ, Lee JS, Hong WK, Shin DM. Study of multidrug resistance (mdr1) gene in non-small-cell lung cancer. *Anticancer Res* 1992 Mar-Apr;12(2): 367-70.
- Shin HJ, Shin DM, Grant G, Hong WK, Pathak S. Simultaneous amplification of epidermal growth factor-receptor and multidrug-resistance genes in a newly established human lung cancer cell line. *Anticancer Res* 1991;11(1):241-8.
- Shin HJ, Shin DM, Li D, Lee JS, Hong WK, Kuo T. Multidrug resistance gene (mdr1) amplification and expression in newly established human lung carcinoma cell lines and fresh human non-small cell lung carcinomas [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A1680.
- Slate DL, Bruno N, Carver LA, Rabier M. Isolation and characterization of multiple drug resistant carcinoma cell lines [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A1975.
- Smith PJ, Morgan SA, Watson JV. Detection of multidrug resistance and quantification of responses of human tumour cells to cytotoxic agents using flow cytometric spectral shift analysis of Hoechst 33,342-DNA fluorescence. *Cancer Chemother Pharmacol* 1991;27(6):445-50.
- Spengler BA, Druskin H, Safa A, Meyers MB, Biedler JL. Rapid loss of resistance and P-glycoprotein expression in multidrug-resistant cells treated with verapamil [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:376.
- Sugawara I, Kataoka I, Morishita Y, Hamada H, Tsuruo T, Itoyama S, Mori S. Tissue distribution of P-glycoprotein encoded by a multidrug-resistant gene as revealed by a monoclonal antibody MRK 16. *Cancer Res* 1988;48(7):1926-9.
- Tamai I, Safa AR. Azidopine noncompetitively interacts with vinblastine and cyclosporin A binding to P-glycoprotein in multidrug resistant cells. *J Biol Chem* 1991 Sep 5;266(25):16796-800.
- Tsai CM, Lai SL, Ihde DC, Goldstein LJ, Gottesman MM, Pastan I, Mulshine JL, Gazdar AF. Clinical response to combination chemotherapy in lung cancer is correlated with in vitro chemosensitivity but not with expression of the MDR1 gene [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1989;8:A965.
- Tsuruo T. Proteins involved in multidrug resistance and their implication for therapy. *Pezzcoller Found Symp* 1990;1:131-43.
- Tsuruo T, Yusa K, Sudo Y, Takamori R, Sugimoto Y. A fluorine-containing anthracycline me-2303 as a new antitumor agent against murine and human tumors and their multidrug-resistant sublines. *Cancer Res* 1989;49(20):5537-42.

- Twentyman PR. Modification of cytotoxic drug resistance by non-immunosuppressive cyclosporins. *Br J Cancer* 1988;57(3):254-8.
- Twentyman PR, Wright KA, Wallace HM. Cyclosporin A and non-immunosuppressive analogs inhibit growth of human lung cancer cells in vitro [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A1921.
- Twentyman PR, Wright KA, Wallace HM. Effects of cyclosporin A and a non-immunosuppressive analogue, O-acetyl cyclosporin A, upon the growth of parent and multidrug resistant human lung cancer cells in vitro. *Br J Cancer* 1992 Mar;65(3):335-40.
- van der Graaf WT, de Vries EG, Uges DR, Nanninga AG, Meijer C, Timmer-Bosscha H, Mulder NH. Multidrug resistance (MDR) modulation with amiodarone (AM) in human tumor cell lines and patients [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1990;31:A2076.
- van der Graaf WT, de Vries EG, Uges DR, Nanninga AG, Meijer C, Vellenga E, Mulder PO, Mulder NH. In vitro and in vivo modulation of multi-drug resistance with amiodarone. *Int J Cancer* 1991 Jun 19;48(4):616-22.
- Versantvoort CH, Broxterman HJ, Pinedo HM, de Vries EG, Feller N, Kuiper CM, Lankelma J. Energy-dependent processes involved in reduced drug accumulation in multidrug-resistant human lung cancer cell lines without P-glycoprotein expression. *Cancer Res* 1992 Jan 1;52(1):17-23.
- Volm M. In vivo multidrug-resistance of animal and human tumors [abstract]. *J Chemother Infect Dis Malig* 1989;Suppl 1:A307.
- Volm M, Bak M, Efferth T, Mattern J. Inherent and induced multidrug-resistance in human lung carcinoma xenograft lines [abstract]. *J Chemother Infect Dis Malig* 1989;Suppl 1:A473.
- Volm M, Bak M Jr, Efferth T, Lathan B, Mattern J. Immunocytochemical detection of a resistance-associated glycoprotein in tissue culture cells ascites tumors and human tumor xenografts by MAB-265-F4. *Anticancer Res* 1988;8(4):531-6.
- Volm M, Efferth T. Relationship of DNA ploidy to chemoresistance of tumors as measured by in vitro tests. *Cytometry* 1990;11(3):406-10.
- Volm M, Efferth T, Bak M, Ho AD, Mattern J. Detection of the multidrug resistant phenotype in human tumours by monoclonal antibodies and the streptavidin-biotinylated phycoerythrin complex method. *Eur J Cancer Clin Oncol* 1989 Apr;25(4):743-9.
- Volm M, Mattern J, Samsel B. Overexpression of P-glycoprotein and glutathione S-transferase-pi in resistant non-small cell lung carcinomas of smokers. *Br J Cancer* 1991 Oct;64(4):700-4.
- Watanabe M, Komeshima N, Nakajima S, Tsuruo T. Mx-2 a morpholinoanthracycline as a new antitumor agent against drug-sensitive and multidrug-resistant human and murine tumor cells. *Cancer Res* 1988;48(23):6653-7.
- Watson JV, Morgan SA, Smith PJ. Analysis of the Hoechst-33342 fluorescence emission spectrum in individual cells with reference to multi-drug resistance. In: Poulik MD, editor. *Lipoproteins IGG and IGA subclasses cytofluorometry*; 1989 Apr 3-5; London, England. Oxford (England): Pergamon Press; 1989. p. 359-72. (Protides of the biological fluids proceedings colloquium; 36).
- Wooten P, Cuddy D, Felsted P, Pan S, Ross D. Comparison of anti-P-glycoprotein monoclonal antibodies MRK16, 265/F4 and C219 in the detection of multidrug resistant cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2105.
- Wu L, Smythe AM, Stinson SF, Mullendore LA, Monks A, Scudiero DA, Paull KD, Koutsoukos AD, Rubinstein LV, Boyd MR, et al. Multidrug-resistant phenotype of disease-oriented panels of human tumor cell lines used for anticancer drug screening. *Cancer Res* 1992 Jun 1;52(11):3029-34.

-Lymphomas

- Bar-Shira-Maymon B, Michowitz M, Gibli O, Klein O, Pinchasov A, Leibovici J. Effect of a membrane-active agent on uptake of adriamycin in Lewis lung carcinoma cells derived from 'primary' and 'metastatic' growths. *Chemotherapy (Basel)* 1992; 38(1):66-73.
- Berman E, Adams M, Duigou-Osterndorf R, Godfrey L, Clarkson B, Andreeff M. Effect of tamoxifen on cell lines displaying the multidrug-resistant phenotype. *Blood* 1991 Feb 15; 77(4):818-25.
- Bonadonna G, Santoro A. Current issues in the management of advanced Hodgkin's disease. *Blood Rev* 1990 Mar;4(1):69-73.
- Brophy NA, Marie JP, Berry JM, Ehsan MN, Smith SD, Warnke RA, Sikic BI. Expression of the multidrug resistance gene MDR1 in leukemia and lymphoma cells [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1989;8:A211.
- Cairo MS, Toy C, Sender L, VandeVen C. The combination of VP-16 and verapamil to chemo-purge multidrug resistant leukemia cells from human bone marrow: selective tumor cytotoxicity versus marrow toxicity [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A932.
- Cancer chemotherapy: concepts, clinical investigations and therapeutic advances. *Cancer Treat Res* 1989;42:1-238.
- Carulli G, Petrini M. Multidrug resistance: focus in hematology. *Haematologica* 1990 Jul-Aug;75(4): 363-74.
- Dalton WS. Approaches to clinical reversal of multidrug resistance [abstract]. *Invest New Drugs* 1989;7(4):425.
- Dalton WS, Grogan TM, Meltzer PS, Scheper RJ, Durie BGM, Taylor CW, Miller TP, Salmon SE. Drug resistance in multiple myeloma and non-Hodgkin's lymphoma: Detection of P-glycoprotein and potential circumvention by addition of verapamil to chemotherapy. *J Clin Oncol* 1989; 7(4):415-24.
- Dan S, Esumi M, Sawada U, Hayashi N, Uchida T, Yamazaki T, Ashiya M, Satoh Y, Ohshim T, Horie T, et al. Expression of a multidrug-resistance gene in human malignant lymphoma and related disorders. *Leuk Res* 1991;15(12):1139-43.
- Durivage HJ, Buzaid AC, Todd MB, Poo WJ, March JC, Davis CA, Hait WN. A phase I-II study of pulse cyclosporin-A (CsA) plus vinblastine (VBL) in selected refractory malignancies [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1991;10:A335.
- Erlichman C, Bjarnason G, Bunting P, DeAngelis C, Kerr I, Maki E, Moore M, Rahemtulla C, Thiessen J, Walker S. Cyclosporin A (CyA) modulation of doxorubicin (D): a pharmacokinetic/ pharmacodynamic trial [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1991;10:A314.
- Gieseler F, Boege F, Biersack H, Spohn B, Wilms K. Characterization of three HL-60 sublines with different types of multidrug resistance [abstract]. *Onkologie* 1991;14 Suppl 2:54.
- Goldstein L, Galski H, Fojo A, Willingham M, Green A, Crist W, Gottesman M, Pastan I. Expression of a multidrug-resistance gene in human tumors [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1184.
- Goldstein L, Galski H, Fojo A, Willingham M, Lai SL, Gazdar A, Pirker R, Green A, Crist W, et al. Expression of a multidrug resistance gene in human cancers. *J Natl Cancer Inst* 1989;81(2):116-24.
- Gottesman MM, Goldstein LJ, Pastan I. Expression of the multidrug-resistance (MDR1) gene in breast cancer and other cancers. Paper presented at: Biennial International Breast Cancer Research Conference; 1989 Mar 5-9; Tel Aviv University, Tel Aviv.
- Gottesman MM, Goldstein LJ, Willingham MC, Pastan I. Molecular biology of a human multidrug transporter. Paper presented at: Molecular diagnostics of human cancer. Cold Spring Harbor Meeting on Cancer Cells; 1988 Sep 7-11; Cold Spring Harbor, NY.
- Grogan TM, Dalton WS, Rybski J, Miller T, Spier C, Salmon S. P-glycoprotein staining predicts intrinsic doxorubicin resistance in patients with myeloma and lymphoma [abstract]. *Lab Invest* 1989;60(1):36A.
- Hochhauser D, Harris AL. Drug resistance. *Br Med Bull* 1991 Jan;47(1):178-96.
- Holte H. [Resistance to chemotherapeutic agents in the treatment of cancer. Emphasizing the multi-resistant phenotype]. *Tidsskr Nor Laegeforen* 1991 Aug 20; 111(19):2423-7. (Nor).
- Ishida Y, Ohtsu T, Hamada H, Sugimoto Y, Tobinai K, Minato K, Tsuruo T, Shimoyama M. Multidrug resistance in cultured human leukemia and lymphoma cell lines detected by a monoclonal antibody, MRK16. *Jpn J Cancer Res* 1989 Oct; 80(10):1006-13.
- Kaczorowski S, Porwit A, Christensson B. Expression of P-glycoprotein in non-Hodgkin's lymphomas. *Leuk Lymphoma* 1991;5(5-6):379-86.
- Kaye SB, Kerr DJ. Multidrug resistance: clinical relevance in hematological malignancies. *Blood Rev* 1991;5(1):38-41.
- List AF, Spier C, Greer J, Azar C, Hutter J, Wolff S, Salmon S, Futscher B, Dalton W. Biochemical

- modulation of anthracycline resistance in acute leukemia with cyclosporin-A (CSA) [abstract]. Proc Annu Meet Am Soc Clin Oncol 1992;11: A865.
- Miller TP, Grogan TM, Dalton WS, Spier CM, Scheper RJ, Salmon SE. P-glycoprotein expression in malignant lymphoma and reversal of clinical drug resistance with chemotherapy plus high-dose verapamil. *J Clin Oncol* 1991 Jan; 9(1):17-24.
- Miller TP, Grogan TM, Spier CM, Salmon SE, Dalton WS. High-dose verapamil infusion added to chemotherapy reverses drug resistance in lymphoma patients in relapse [abstract]. Proc Annu Meet Am Soc Clin Oncol 1989;8:A984.
- Mizuno Y, Hara T, Nagata M, Tawa A, Tsuruo T, Ueda K. Detection of multidrug-resistant protein, P-glycoprotein in childhood leukaemia and lymphoma. *Eur J Pediatr* 1991 Apr;150(6):416-8.
- Molecular diagnostics of human cancer. *Cancer Cells* 1989;7:1-414.
- Moran EM, Nagourney RA, Ottenheimer EJ, Mahutte KC, Weisenthal LM. Reversal of acquired drug resistance (ADR) with lidocaine (L) + verapamil (V): a phase I study [abstract]. Proc Annu Meet Am Assoc Cancer Res 1988;29:A868.
- Murren JR, Cooper DL, Honig J, Edelson RL, Hait WN, Flynn SD. The multidrug-resistant phenotype is prevalent in Sezary Syndrome (SS) [abstract]. Proc Annu Meet Am Soc Clin Oncol 1992;11: A1130.
- Nabors MW, Griffin CA, Zehnbauser BA, Hruban RH, Phillips PC, Grossman SA, Brem H, Colvin OM. Multidrug resistance gene (MDR1) expression in human brain tumors. *J Neurosurg* 1991 Dec; 75(6):941-6.
- Neyfakh AA, Serpinskaya AS, Chervonsky AV, Apasov SG, Kazarov AR. Multidrug-resistance phenotype of a subpopulation of T-lymphocytes without drug selection. *Exp Cell Res* 1989 Dec; 185(2):496-505.
- Niehans GA, Jaszcz W, Brunetto V, Perri RT, Gajl-Peczalska K, Wick MR, Tsuruo T, Bloomfield CD. Immunohistochemical identification of P-glycoprotein in previously untreated, diffuse large cell and immunoblastic lymphomas. *Cancer Res* 1992 Jul 1;52(13):3768-75.
- Niehans G, Jaszcz W, Wick M, Gajl-Peczalska K, Tsuruo T, Bloomfield C. Identification of multidrug resistance-associated P-glycoprotein in some diffuse large cell lymphomas by frozen section immunohistochemistry [abstract]. *Lab Invest* 1990; 62(1):73a.
- Nooter K, Sonneveld P, Janssen A, Oostrum R, Boersma T, Herweijer H, Valerio D, Hagemeyer A, Baas F. Expression of the *mdr3* gene in prolymphocytic leukemia: association with cyclosporin-A-induced increase in drug accumulation. *Int J Cancer* 1990 Apr 15;45(4): 626-31.
- Pastan I, Willingham MC, Gottesman MM. Multidrug resistance. Paper presented at: 6th NCI-EORTC Symposium on New Drugs in Cancer Therapy; 1989 Mar 7-10; Amsterdam.
- Pileri SA, Sabattini E, Falini B, Tazzari PL, Gherlinzoni F, Michieli MG, Damiani D, Zucchini L, Gobbi M, Tsuruo T, et al. Immunohistochemical detection of the multidrug transport protein P170 in human normal tissues and malignant lymphomas. *Histopathology* 1991 Aug; 19(2):131-40.
- Reizenstein P, Gruber A, Luthman H, Kaczorowska M, Norgren S, Peterson C, Porvit A, Vitols S. Multiple drug resistance: expression of the MDR1 gene in leukemic blasts in relation to treatment and effect of verapamil isomers on cellular vincristine accumulation [abstract]. *Anticancer Res* 1990; 10(5B):1400-1.
- Salmon SE, Dalton WS, Grogan TM, Plezia P, Lehnert M, Roe DJ, Miller TP. Multidrug-resistant myeloma: laboratory and clinical effects of verapamil as a chemosensitizer. *Blood* 1991 Jul 1; 78(1):44-50.
- Salmon SE, Grogan T, Meltzer PS, Dalton WS. Relevance of multidrug resistance to neoadjuvant therapy of cancer. Paper presented at: 2nd International Congress on Neo-Adjuvant Chemotherapy; 1988 Feb 19-21; Paris.
- Salmon SE, Grogan TM, Miller T, Scheper R, Dalton WS. Prediction of doxorubicin resistance in-vitro in myeloma lymphoma and breast cancer by p-glycoprotein staining. *J Natl Cancer Inst* 1989; 81(8):696-701.
- Salmon SE, Miller T, Grogan T, Dalton WS. Reversal of multidrug resistance (MDR) with chemosensitizers: an emerging clinical reality. Paper presented at: Drug resistance as a biochemical target in cancer chemotherapy. 13th Bristol-Myers Squibb Symposium on Cancer Research; 1990 May 10-11; Tokyo, Japan.
- Schlaifer D, Laurent G, Chittal S, Tsuruo T, Soues S, Muller C, Charcosset JY, Alard C, Brousset P, Mazerrolles C, et al. Immunohistochemical detection of multidrug resistance associated P-glycoprotein in tumour and stromal cells of human cancers. *Br J Cancer* 1990 Aug; 62(2):177-82. Published erratum appears in *Br J Cancer* 1991 Jan;63(1):164-5.
- Shimoyama M. Detection of multidrug resistant (MDR) cancer cells by monoclonal antibodies. Paper presented at: Drug resistance as a biochemical target in cancer chemotherapy. 13th Bristol-Myers Squibb Symposium on Cancer Research; 1990 May 10-11; Tokyo, Japan.

- Sikic BI, Brophy NA, Berry JM, Marie JP, Ehsan MN, Tsuruo T, Roninson IB, Smith SD. Multidrug resistance gene expression in ovarian and breast cancers, leukemias, and lymphomas. Paper presented at: 6th NCI-EORTC Symposium on New Drugs in Cancer Therapy; 1989 Mar 7-10; Amsterdam.
- Su IJ, Chang IC, Cheng AL. Expression of growth related genes and drug resistance genes in HTLV-I positive and HTLV-I negative post thymic T-cell malignancies. *Ann Oncol* 1991;2 Suppl 2:151-5.
- Sugawara I, Ikeuchi T, Fukuchi K, Yoshikai Y, Sugiyama H, Kodo H, Mori S. Establishment and characterization of a non-T, non-B cell lymphoma cell line with T cell receptor beta- and gamma-chain gene rearrangement and possessing MRK 20 monoclonal antibody-defined 85KD protein. *Hum Cell* 1990 Mar;3(1):57-64.
- Sugawara I, Kodo H, Ohkochi E, Hamada H, Tsuruo T, Mori S. High-level expression of MRK 16 and MRK 20 murine monoclonal antibody-define proteins (170,000-180,000 P-glycoprotein and 85,000 protein) in leukaemias and malignant lymphomas. *Br J Cancer* 1989 Oct;60(4):538-41.
- Ujhazy P, Chen Y, Fredericks W, Ehrke MJ. Collateral sensitivity to tumor necrosis factor in an adriamycin resistant EL4 cell line [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A1625.
- Umeda Y, Tsuruo T, Mori S, Arimori S, Sugawara I. High-level expression of P-glycoprotein and 85 kD protein as assessed by flow cytometry and immunocytochemistry in leukemias and malignant lymphomas. *Tokai J Exp Clin Med* 1990 May; 15(2-3):179-87.
- Vaughan WP, Bierman PJ, Reed EC, Vose J, Kessinger A, Armitage JO. High-dose hydroxyurea (HU) incorporation into autologous marrow transplant (ABMT) regimes [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1991;10:A344.
- Wilson WH, Bryant G, Bates S, Fojo T, Stevenson MA, Kohler D, Chabner BA. Infusional etoposide (E), vincristine (O) and adriamycin (H) with cyclophosphamide (C), prednisone (P) (EPOCH) and R-verapamil (RV) in relapsed lymphoma [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1991;10:A956.
- Yahanda AM, Adler KM, Hardy R, Brophy NA, Halsey J, Sikic BI. A phase I trial of etoposide (E) with cyclosporine (CSA) as a modulator of multidrug resistance (MDR) [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1991;10:A276.
- Young RC. Mechanisms to improve chemotherapy effectiveness. *Cancer* 1990 Feb 1;65(3 Suppl): 815-22.

-Myelomas

- Alexanian R, Barlogie B. New treatment strategies for multiple myeloma. *Am J Hematol* 1990 Nov;35(3):194-8.
- Ariyoshi K, Hamada H, Naito M, Heike Y, Seimiya H, Maezawa K, Tsuruo T. Mouse-human chimeric antibody MH171 against the multidrug transporter P-glycoprotein. *Jpn J Cancer Res* 1992 May; 83(5):515-21.
- Bell DR, Friedlander ML, Young G, MA DD. P-glycoprotein expression in clinically drug-resistant hematologic malignancies [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1988;7:A677.
- Bellamy W, Gleason M, Futscher B, Dalton W. Altered P-glycoprotein (P-170)-mediated doxorubicin (D) resistance in a verapamil (V)-resistant human multiple myeloma cell line [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2181.
- Bellamy WT, Dalton WS, Kailey JM, Gleason MC, McCloskey TM, Dorr RT, Alberts DS. Verapamil reversal of doxorubicin resistance in multidrug-resistant human myeloma cells and association with drug accumulation and DNA damage. *Cancer Res* 1988;48(22):6365-70.
- Bellamy WT, Dorr RT, Dalton WS, Alberts DS. Direct relation of DNA lesions in multidrug-resistant human myeloma cells to intracellular doxorubicin concentration. *Cancer Res* 1988; 48(22):6360-4.
- Carulli G, Petrini M. Multidrug resistance: focus in hematology. *Haematologica* 1990 Jul-Aug;75(4):363-74.
- Cervantes A, Benet I, Ortiz De Salazar I, Solano C, Pascual A, Marugan I, Garcia-Conde J. Immunocytochemical detection of multidrug resistant P-glycoprotein (GP-170) in blast crisis of chronic myeloid leukemia (BC-CML), acute leukemia (AL) and multiple myeloma (MM) [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1991;10:A1069.
- Dalton WS. Approaches to clinical reversal of multidrug resistance [abstract]. *Invest New Drugs* 1989;7(4):425.
- Dalton WS, Grogan TM, Meltzer PS, Scheper RJ, Durie BGM, Taylor CW, Miller TP, Salmon SE. Drug resistance in multiple myeloma and non-Hodgkin's lymphoma: Detection of P-glycoprotein and potential circumvention by addition of verapamil to chemotherapy. *J Clin Oncol* 1989; 7(4):415-24.
- Dalton WS, Grogan TM, Miller TP. The role of P-glycoprotein in drug-resistant hematologic malignancies. *Cancer Treat Res* 1991;57:187-208.
- Dalton WS, Grogan TM, Rybski JA, Scheper RJ, Richter L, Kailey J, Broxterman HJ, Pinedo HM, Salmon SE. Immunohistochemical detection and quantitation of P-glycoprotein in multiple drug-resistant human myeloma cells: association with level of drug resistance and drug accumulation. *Blood* 1989 Feb 15;73(3):747-52.
- Dimopoulos MA, Alexanian R. Irreversibility of drug resistance in VAD-refractory myeloma [letter]. *Am J Hematol* 1992 Jun;40(2):154-5.
- Dorr RT, Alberts DS, Sami SM, Remers WA. Consistent cytotoxic activity in multidrug resistant tumors for azonafide, a new anthracene analog of amonafide [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:408.
- Dorr RT, Liddil JD, Von Hoff DD, Soble M, Osborne CK. Antitumor activity and murine pharmacokinetics of parenteral acronycine. *Cancer Res* 1989;49(2):340-4.
- Durie BGM, Dalton WS. Reversal of drug resistance in multiple myeloma with verapamil. *Br J Haematol* 1988;68(2):203-6.
- Epstein J, Xiao H, Oba BK. P-glycoprotein expression in plasma cell myeloma is associated with resistance to VAD. *Blood* 1989;74(3):913-7.
- Futscher BW, Blake LL, Grogan TM, Dalton WS. Quantitative PCR analysis of *mdr1* mRNA in patients with multiple myeloma [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2792.
- Gibson DW, Hughes K, Dalton WS. Flow cytometric analysis of daunorubicin accumulation in multidrug resistance cell lines [abstract]. *Clin Res* 1989; 37(1):142a.
- Gore ME, Selby PJ, Millar B, Maitland J, McElwain TJ. The use of verapamil to overcome drug resistance in myeloma [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1988;7:A882.
- Grogan T, Dalton W, Rybski J, Spier C, Meltzer P, Richter L, Gleason M, Pindur J, Cline A, Scheper R, et al. Optimization of immunocytochemical P-glycoprotein assessment in multidrug-resistant plasma cell myeloma using three antibodies. *Lab Invest* 1990 Dec;63(6):815-24.
- Grogan TM, Dalton WS, Rybski J, Miller T, Spier C, Salmon S. P-glycoprotein staining predicts intrinsic doxorubicin resistance in patients with myeloma and lymphoma [abstract]. *Lab Invest* 1989;60(1):36A.
- Grogan TM, Weinstein RS. Reactivity of anti-P-glycoprotein monoclonal antibodies with two proteins in myeloma plasma cells [abstract]. *Lab Invest* 1991;64(1):104a.

- Hamada H, Miura K, Ariyoshi K, Heike Y, Sato S, Kameyama K, Kurosawa Y, Tsuruo T. Mouse-human chimeric antibody against the multidrug transporter P-glycoprotein. *Cancer Res* 1990 Jun 1;50(11):3167-71.
- Jagannath S, Barlogie B, Dicke K, Alexanian R, Zagars G, Cheson B, Lemaistre FC, Smallwood L, Pruitt K, Dixon DO. Autologous bone marrow transplantation in multiple myeloma: identification of prognostic factors. *Blood* 1990 Nov 1;76(9):1860-6.
- Kaye SB, Kerr DJ. Multidrug resistance: clinical relevance in hematological malignancies. *Blood Rev* 1991;5(1):38-41.
- Kulkarni SS, Wang ZM, Spitzer G, Taha M, Hamada H, Tsuruo T, Dicke KA. Elimination of drug-resistant myeloma tumor cell lines by monoclonal anti-P-glycoprotein antibody and rabbit complement. *Blood* 1989 Nov 1;74(6):2244-51.
- Lehnert M, Emerson S, Kunke K, Dalton WS, Salmon SE. Combined chemosensitization for reversing MDR1: synergism of verapamil with quinine but antagonism with quinidine [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2244.
- Lehnert M, Kunke K, Dalton WS, Roe D, Dorr RT, Salmon SE. In vivo concentration of serum proteins significantly inhibits reversal of P-glycoprotein-mediated drug resistance by some chemosensitizers [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1990;31:A2250.
- Liddil JD, Dorr RT, Dalton WS, Salmon SE. Correlation of multidrug resistance (MDR) to recombinant tumor necrosis factor (RTNF) sensitivity based on lysosomal enzyme activity [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1988;7:A192.
- Linsensmeyer ME, Jefferson S, Wolf M, Matthews JP, Board PG, Woodcock DM. Levels of expression of the *mdr1* gene and glutathione S-transferase genes 2 and 3 and response to chemotherapy in multiple myeloma. *Br J Cancer* 1992 Mar;65(3): 471-5.
- Millar BC, Bell JBG, Maitland JA, Zuiable A, Gore ME, Selby PJ, McElwain TJ. In vitro studies of ways to overcome resistance to VAMP high dose melphalan in the treatment of multiple myeloma. *Br J Haematol* 1989;71(2):213-22.
- Moran EM, Nagourney RA, Ottenheimer EJ, Mahutte KC, Weisenthal LM. Reversal of acquired drug resistance (ADR) with lidocaine (L) + verapamil (V): a phase I study [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A868.
- Musto P, Lombardi G, Matera R, Carotenuto M. The expression of the multidrug transporter P-170 glycoprotein in remission phase is associated with early and resistant relapse in multiple myeloma. *Haematologica* 1991 Nov-Dec;76(6):513-6.
- Natazuka T, Ogawa R, Fujii Y, Suzuki M, Matsui T, Nakao Y, Isobe T, Fujita T. [Ectopic salivary amylase-producing IgA- lambda-type multiple myeloma with expression of MDR-1/P-glycoprotein]. *Rinsho Ketsueki* 1991 Jun;32(6):686-9. (Jpn).
- Nooter K, Herweijer H, Sonneveld P, van Dongen J, Mulder A. Expression of the MDR3 multidrug resistance gene in human B-cell malignancies [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A1157.
- Reizenstein P, Gruber A, Luthman H, Kaczorowska M, Norgren S, Peterson C, Porvit A, Vitols S. Multiple drug resistance: expression of the MDR1 gene in leukemic blasts in relation to treatment and effect of verapamil isomers on cellular vincristine accumulation [abstract]. *Anticancer Res* 1990; 10(5B):1400-1.
- Riccardi A, Invernizzi R, Ucci G, Luoni R, Danova M, Giordano M, Zambelli ML, Rastaldi MP, Ascari E. [p170 in multiple myeloma and acute leukemia]. *Haematologica* 1991 Jun;76 Suppl 3:177-80. (Ita).
- Salmon SE, Dalton WS, Grogan TM, Plezia P, Lehnert M, Roe DJ, Miller TP. Multidrug-resistant myeloma: laboratory and clinical effects of verapamil as a chemosensitizer. *Blood* 1991 Jul 1; 78(1):44-50.
- Salmon SE, Grogan T, Meltzer PS, Dalton WS. Relevance of multidrug resistance to neoadjuvant therapy of cancer. Paper presented at: 2nd International Congress on Neo-Adjuvant Chemotherapy; 1988 Feb 19-21; Paris.
- Salmon SE, Grogan TM, Miller T, Scheper R, Dalton WS. Prediction of doxorubicin resistance in-vitro in myeloma lymphoma and breast cancer by p-glycoprotein staining. *J Natl Cancer Inst* 1989; 81(8):696-701.
- Salmon SE, Miller T, Grogan T, Dalton WS. Reversal of multidrug resistance (MDR) with chemosensitizers: an emerging clinical reality. Paper presented at: Drug resistance as a biochemical target in cancer chemotherapy. 13th Bristol-Myers Squibb Symposium on Cancer Research; 1990 May 10-11; Tokyo, Japan.
- Salmon SE, Soehnlen B, Dalton WS, Meltzer P, Scuderi P. Effects of tumor necrosis factor on sensitive and multidrug resistant human leukemia and myeloma cell lines. *Blood* 1989;74(5):1723-7.

- Sehested M, Friche E, Ersboll J. Detection of multidrug resistance (MDR) associated glycoprotein P-170 in human hematological malignancies. Paper presented at: 6th NCI-EORTC Symposium on New Drugs in Cancer Therapy; 1989 Mar 7-10; Amsterdam.
- Solary E, Bidan JM, Calvo F, Chauffert B, Caillot D, Mugneret F, Gauville C, Tsuruo T, Carli PM, Guy H. P-glycoprotein expression and in-vitro reversion of doxorubicin resistance by verapamil in clinical specimens from acute leukemia and myeloma. *Leukemia* 1991;5(7):592-7.
- Solary E, Velay I, Chauffert B, Bidan JM, Caillot D, Dumas M, Guy H. Sufficient levels of quinine in the serum circumvent the multidrug resistance of the human leukemic cell line K562/ADM. *Cancer* 1991 Oct 15;68(8):1714-9.
- Sonneveld P, Durie BG, Lokhorst HM, Marie JP, Solbu G, Suciu S, Zittoun R, Lowenberg B, Nooter K. Modulation of multidrug-resistant multiple myeloma by cyclosporin. The Leukaemia Group of the EORTC and the HOVON. *Lancet* 1992 Aug 1; 340(8814):255-9.
- Sonneveld P, Nooter K, Herweyer H, te Boekhorst P, van Kapel J, Lowenberg B. Multidrug resistance (mdr1) in leukemia and myeloma: detection, clinical relevance and circumvention [abstract]. *Haematologica* 1991;76 Suppl 4:74.
- Tong AW, Lee J, Wang RM, Dalton WS, Tsuruo T, Fay JW, Stone MJ. Elimination of chemoresistant multiple myeloma clonogenic colony-forming cells by combined treatment with a plasma cell-reactive monoclonal antibody and a p-glycoprotein-reactive monoclonal antibody. *Cancer Res* 1989;49(17): 4829-34.
- Trumper LH, Ho AD, Hunstein W. Addition of verapamil to overcome drug resistance in multiple myeloma: preliminary clinical observations in 10 patients [abstract]. *J Chemother Infect Dis Malig* 1989;Suppl 1:A273.
- Wooten P, Cuddy D, Felsted P, Pan S, Ross D. Comparison of anti-P-glycoprotein monoclonal antibodies MRK16, 265/F4 and C219 in the detection of multidrug resistant cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30: A2105.
- Prostate neoplasms**
- Kageyama Y, Katoh M, Okada K, Yoshida K, Tsuruo T. Detection of P-glycoprotein in human urogenital carcinomas and its relationship to epidermal growth factor receptor expression. *Eur Urol* 1991;20(1):58-61.
- Takechi Y, Kanamaru H, Yoshida O, Ohkubo H, Nakanishi S, Gottesman MM, Pastan I. Measurement of multidrug-resistance messenger RNA in urogenital cancers elevated expression in renal cell carcinoma is associated with intrinsic drug resistance. *J Urol* 1988;139(4):862-5.
- Nabors MW, Griffin CA, Zehnbauser BA, Hruban RH, Phillips PC, Grossman SA, Brem H, Colvin OM. Multidrug resistance gene (MDR1) expression in human brain tumors. *J Neurosurg* 1991 Dec;75(6): 941-6.
- Trachtenberg J, Keating A, Chronis P. Mode of resistance of human androgen-independent prostatic cancer to ketoconazole and VP 16 [abstract]. *J Urol* 1989;141(4 Pt 2):217A.
- van der Valk P, van Kalken CK, Ketelaars H, Broxterman HJ, Scheffer G, Kuiper CM, Tsuruo T, Lankelma J, Meijer CJ, Pinedo HM, et al. Distribution of multi-drug resistance-associated P-glycoprotein in normal and neoplastic human tissues. Analysis with 3 monoclonal antibodies recognizing different epitopes of the P-glycoprotein molecule. *Ann Oncol* 1990;1(1):56-64.

-Neoplasms (other specific)

- Ades EW, Bosse D, Pruckler J. Potentiation of human natural killer cell activity by recombinant interleukin-2 towards multidrug-resistant human epidermoid carcinoma. *Pathobiology* 1990;58(2):84-7.
- Anderson L, Cummings J, Bradshaw T, Smyth JF. The role of protein kinase C and the phosphatidylinositol cycle in multidrug resistance in human ovarian cancer cells. *Biochem Pharmacol* 1991 Sep 12;42(7):1427-32.
- Axiotis C, Hijazi Y, Jefferson J, Tsokos M. Expression of P-glycoprotein in small round cell tumors of childhood [abstract]. *Lab Invest* 1991;64(1):[1p].
- Axiotis C, Merino MJ, Campo E, Laporte N, Neumann R. P-glycoprotein is expressed in thyroid carcinomas but not in benign conditions [abstract]. *Lab Invest* 1991;64(1):31A.
- Axiotis CA, Monteagudo C, Merino MJ, LaPorte N, Neumann RD. Immunohistochemical detection of P-glycoprotein in endometrial adenocarcinoma. *Am J Pathol* 1991 Apr;138(4):799-806.
- Chan HS, Thorner PS, Haddad G, Gallie BL. Therapeutic implications of P-glycoprotein (P170)-related multidrug resistance (MDR) in retinoblastoma (RB) [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1991;10:A1101.
- Chan HS, Thorner PS, Haddad G, Ling V. Immunohistochemical detection of P-glycoprotein: prognostic correlation in soft tissue sarcoma of childhood. *J Clin Oncol* 1990 Apr;8(4):689-704.
- Chan HS, Thorner PS, Haddad G, Ling V. Outcome of therapy in osteosarcoma correlates with P-glycoprotein expression [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2173.
- Chan HSL, Thorner PS, Haddad G, Gallie BL. Multidrug-resistant phenotype in retinoblastoma correlates with P-glycoprotein expression. *Ophthalmology* 1991;98(9):1425-31.
- Fredericks WJ, Chen YF, Baker RM. Immunoblot detection of P-glycoprotein in human tumors and cell lines. *Cancer Treat Res* 1991;57:121-49.
- Hijazi Y, Tsokos M, Navarro S, Horowitz M, Axiotis C. Immunohistochemical detection of P-glycoprotein in Ewing's sarcoma and peripheral neuroectodermal tumors (PNET) before and after chemotherapy [abstract]. *Lab Invest* 1991;64(1): 5A.
- Klein EA, Chaganti RSK, Ronison I, Fair WR. Alterations in the multidrug resistance genes in transitional cell carcinoma [abstract]. *J Urol* 1988;139(4 Pt 2):238a.
- Lankelma J, Muelder HS, Van Mourik F, Wong Fong Sang HW, Kraayenhof R, Van Grondelle R. Cellular daunomycin fluorescence in multidrug resistant 2780A-D cells and its relation to cellular drug localization. *Biochim Biophys Acta* 1991; 1093(2-3):147-52.
- Loy TS, Gelven PL, Mullins D, Diaz-Arias AA. Immunostaining for P-glycoprotein in the diagnosis of thyroid carcinomas. *Mod Pathol* 1992 Mar; 5(2):200-2.
- Mazzoni A, Trave F, Fabbri M, Leto G, Ghidoni R. Membrane gangliosides and immuno-mediated cytotoxicity in drug sensitive and treatment-induced multidrug resistant human ovarian cancer cells. *Anticancer Res* 1991 Nov-Dec;11(6):2181-5.
- Nagata Y, Yamasaki H, Fukuda K, Tanaka S, Tsuruo T, Shuntoh H, Kuno T. Expression of the multidrug-resistant gene in human musculoskeletal tumors. *J Environ Pathol Toxicol Oncol* 1992 May-Jun;11(3):131-7.
- Osborne EJ, Cole SPC, Mackillop WJ. The effect of hyperthermia on doxorubicin accumulation and cytotoxicity in a human ovarian carcinoma cell line and its multidrug resistant variant [abstract]. *Br J Cancer* 1990;61(1):170-1.
- Ramael M, van den Bossche J, Buysse C, van Meerbeeck J, Segers K, Vermeire P, van Marck E. Immunoreactivity for P-170 glycoprotein in malignant mesothelioma and in non-neoplastic mesothelium of the pleura using the murine monoclonal antibody JSB-1. *J Pathol* 1992 May; 167(1):5-8.
- Robey-Cafferty S, Rutledge M, Bruner J. Multidrug resistance gene expression in adenocarcinomas of esophagus and stomach: a possible predictor of response to chemotherapy [abstract]. *Lab Invest* 1989;60(1):79A.
- Robey-Cafferty SS, Bruner JM, Cafferty LL. P-glycoprotein expression in gastroesophageal adenocarcinomas, their metastases, and surrounding mucosa: a mapping study. *Mod Pathol* 1991 Nov; 4(6):694-7.
- Robey-Cafferty SS, Rutledge ML, Bruner JM. Expression of a multidrug resistance gene in esophageal adenocarcinoma. Correlation with response to chemotherapy and comparison with gastric adenocarcinoma. *Am J Clin Pathol* 1990 Jan;93(1):1-7.

- Rubin SC, Finstad CL, Hoskins WJ, Saigo PE, Provencher DM, Federici MG, Hakes TB, Markman M, Reichman BS, Lloyd KO, et al. Expression of P-glycoprotein in epithelial ovarian cancer: evaluation as a marker of multidrug resistance. *Am J Obstet Gynecol* 1990 Jul; 163(1 Pt 1):69-73.
- Rutledge M, Robey-Cafferty S, Silva E, Bruner J. Monoclonal antibody C219 detection of the multidrug resistant protein P-glycoprotein in routinely processed tissues: a study of 36 cases of ovarian carcinoma [abstract]. *Lab Invest* 1989; 60(1):81A.
- Schneider J, Efferth T, Mattern J, Rodriguez-Escudero FJ, Volm M. Immunohistochemical detection of the multi-drug-resistance marker P-glycoprotein in uterine cervical carcinomas and normal cervical tissue. *Am J Obstet Gynecol* 1992 Mar;166(3): 825-9.
- Schwartzmann G, Cerski CT, Sander E, Sprinz E, Kronfeld M. P-glycoprotein expression and AIDS-related Kaposi's sarcoma [letter]. *J Natl Cancer Inst* 1989 Nov 15;81(22):1755-6.
- Takano H, Kohno K, Shiraishi N, Sato S, Asoh K, Yakushiniji M, Ono M, Kuwano M. Altered expression of epidermal growth factor receptor gene in a classical multidrug-resistant variant of a human cancer cell line, KB. *Jpn J Cancer Res* 1989 Apr; 80(4):373-9.
- Vollrath V, Chianale J, Duarte I, Prado S, Raddatz A, Ibanez L. Expression of the multidrug-resistance (MDR1) gene in human gastric adenocarcinoma [abstract]. *Gastroenterology* 1989;96(5 Pt 2):A532.
- Volm M, Efferth T, Bak M, Mattern J. Detection of drug resistance in human ovarian carcinoma. *Arch Gynecol Obstet* 1989;244(2):123-8.
- Weinstein RS, Kuszak JR, Ashman JR, Coon JS. P-glycoprotein is targeted to adhesion plaques retraction fibers and microspikes in drug resistant KB-VI epidermoid carcinoma cells [abstract]. *J Cell Biol* 1989;109(4 Pt 2):75a.
- Wunder JS, Keating S, Czitrom AA, Andrusis IL. Molecular mechanism and detection of multidrug resistance in sarcomas [abstract]. *J Cell Biochem Suppl* 1990;14 Pt D:12.
- Neoplasms (general)**
- Athanassiadou P, Kyrkou K, Giahnaki A, Petrakakou T, Athanassiades P. Immunocytochemical distribution of P-glycoprotein in malignant effusions: correlation with response to chemotherapy. Paper presented at: 19th European Congress of Cytology; 1991 Jun 17-20; Turku, Finland.
- Beck WT. Modulators of P-glycoprotein-associated multidrug resistance. *Cancer Treat Res* 1991; 57:151-70.
- Bellamy WT. Multidrug resistance in human tumors. *Curr Opin Oncol* 1990 Dec;2(6):1126-32.
- Bellamy WT, Dalton WS, Dorr RT. The clinical relevance of multidrug resistance. *Cancer Invest* 1990;8(5):547-62.
- Benard J, Bourhis J, Riou G. Clinical significance of multiple drug resistance in human cancers. *Anticancer Res* 1990;10(5 Pt A):1297-302.
- Cordon-Cardo C, O'Brien JP. The multidrug resistance phenotype in human cancer. *Important Adv Oncol* 1991:19-38.
- Demant EJ, Sehested M, Jensen PB. Computer simulation of P-glycoprotein (P-gp) transmembrane delta ph-mediated, and exocytotic daunorubicin (DNR) transport in multidrug resistant (MDR) tumor cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2182.
- Elliott LD, Richards JM, Safa A. Immune-mediated cytolysis of multi-drug resistant human tumor cells [abstract]. *Clin Res* 1989;37(4):915a.
- Fojo AT. Multidrug resistance in human tumors. *Cancer Treat Res* 1989;48:27-36.
- Goldstein LJ, Galski H, Fojo A, Willingham M, Lai S, Gazdar A, Pirker R, Green A, Crist W, et al. Expression of a multidrug transporter gene in human tumors [abstract]. *J Cell Biol* 1988; 107(6 Pt 3):750A.
- Goldstein LJ, Gottesman MM, Pastan I. Expression of the MDR1 gene in human cancers. *Cancer Treat Res* 1991;57:101-19.
- Grzelakowska-Sztabert B. [Modulators of multidrug resistance in neoplastic cells]. *Postepy Biochem* 1989;35(4):543-61. (Pol).
- Jiang XR, Macey MG, Newland AC. Multidrug resistance in haematological malignancies. *Med Lab Sci* 1991;48(4):261-70.

- Kane M, Laucius JF, Bellet R, Berd D, Mastrangelo M, Rose L, Rabinowitz M. Phase I/II trial of etoposide (E) and cefoperazone (C) in the treatment of refractory neoplasms [abstract]. Proc Annu Meet Am Soc Clin Oncol 1991;10:A315.
- Kane SE, Pastan I, Gottesman MM. Genetic basis of multidrug resistance of tumor cells. J Bioenerg Biomembr 1990 Aug;22(4):593-618.
- Kartner N, Ling V. Multidrug resistance in cancer. Sci Am 1989 Mar;260(3):44-51.
- Ma DD, Bell DR. Multidrug resistance and P-glycoprotein expression in human cancer. Aust N Z J Med 1989 Dec;19(6):736-43.
- Mattern J, Volm M. Prediction of drug resistance in human tumors using immunohistochemical techniques. Anticancer Res 1992 Mar-Apr;12(2):413-8.
- Murren JR, Hait WN. Why haven't we cured multidrug resistant tumors? Oncol Res 1992;4(1):1-6.
- Payne CM, Weinstein RS. Quantitative electron microscopy of drug-sensitive and multidrug-resistant KB carcinoma cell lines [abstract]. J Cell Biol 1991;115(3 Pt 2):262a.
- Van Der Valk P, Van Kalken CK, Ketelaars H, Broxterman HJ, Kuiper K, Lankelma J, Tsuruo T, Pinedo HM, Meijer CJLM, Scheper RJ. Multi-drug resistance-associated P-glycoprotein expression in normal and malignant human tissues [abstract]. Invest New Drugs 1989;7(4):439.
- By Antineoplastic / Immunosuppressive Agent Type**
- Anthracyclines**
- Adams DJ, Knick VC. MDR and non-MDR forms of cellular resistance to 5'-nor-anhydrovinblastine (navelbine) [abstract]. Proc Annu Meet Am Assoc Cancer Res 1992;33:A2760.
- Aihara M, Aihara Y, Schmidt-Wolf G, Schmidt-Wolf I, Sikic BI, Blume KG, Chao NJ. A combined approach for purging multidrug-resistant leukemic cell lines in bone marrow using a monoclonal antibody and chemotherapy. Blood 1991 May 1; 77(9):2079-84.
- Akman S, Forrest G, Chu FF, Esworthy RS, Stetzler J, Doroshow J. Antioxidant enzyme gene expression in multidrug-resistant MCF-7 breast cancer cells (MCF-7/ADR) [abstract]. Proc Annu Meet Am Assoc Cancer Res 1989;30:A1973.
- Alaoui Jamali MA, Yin MB, Mazzoni A, Bankusli I, Rustum YM. Relationship between cytotoxicity, drug accumulation, DNA damage and repair of human ovarian cancer cells treated with doxorubicin: modulation by the tiapamil analog RO11-2933. Cancer Chemother Pharmacol 1989;25(2):77-83.
- Alderson D, Collins CM, Lai T, Symes MO. The effects of verapamil in potentiating the action of doxorubicin on two recently derived human pancreatic carcinoma cell lines. Paper presented at: 3rd International Congress on the Neo-adjuvant Chemotherapy; 1991 Feb 6-9; Paris. (Eng, Fre).
- Alton PA, Fry A, Hickson ID, Harris AL. Use of the MTT assay in acute myeloid leukemia to assess mechanisms of resistance [abstract]. Br J Cancer 1991;63 Suppl 13:14.
- Andreoff M, Hegewisch-Becker S, Haimi J, Rehmann B, Berman E, Bertino J. Multidrug resistance, expression of P-glycoprotein, anthracycline uptake and ARA-C resistance in acute leukemia: assessment by flow cytometry and correlation with response to therapy [abstract]. J Chemother Infect Dis Malig 1989;Suppl 1:A480.
- Arceci RJ, Baas F, Housman D, Croop J. Characterization of a monoclonal antibody to an external epitope of the multidrug resistance P-glycoprotein [abstract]. Proc Annu Meet Am Assoc Cancer Res 1989;30:393.
- Arienti F, Gambacorti-Passerini C, Borin L, Rivoltini L, Orazi A, Pogliani EM, Corneo G, Parmiani G. Increased susceptibility to lymphokine activated killer (LAK) lysis of relapsing vs. newly diagnosed acute leukemic cells without changes in drug resistance or in the expression of adhesion molecules. Ann Oncol 1992;3(2):155-62.

- Arkin H, Ohnuma T, Kamen BA, Holland JF, Vallabhajosula S. Multidrug resistance in a human leukemic cell line selected for resistance to trimetrexate. *Cancer Res* 1989 Dec 1;49(23):6556-61.
- Arkin H, Ohnuma T, Schwartz GK, Cuttner J, Holland JF. Lack of staurosporine (STSN) influence on multidrug resistance (MDR) in human leukemic cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2004.
- Arvelo F, Hanania N, Mangin C, Baldeyrou P, Arriagada R, Le Chevalier T, Ruffie P, Poupon MF. Multidrug resistance and *mdr1* gene expression in a human small cell lung carcinoma before treatment. Paper presented at: Symposium on Mechanisms of Drug and Radiation Resistance of Tumor Cells; 1989 Jun 28-30; Villejuif, France.
- Baas F, Jongsma AP, Broxterman HJ, Arceci RJ, Housman D, Scheffer GL, Riethorst A, van Groenigen M, Nieuwint AW, Joenje H. Non-P-glycoprotein mediated mechanism for multidrug resistance precedes P-glycoprotein expression during in vitro selection for doxorubicin resistance in a human lung cancer cell line. *Cancer Res* 1990 Sep 1;50(17):5392-8.
- Bak M Jr, Efferth T, Mickisch G, Mattern J, Volm M. Detection of drug resistance and P-glycoprotein in human renal cell carcinomas. *Eur Urol* 1990; 17(1):72-5.
- Bar-Shira-Maymon B, Michowitz M, Gibli O, Klein O, Pinchasov A, Leibovici J. Effect of a membrane-active agent on uptake of adriamycin in Lewis lung carcinoma cells derived from 'primary' and 'metastatic' growths. *Chemotherapy (Basel)* 1992;38(1):66-73.
- Barrand MA, Twentyman PR. Variations in P-glycoprotein expression in response to drug treatment in mouse tumor cell lines [abstract]. *Br J Cancer* 1991;63 Suppl 13:12.
- Beck WT. Strategies to circumvent multidrug resistance due to P-glycoprotein or to altered DNA topoisomerase II. *Bull Cancer (Paris)* 1990; 77(11):1131-41.
- Beck WT, Qian X, Danks MK. Circumvention of multidrug resistance due to P-glycoprotein or to altered DNA topoisomerase II. Paper presented at: 3rd International Congress on the Neo-adjuvant Chemotherapy; 1991 Feb 6-9; France. (Eng, Fre).
- Beck WT, Qian XD. Photoaffinity substrates for P-glycoprotein. *Biochem Pharmacol* 1992;43(1):89-93.
- Bellamy W, Gleason M, Futscher B, Dalton W. Altered P-glycoprotein (P-170)-mediated doxorubicin (D) resistance in a verapamil (V)-resistant human multiple myeloma cell line [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2181.
- Bellamy WT, Dalton WS, Kailey JM, Gleason MC, McCloskey TM, Dorr RT, Alberts DS. Verapamil reversal of doxorubicin resistance in multidrug-resistant human myeloma cells and association with drug accumulation and DNA damage. *Cancer Res* 1988;48(22):6365-70.
- Bellamy WT, Dorr RT, Dalton WS, Alberts DS. Direct relation of DNA lesions in multidrug-resistant human myeloma cells to intracellular doxorubicin concentration. *Cancer Res* 1988; 48(22):6360-4.
- Benard J, Bourhis J, Hartmann O, Boccon-Gibod L, Duvillard P, Lhomme C, Michel G, Lemerle J, Goldstein L, Gottesman M, et al. Overexpression of human MDR1 gene is related to prior chemotherapy in ovarian carcinomas and in neuroblastomas. Paper presented at: Symposium on Mechanisms of Drug and Radiation Resistance of Tumor Cells; 1989 Jun 28-30; Villejuif, France.
- Benard J, Bourhis J, Riou G. Inducing chemoresistance in the N-myc oncogene and associated genes. Prognostic value for neuroblastoma. *Bull Cancer* 1991;78(1):91-7.
- Benard J, Da Silva J, Teyssier JR, Riou G. Over expression of MDR 1 gene with no DNA amplification in a multiple drug resistant human ovarian carcinoma cell line. *Int J Cancer* 1989;43(3):471-7.
- Benchekroun MM, Schott B, Bennis S, Montaudon D, Robert J. Doxorubicin-induced lipid peroxidation (DILP) and glutathione peroxidase (GPx) activity in multidrug-resistant (MDR) cell lines [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32: A2208.
- Berman E, Adams M, Duigou-Osterndorf R, Godfrey L, Clarkson B, Andreeff M. Effect of tamoxifen on cell lines displaying the multidrug-resistant phenotype. *Blood* 1991 Feb 15;77(4):818-25.
- Berman E, McBride M. Comparative cellular pharmacology of daunorubicin and idarubicin in human multidrug-resistant leukemia cells. *Blood* 1992 Jun 15;79(12):3267-73.
- Berry JM, Brophy NA, Smith SD, Bergstrom SK, Scudder SA, Roninson IB, Sikic BI. Increased expression of the multidrug resistance gene MDR1 in human cancers [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1988;7:A193.
- Berry JM, Swensen RE, Brophy NA, Scudder SA, Sikic BI. Increased expression of the multidrug

- resistance gene *mdr1* in ovarian cancers [abstract]. Proc Annu Meet Am Assoc Cancer Res 1989;30:A2051.
- Bhushan A, Zhang XK, Chiu JF, Mossman B, Tritton TR. Oncogene expression in multidrug resistant sarcoma 180 cells [abstract]. Proc Annu Meet Am Assoc Cancer Res 1988;29:A1207.
- Biedler JL, Chang TD, Scotto KW, Melera PW, Spengler BA. Chromosomal organization of amplified genes in multidrug-resistant Chinese hamster cells. Cancer Res 1988;48(11):3179-87.
- Biedler JL, Meyers MB, Spengler BA. Collateral sensitivity of multidrug-resistant Chinese hamster cells to calcium channel blockers: correlation with P-glycoprotein content [abstract]. Proc Annu Meet Am Assoc Cancer Res 1988;29:A1171.
- Bissett D, Kerr DJ, Cassidy J, Meredith P, Traugott U, Kaye SB. Phase I and pharmacokinetic study of D-verapamil and doxorubicin. Br J Cancer 1991 Dec;64(6):1168-71.
- Boesch D, Gaveriaux C, Jachez B, Pourtier-Manzanedo A, Bollinger P, Loor F. In vivo circumvention of P-glycoprotein-mediated multidrug resistance of tumor cells with SDZ PSC 833. Cancer Res 1991 Aug 15;51(16):4226-33.
- Bourhis J, Goldstein LJ, Riou G, Pastan I, Gottesman MM, Benard J. Expression of a human multidrug resistance gene in ovarian carcinomas. Cancer Res 1989;49(18):5062-5.
- Boven E, Venema E, Erkelens CA, Van Muijen M, Sanders KH, Pinedo HM. Enhancement of drug efficacy by the new calcium channel blocker B8509-035 in the BRO/MDR1.1 model [abstract]. Proc Annu Meet Am Assoc Cancer Res 1992;33:A2876.
- Brigham BA, Gazdar AF, Giaccone G, Oie H, Neckers LM, Tsuruo T, Trepel JB. Doxorubicin exclusion and p170 expression correlated in single cells by multiparameter flow cytometry [abstract]. Proc Annu Meet Am Assoc Cancer Res 1989;30:A2074.
- Broxterman HJ, Kuiper CM, Schuurhuis GJ, Tsuruo T, Pinedo HM, Lankelma J. Increase of daunorubicin and vincristine accumulation in multidrug resistant human ovarian carcinoma cells by a monoclonal antibody reacting with P-glycoprotein. Biochem Pharmacol 1988;37(12):2389-94.
- Broxterman HJ, Pinedo HM, Kuiper CM, Van Der Hoeven JJM, De Lange P, Quak JJ, Scheper RJ, Keizer HG, Jan Schuurhuis G, Lankelma J. Immunohistochemical detection of p-glycoprotein in human tumor cells with a low degree of drug resistance. Int J Cancer 1989;43(2):340-3.
- Broxterman HJ, Pinedo HM, Schuurhuis GJ, Lankelma J. Cyclosporin A and verapamil have different effects on energy metabolism in multidrug-resistant tumour cells. Br J Cancer 1990 Jul;62(1):85-8.
- Broxterman HJ, Schuurhuis GJ, Lankelma J, Baak JP, Pinedo HM. Towards functional screening for multidrug resistant cells in human malignancies. Pezcoller Found Symp 1990;1:309-29.
- Busche R, Tuemmler B, Cano-Gauci DF, Riordan JR. Equilibrium kinetic and photoaffinity labeling studies of daunomycin binding to p-glycoprotein-containing membranes of multidrug-resistant Chinese hamster ovary cells. Eur J Biochem 1989;183(1):189-98.
- Busche R, Tuemmler B, Riordan JR, Cano-Gauci DF. Preparation and utility of a radioiodinated analogue of daunomycin in the study of multidrug resistance. Mol Pharmacol 1989;35(4):414-21.
- Cancer chemotherapy: concepts, clinical investigations and therapeutic advances. Cancer Treat Res 1989; 42:1-238.
- Capranico G, De Isabella P, Castelli C, Supino R, Parmiani G, Zunino F. P-glycoprotein gene amplification and expression in multidrug-resistant murine p388 and b16 cell lines. Br J Cancer 1989; 59(5):682-5.
- Carulli G, Petrini M, Marini A, Vaglini F, Caracciolo F, Grassi B. P-glycoprotein and drug resistance in acute leukemias and in the blastic crisis of chronic myeloid leukemia. Haematologica 1990 Nov-Dec; 75(6):516-21.
- Casazza AM, Catino JJ. Mechanisms and strategies related to drug resistance. Paper presented at: Strategies in Cancer Medical Therapy: Biological Bases and Clinical Implications; 1989 Apr 12-15; Forli, Italy.
- Cervantes A, Pinedo HM, Lankelma J, Schuurhuis GJ. The role of oxygen-derived free radicals in the cytotoxicity of doxorubicin in multidrug resistant and sensitive human ovarian cancer cells. Cancer Lett 1988;41(2):169-78.
- Chambers SK, Hait WN, Kacinski BM, Keyes SR, Handschumacher RE. Enhancement of anthracycline growth inhibition in parent and multidrug-resistant Chinese hamster ovary cells by cyclosporin A and its analogues. Cancer Res 1989; 49(22):6275-9.
- Change BK, Fredericks W, Rustum YM, Baker MR. Levels of P-glycoprotein in pancreatic cancer cell lines: relation to inherent drug resistance [abstract]. Proc Annu Meet Am Soc Clin Oncol 1988;7:A443.
- Chao NJ. Combination of monoclonal antibody and chemotherapy for purging multidrug-resistant cells

- from bone marrow. Paper presented at: 3rd International Symposium on Bone Marrow Purging and Processing; 1991 Oct 3-5; San Diego, CA.
- Coley HM, Twentyman PR, Workman P. 9-Alkyl, morpholinyl anthracyclines in the circumvention of multidrug resistance. *Eur J Cancer* 1990;26(6):665-7.
- Coley HM, Twentyman PR, Workman P. Improved cellular accumulation is characteristic of anthracyclines which retain high activity in multidrug resistant cell lines, alone or in combination with verapamil or cyclosporin A. *Biochem Pharmacol* 1989 Dec 15;38(24):4467-75.
- Coon JS, Knudson W, Clodfelter K, Lu B, Weinstein RS. Solutol HS-15 nontoxic polyoxyethylene esters of 12 hydroxystearic acid reverses multidrug resistance. *Cancer Res* 1991;51(3):897-902.
- Cox CI, Waring JJ, Singh J. Evidence of a role for calcium in multidrug resistance in the murine mammary tumor cell line EMT-6 [abstract]. *J Physiol (Lond)* 1991;438:194P.
- Croop J, Gros P, Housman D. Mutational analysis of a site involved in colchicine resistance in the mouse MDR1 gene [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2166.
- Cumber PM, Jacobs A, Hoy T, Whittaker JA, Tsuruo T, Padua RA. Increased drug accumulation ex vivo with cyclosporin in chronic lymphatic leukemia and its relationship to epitope masking of P-glycoprotein. *Leukemia* 1991 Dec;5(12):1050-3.
- Cuvier C, Roblot-Treupel L, Millot JM, Couvreur P, Manfait M, Poupon MF. Doxorubicin, loaded on nanospheres, bypasses multidrug resistance and is detectable as bound to nuclear DNA by microspectrofluorometry. Paper presented at: Symposium on Mechanisms of Drug and Radiation Resistance of Tumor Cells; 1989 Jun 28-30; Villejuif, France.
- Dalton WS, Grogan TM, Meltzer PS, Scheper RJ, Durie BGM, Taylor CW, Miller TP, Salmon SE. Drug resistance in multiple myeloma and non Hodgkin's lymphoma: Detection of P glycoprotein and potential circumvention by addition of verapamil to chemotherapy. *J Clin Oncol* 1989; 7(4):415-24.
- Dalton WS, Grogan TM, Rybski JA, Scheper RJ, Richter L, Kailey J, Broxterman HJ, Pinedo HM, Salmon SE. Immunohistochemical detection and quantitation of P-glycoprotein in multiple drug-resistant human myeloma cells: association with level of drug resistance and drug accumulation. *Blood* 1989 Feb 15;73(3):747-52.
- Danks MK, Funabiki T, Beck WT. Functional assay for multiple drug resistance (MDR) distinguishes MDR associated with P-glycoprotein (PGP-MDR) from MDR associated with altered topoisomerase II (topo II; at-MDR) [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2102.
- Davis J, Bines S, Economou S, Roninson I, Chaudhary P, Coon J. Solutol HS 15 reverses multiple drug resistance in a human MDR-1-mouse melanoma system [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1991;10:A200.
- de Vries EG, Zijlstra JG, Mulder NH. Morpholinyl anthracyclines: option for reversal of anthracycline resistance. Paper presented at: 3rd International Congress on the Neo-adjuvant Chemotherapy; 1991 Feb 6-9; Paris. (Eng, Fre).
- Deffie AM, Alam T, Seneviratne C, Beenken SW, Batra JK, Shea TC, Henner WD, Goldenberg GJ. Multifactorial resistance to adriamycin relationship of DNA repair glutathione transferase activity drug efflux and P-glycoprotein in cloned cell lines of adriamycin-sensitive and adriamycin-resistant P388 leukemia. *Cancer Res* 1988;48(13):3595-602.
- Degregorio MW, Ford JM, Benz CC, Wiebe VJ. Toremifene pharmacologic and pharmacokinetic basis of reversing multidrug resistance. *J Clin Oncol* 1989;7(9):1359-64.
- Demant EJ, Sehested M, Jensen PB. A model for computer simulation of P-glycoprotein and transmembrane delta pH-mediated anthracycline transport in multidrug-resistant tumor cells. *Biochim Biophys Acta* 1990 Nov 12;1055(2):117-25.
- Demant EJ, Sehested M, Jensen PB. Computer simulation of P-glycoprotein (P-gp) transmembrane delta ph-mediated, and exocytotic daunorubicin (DNR) transport in multidrug resistant (MDR) tumor cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2182.
- Demidova NS, Chernova OB, Siyanova EY, Goncharova AS, Kopnin BP. Newly formed chromosome-like structures in independent mouse P388 sublines with developed in vivo mdr1 gene amplification. *Somat Cell Mol Genet* 1991 Nov; 17(6):581-90.
- Devine SE, Ling V, Melera PW. Amino acid substitutions in P-glycoprotein alter multidrug resistance [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2837.
- Devine SE, Ling V, Melera PW. Point mutations in the pgp1 (p-glycoprotein) gene [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2156.
- DiCicco L, Gordon K, Wellham L, Thornburgh T, Krishan A. Cellular differentiation and daunorubicin retention [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2085.

- Dimeric vinca alkaloids that reverse MDR. *Curr Opin Ther Pat* 1992;2(1):3-4.
- Dorr RT. Mitomycin, ifosfamide, and mesna in the treatment of lung cancer. *Semin Oncol* 1990 Aug;17(4 Suppl 7):2-5.
- Dorr RT, Liddil JD. Modulation of mitomycin C-induced multidrug resistance in-vitro. *Cancer Chemother Pharmacol* 1991;27(4):290-4.
- Duran GE, Lewis AD, Saad A, Hahn G, Sikic BI. Measurement of voltage-dependent K⁺ channels in multidrug resistant and wild-type human cell lines: effect of triethylammonium on doxorubicin resistance [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2824.
- Durand RE. Slow penetration of anthracyclines into spheroids and tumors: a therapeutic advantage? *Cancer Chemother Pharmacol* 1990;26(3):198-204.
- Durand RE, LePard NE. Doxorubicin uptake and efflux in spheroids of human WiDR versus hamster V79 cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2172.
- Durie BGM, Dalton WS. Reversal of drug resistance in multiple myeloma with verapamil. *Br J Haematol* 1988;68(2):203-6.
- Efferth T, Klett T, Mattern J, Osswald H, Pommerenke EW, Stohr M, Volm M. Reversing multidrug resistance in L1210 tumor cells by hycanthone or chlorophenoxamine in vitro and in vivo. *Anticancer Res* 1991 May-Jun;11(3):1275-9.
- Efferth T, Lohrke H, Volm M. Correlations between natural resistance to doxorubicin, proliferative activity, and expression of P-glycoprotein 170 in human kidney tumor cell lines. *Urol Res* 1990; 18(5):309-12.
- Ellis AL, Gewirtz DA, Munger C, Woods KE, Randolph JK, Boise L, Yanovich S. Multifactorial drug resistance in the rat hepatoma [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A1999.
- Ellis AL, Munger CE, Bunch RT, Woods KE, Randolph JK, Boise L, Swerdlow PS, Zwelling LA, Hinds M, Yanovich S, et al. Components of intrinsic drug resistance in the rat hepatoma. *Biochem Pharmacol* 1992 Jan 22;43(2):331-42.
- Epstein J, Xiao H, Oba BK. P-glycoprotein expression in plasma cell myeloma is associated with resistance to VAD. *Blood* 1989;74(3):913-7.
- Fairchild CR, Cowan KH. Keynote address: Multidrug resistance: a pleiotropic response to cytotoxic drugs. *Int J Radiat Oncol Biol Phys* 1991 Feb;20(2):361-7.
- Fairchild CR, Ivy SP, Kao Shan CS, Whang Peng J, Rosen N, Israel MA, Melera PW, Cowan KH, Goldsmith ME. Isolation of amplified and overexpressed DNA sequences from Adriamycin resistant human breast cancer cells. *Cancer Res* 1987;47(19):5141-8.
- Fairchild CR, Moscow JA, O'Brien EE, Cowan KH. Multidrug resistance in cells transfected with human genes encoding a variant P-glycoprotein and glutathione S-transferase-pi. *Mol Pharmacol* 1990 Jun;37(6):801-9.
- Fardel O, Ratanasavanh D, Loyer P, Ketterer B, Guillouzo A. Overexpression of the multidrug resistance gene product in adult rat hepatocytes during primary culture. *Eur J Biochem* 1992 Apr 15;205(2):847-52.
- Ferguson PJ, Cheng YC. Phenotypic instability of drug sensitivity in a human colon carcinoma cell line. *Cancer Res* 1989;49(5):1148-53.
- Ferrandis E, Da Silva J, Renaud L, Riou G, Benard J. Expression of MDR1 and c-myc genes during the acquisition of a typical MDR phenotype in human doxorubicin-resistant ovarian cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2158.
- Fine RL, Monks A, Patel J, Jett M, Ahn C, Anderson W, Shoemaker R, Chabner BA. Staurosporine a potent inhibitor of protein kinase C is equally toxic to sensitive and multidrug-resistant mdr human cancer cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:301.
- Fine RL, Patel J, Chabner BA. Phorbol esters induce multidrug resistance in human breast cancer cells. *Proc Natl Acad Sci U S A* 1988;85(2):582-6.
- Fine RM. Multidrug resistance. *Cancer Chemother Biol Response Modif* 1988;10:73-84.
- Finlay GJ, Baguley BC, Snow K, Judd W. Multiple patterns of resistance of human leukemia cell sublines to amsacrine analogues. *J Natl Cancer Inst* 1990 Apr 18;82(8):662-7.
- Fojo T, McAtee N, Allegra C, Bates S, Mickley L, Keiser H, Linehan M, Steinberg S, Tucker E, Goldstein L, et al. Use of quinidine and amiodarone to modulate multidrug resistance mediated by the mdrl gene [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1989;8:A262.
- Ford JM, Bruggemann EP, Pastan I, Gottesman MM, Hait WN. Cellular and biochemical characterization of thioxanthenes for reversal of multidrug resistance in human and murine cell lines. *Cancer Res* 1990 Mar 15;50(6):1748-56.
- Ford JM, Hait WN. Further characterization of the thioxanthene class of multidrug resistance antagonists [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:570.

- Ford JM, Prozialeck WC, Hait WN. Identification of active pharmaceuticals against multi-drug resistance through structure activity relationships of calmodulin antagonists [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:313.
- Ford JM, Prozialeck WC, Hait WN. Structural features determining activity of phenothiazines and related drugs for inhibition of cell growth and reversal of multidrug resistance. *Mol Pharmacol* 1989;35(1):105-15.
- Ford JM, Yang JM, Hait WN. Effect of buthionine sulfoximine on toxicity of verapamil and doxorubicin to multidrug resistant cells and to mice. *Cancer Res* 1991;51(1):67-72.
- Frezard F, Garnier-Suillerot A. Comparison of the membrane transport of anthracycline derivatives in drug-resistant and drug-sensitive K562 cells. *Eur J Biochem* 1991 Mar 14;196(2):483-91.
- Friche E, Jensen PB, Nissen NI. Comparison of cyclosporin A and SDZ PSC833 as multidrug-resistance modulators in a daunorubicin-resistant Ehrlich ascites tumor. *Cancer Chemother Pharmacol* 1992;30(3):235-7.
- Friche E, Jensen PB, Sehested M, Demant EJ, Nissen NN. The solvents cremophor EL and Tween 80 modulate daunorubicin resistance in the multidrug resistant Ehrlich ascites tumor. *Cancer Commun* 1990;2(9):297-303.
- Friche E, Skovsgaard T, Nissen NI. Anthracycline resistance. *Acta Oncol* 1989;28(6):877-81.
- Fry DW, Besserer JA. Characterization of trimetrexate transport in human lymphoblastoid cells and development of impaired influx as a mechanism of resistance to lipophilic antifolates. *Cancer Res* 1988;48(24 Pt 1):6986-91.
- Ganapathi R, Grabowski D, Ford J, Heiss C, Kerrigan D, Pommier Y. Progressive resistance to doxorubicin in mouse leukemia L1210 cells with multidrug resistance phenotype: reductions in drug-induced topoisomerase II-mediated DNA cleavage. *Cancer Commun* 1989;1(4):217-24.
- Ganapathi R, Kuo T, Teeter L, Grabowski D, Ford J. Relationship between expression of P-glycoprotein and efficacy of trifluoperazine in multidrug-resistant cells. *Mol Pharmacol* 1991 Jan;39(1):1-8.
- Garozzo A, Allegra E. P-glycoprotein expression in relation to natural resistance in untreated head and neck solid tumours [abstract]. *Eur J Cancer* 1991;27 Suppl 3:S42.
- Genne P, Dimanche-Boitrel MT, Mauvernay RY, Gutierrez G, Duchamp O, Petit JM, Martin F, Chauffert B. Cinchonine, a potent efflux inhibitor to circumvent anthracycline resistance in vivo. *Cancer Res* 1992 May 15;52(10):2797-801.
- Geromin A, Signor M, Vigevani E, Michieli M, Michelutti A, Damiani D, Fasola G, Baccarani M. A prospective evaluation of P170 glycoprotein in normal blood mononuclear cells during chemotherapy [abstract]. *Haematologica* 1991; 76 Suppl 4:75.
- Gervasoni JE Jr, Fields SZ, Krishna S, Baker MA, Rosado M, Thuraisamy K, Hindenburg AA, Taub RN. Subcellular distribution of daunorubicin in P-glycoprotein-positive and -negative drug-resistant cell lines using laser-assisted confocal microscopy. *Cancer Res* 1991 Sep 15;51(18):4955-63.
- Gessner T, Arredondo M, Vaughan LA, Welch JJ, Rustum YM. Effects of model conjugates on accumulation of adriamycin (ADR) in multidrug-resistant (MDR) cells [abstract]. *FASEB J* 1991; 5(6):A1564.
- Gheuens EE, van Bockstaele DR, van der Keur M, Tanke HJ, van Oosterom AT, De Bruijn EA. Flow cytometric double labeling technique for screening of multidrug resistance. *Cytome* 1991; 12(7):636-44.
- Goldstein LJ, Fojo A, Ueda K, Crist W, Green A, Brodeur G, Pastan I, Gottesman MM. Expression of a human multidrug resistance gene in neuroblastomas [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2038.
- Goldstein LJ, Fojo AT, Ueda K, Crist W, Green A, Brodeur G, Pastan I, Gottesman MM. Expression of the multidrug resistance, MDR1, gene in neuroblastomas. *J Clin Oncol* 1990 Jan;8(1): 128-36.
- Gollapudi S, McDonald T, Gardner P, Kang N, Gupta S. Role of chloride channels in multidrug resistance [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2192.
- Gollapudi S, Patel K, Jain V, Gupta S. Protein kinase C isoforms in multidrug resistant P388/ADR cells: a possible role in daunorubicin transport. *Cancer Lett* 1992 Feb 14;62(1):69-75.
- Gollapudi S, Patel K, Nguyen E, Gupta S. Effect of calphostin, a specific inhibitor of protein kinase C (PKC), on daunorubicin transport and cytotoxicity in multidrug-resistant (MDR) P388/ADR and HL60/AR cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2734.
- Gosland MP, Lum BL, Sikic BI. Reversal by cefoperazone of resistance to etoposide, doxorubicin, and vinblastine in multidrug resistant human sarcoma cells. *Cancer Res* 1989 Dec 15; 49(24 Pt 1):6901-5.

- Gottesman MM, Goldstein LJ, Pastan I. Expression of the multidrug-resistance (MDR1) gene in breast cancer and other cancers. Paper presented at: Biennial International Breast Cancer Research Conference; 1989 Mar 5-9; Tel Aviv University, Tel Aviv.
- Gottesman MM, Goldstein LJ, Willingham MC, Pastan I. Molecular biology of a human multidrug transporter. Paper presented at: Molecular diagnostics of human cancer. Cold Spring Harbor Meeting on Cancer Cells; 1988 Sep 7-11; Cold Spring Harbor, NY.
- Gottesman MM, Pastan I. Mechanism and function of the multidrug transporter [abstract]. Proc Annu Meet Am Assoc Cancer Res 1990;31:517-8.
- Gottesman MM, Pastan I. A membrane protein that transports natural product cytotoxic drugs. Sero Symp Publ Raven Press 1989;64:81-7.
- Grandi M, Capolongo L, Ballinari D, Giuliani FC, Mongelli N. Cytotoxicity and intracellular levels of distamycin A in sensitive and DX-resistant cells [abstract]. Proc Annu Meet Am Assoc Cancer Res 1989;30:A2015.
- Greenberger LM, Lisanti CJ, Silva JT, Horwitz SB. Domain mapping of the photoaffinity drug-binding sites in P-glycoprotein encoded by mouse *mdr1b*. J Biol Chem 1991 Nov 5;266(31):20744-51.
- Greenberger LM, Lothstein L, Hsu SI, Depinho SG, Horwitz SB. The p-glycoprotein gene family regulated gene switching correlates with altered phenotype [abstract]. J Cell Biol 1988;107(6 Pt 3):366A.
- Greenberger LM, Yang CP, Gindin E, Horwitz SB. Photoaffinity probes for the alpha 1-adrenergic receptor and the calcium channel bind to a common domain in P-glycoprotein. J Biol Chem 1990 Mar 15;265(8):4394-401.
- Grinchuk TM, Ignatova TI, Sorokina EA, Pan'Shina AT, Artsybasheva IV. [Amplification and structural changes in the chromosomes of the Chinese hamster V-79 RJK with multiple drug resistance selected in the presence of adriamycin and ethidium bromide (abstract)]. Tsitologiya 1988;30(9):1127. (Rus).
- Grogan T, Dalton W, Rybski J, Spier C, Meltzer P, Richter L, Gleason M, Pindur J, Cline A, Scheper R, et al. Optimization of immunocytochemical P-glycoprotein assessment in multidrug-resistant plasma cell myeloma using three antibodies. Lab Invest 1990 Dec;63(6):815-24.
- Grogan TM, Dalton WS, Rybski J, Miller T, Spier C, Salmon S. P-glycoprotein staining predicts intrinsic doxorubicin resistance in patients with myeloma and lymphoma [abstract]. Lab Invest 1989;60(1):36A.
- Gros P, Talbot F, Tang-Wai D, Bibi E, Kaback HR. Lipophilic cations: a group of model substrates for the multidrug-resistance transporter. Biochemistry 1992 Feb 25;31(7):1992-8.
- Guild BC, Mulligan RC, Gros P, Housman DE. Retroviral transfer of a murine complementary DNA for multidrug resistance confers pleiotropic drug resistance to cells without prior drug selection. Proc Natl Acad Sci U S A 1988;85(5):1595-9.
- Guilfoile PG, Hutchinson CR. A bacterial analog of the *mdr* gene of mammalian tumor cells is present in *Streptomyces peucetius*, the producer of daunorubicin and doxorubicin. Proc Natl Acad Sci U S A 1991 Oct 1;88(19):8553-7.
- Gupta RS, Murray W, Gupta R. Cross resistance pattern towards anticancer drugs of a human carcinoma multidrug-resistant cell line. Br J Cancer 1988;58(4):441-7.
- Gupta S, Kim J, Gollapudi S. Reversal of daunorubicin resistance in P388/ADR cells by itraconazole. J Clin Invest 1991 Apr;87(4):1467-9.
- Haas C, Born J, Noland B, Wink B, Mann P, Gasparovic C, Matwiyoff N. Increased killing of multidrug-resistant KBV-1 cells by a trifluoromethyl acridine analog of quinacrine [abstract]. Proc Annu Meet Am Assoc Cancer Res 1992;33:A3136.
- Haber M, Reed C, Kavallaris M, Norris MD, Stewart BW. Resistance to drugs associated with the multidrug resistance phenotype following selection with high-concentration methotrexate. J Natl Cancer Inst 1989;81(16):1250-54.
- Hait WN, Aftab DT. Rational design and pre-clinical pharmacology of drugs for reversing multidrug resistance. Biochem Pharmacol 1992;43(1):103-7.
- Hait WN, Choudhury S, Srimatkandada V. Characterization of a human chronic myelogenous leukemia cell line expressing the multidrug resistance gene [abstract]. Proc Annu Meet Am Assoc Cancer Res 1991;32:A2186.
- Hait WN, Gesmonde JF, Murren JR, Ahmad H, Reiss M, Yang JM. Terfenadine (seldane): a potent sensitizer of multidrug-resistant cells [abstract]. Proc Annu Meet Am Assoc Cancer Res 1992;33:A2863.
- Hait WN, Stein JM, Koletsky AJ, Harding MW, Handschumacher RE. Activity of cyclosporin A and a non-immunosuppressive cyclosporin against multidrug resistant leukemic cell lines. Cancer Commun 1989;1(1):35-43.
- Handler JS, Horio M, Willingham M, Pastan I, Gottesman MM. Polar localization of the multidrug resistance transporter in epithelia results in transepithelial transport of substrates. In: Berliner RW, Honda N, Ullrich KJ, editors. The frontiers of

- nephrology. International Forum; 1989 Aug 24-25; Tokyo, Japan. Amsterdam (Netherlands): Elsevier Science Publishers; 1990. p. 129-38. (International congress series; 877).
- Harder S. Verapamil, a promising agent for circumvention of multidrug-resistance. *Onkologie* 1991;14(3):212-7.
- Harker WG, Tom C, McGregor JR, Slade L, Samlowski WE. Human tumor cell line resistance to chemotherapeutic agents does not predict resistance to natural killer or lymphokine-activated killer cell-mediated cytotoxicity. *Cancer Res* 1990 Sep 15;50(18):5931-6.
- Harris AL. Mechanisms of cytotoxic drug resistance in breast cancer. Paper presented at: Biennial International Breast Cancer Research Conference; 1989 Mar 5-9; Tel Aviv University, Tel Aviv.
- Harris AL, Hochhauser D. Mechanisms of multidrug resistance in cancer treatment. *Acta Oncol* 1992; 31(2):205-13.
- Harris JE, Coon JS, Anderson KM. Selective reversal of multidrug resistance by 5,8,11,14-Eicosatetraynoic acid (ETYA) [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2907.
- Hasmann M, Valet GK, Tapiero H, Trevorrow K, Lampidis T. Membrane potential differences between adriamycin-sensitive and resistant cells as measured by flow cytometry. *Biochem Pharmacol* 1989;38(2):305-12.
- Haussermann K, Benz B, Gekeler V, Schumacher K, Eichelbaum M. Effects of verapamil enantiomers and major metabolites on the cytotoxicity of vincristine and daunomycin in human lymphoma cell lines. *Eur J Clin Pharmacol* 1991;40(1):53-9.
- Hayakawa Y, Ha SC, Kim YJ, Furihata K, Seto H. Studies on the isotetracenone antibiotics. IV. Hatomarubigins A, B, C and D, new isotetracenone antibiotics effective against multidrug-resistant tumor cells. *J Antibiot (Tokyo)* 1991 Nov;44(11): 1179-86.
- Hegewisch-Becker S, Fliegner M, Hossfeld D, Zander A. Clinical relevance of P-glycoprotein expression and drug uptake [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2584.
- Henderson DM, Sifri CD, Rodgers M, Wirth DF, Hendrickson N, Ullman B. Multidrug resistance in *Leishmania donovani* is conferred by amplification of a gene homologous to the mammalian *mdr1* gene. *Mol Cell Biol* 1992 Jun;12(6):2855-65.
- Hendricks CB, Rowinsky EK, Grochow LB, Donehower RC, Kaufmann SH. Effect of P-glycoprotein expression on the accumulation and cytotoxicity of topotecan (SK&F 104864), a new camptothecin analogue. *Cancer Res* 1992 Apr 15; 52(8):2268-78.
- Herweijer H, Sonneveld P, Baas F, Nooter K. Expression of *mdr1* and *mdr3* multidrug-resistance genes in human acute and chronic leukemias and association with stimulation of drug accumulation by cyclosporine. *J Natl Cancer Inst* 1990 Jul 4; 82(13):1133-40.
- Herweijer H, Van Den Engh G, Nooter K. A rapid and sensitive flow cytometric method for the detection of multidrug-resistant cells. *Cytometry* 1989;10(4):463-8.
- Hill B, Deuchars K, Ling V, Hosking L, Whelan RD. Significant overexpression of P-glycoprotein by mammalian tumor cells following in vitro exposure to fractionated x-irradiation [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2067.
- Hoffmann D, Gerken M, Hermentin P, Sedlacek HH. B 880308 -- a new anthracycline derivative demonstrating maintained activity against multidrug resistant cell lines [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2410.
- Hofmann J, Ueberall F, Egle A, Grunicke H. B-859-35, a new drug with anti-tumor activity reverses multi-drug resistance. *Int J Cancer* 1991;47(6):870-4.
- Hofsli E. Multimedikamentresistens - teoretiske og kliniske aspekter [Multidrug resistance - theoretical and clinical aspects]. *Tidsskr Nor Laegeforen* 1992;112(4):472-4. (Nor).
- Hofsli E, Nissen-Meyer J. Effect of erythromycin and tumor necrosis factor on the drug resistance of multidrug-resistant cells reversal of drug resistance by erythromycin. *Int J Cancer* 1989;43(3):520-5.
- Hofsli E, Nissen-Meyer J. Reversal of drug resistance by erythromycin. Erythromycin increases the accumulation of actinomycin D and doxorubicin in multidrug-resistant cells. *Int J Cancer* 1989; 44(1):149-54.
- Hofsli E, Nissen-Meyer J. Reversal of multidrug resistance by lipophilic drugs. *Cancer Res* 1990 Jul 1;50(13):3997-4002.
- Horio M, Gottesman MM, Pastan I. ATP dependent transport of vinblastine in vesicles from human multidrug resistant cells. *Proc Natl Acad Sci U S A* 1988;85(10):3580-4.
- Howell SB, Vick JS, Sanga R. Synergistic potentiation of etoposide, doxorubicin, and vinblastine activity by dipyrindamole [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1988;7:A213.
- Hsing S, Gatmaitan Z, Arias IM. The function of Gp170, the multidrug-resistance gene product, in the brush border of rat intestinal mucosa. *Gastroenterology* 1992 Mar;102(3):879-85.

- Hu XF, Nadalin G, De Luise M, Martin TJ, Wakeling A, Huggins R, Zalberg JR. Circumvention of doxorubicin resistance in multi-drug resistant human leukemia and lung cancer cells by the pure antiestrogen ICI-164384. *Eur J Cancer* 1991;27(6):773-7.
- Huet S, Schott B, Robert J. P-glycoprotein overexpression cannot explain the complete doxorubicin-resistance phenotype in rat glioblastoma cell lines. *Br J Cancer* 1992 Apr;65(4):538-44.
- Husain SR, Sela S, Rafaeloff R, Potkul RK, Rahman A. Combination of verapamil and liposomal encapsulated doxorubicin (LED) potentiates cytotoxicity in MCF-7/ADR cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2882.
- Ishida Y, Ohtsu T, Hamada H, Sugimoto Y, Tobinai K, Minato K, Tsuruo T, Shimoyama M. Multidrug resistance in cultured human leukemia and lymphoma cell lines detected by a monoclonal antibody, MRK16. *Jpn J Cancer Res* 1989 Oct;80(10):1006-13.
- Ishii S, Nagasawa M, Kariya Y, Yamamoto H, Inouye S, Kondo S. Antitumor activity of pyrindamycins A and B. *J Antibiot (Tokyo)* 1989 Nov;42(11):1713-7.
- Ishikawa T, Mueller M, Klunemann C, Schaub T, Keppler D. ATP-dependent primary active transport of cysteinyl leukotrienes across liver canalicular membrane. Role of the ATP-dependent transport system for glutathione S-conjugates. *J Biol Chem* 1990;265(31):19279-86.
- Jackson RC, Leopold WR, Sebolt JS. Biochemical and experimental chemotherapy studies of the pyrazoloacridines [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:536-8.
- Jaffrezou JP, Herbert JM, Levade T, Chatelain P, Laurent G. Reversal of multidrug resistance by novel indolizine calcium channel blockers: relationship with sphingosine content and modulation of protein kinase C activity [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2222.
- Jaffrezou JP, Herbert JM, Levade T, Gau MN, Chatelain P, Laurent G. Reversal of multidrug resistance by calcium channel blocker SR33557 without photoaffinity labeling of P-glycoprotein. *J Biol Chem* 1991 Oct 15;266(29):19858-64.
- Jamali MAA, Yin MB, Mazzoni A, Bankusli I, Rustum YM. Relationship between cytotoxicity drug accumulation DNA damage and repair of human ovarian cancer cells treated with doxorubicin modulation by the tiapamil analog RO-11-2933. *Cancer Chemother Pharmacol* 1989;25(2):77-83.
- Jolicoeur-Paquet L, Naismith AL, Costello PC, Riordan JR. P-glycoprotein is expressed in the brain and recognizes some analgesic drugs [abstract]. *FASEB J* 1989;3(3):A424.
- Kaida S. [Study about the mechanism of drug resistance in hematopoietic tumor cells the expression of multidrug-resistance gene 1 and proto-oncogene c-myc]. *Tokyo Jikeikai Med J* 1989;104(5):843-52. (Jpn).
- Takehi Y, Kanamaru H, Yoshida O, Ohkubo H, Nakanishi S, Gottesman MM, Pastan I. Measurement of multidrug-resistance messenger RNA in urogenital cancers elevated expression in renal cell carcinoma is associated with intrinsic drug resistance. *J Urol* 1988;139(4):862-5.
- Kamath N, Grabowski D, Ford J, Drake F, Kerrigan D, Pommier Y, Ganapathi R. Trifluoperazine modulation of resistance to the topoisomerase II inhibitor etoposide in doxorubicin resistant L1210 murine leukemia cells. *Cancer Commun* 1991 Feb;3(2):37-44.
- Kanamaru H, Takehi Y, Yoshida O, Nakanishi S, Pastan I, Gottesman MM. Mdr1 RNA levels in human renal cell carcinomas correlation with grade and prediction of reversal of doxorubicin resistance by quinidine in tumor explants. *J Natl Cancer Inst* 1989;81(11):844-9.
- Kane SE, Gottesman MM. Multidrug resistance in the laboratory and clinic. *Cancer Cells Mon Rev* 1989;1(1):33-6.
- Kaye SB, Kerr DJ. Multidrug resistance: clinical relevance in hematological malignancies. *Blood Rev* 1991;5(1):38-41.
- Keith WN, Stallard S, Brown R. Expression of mdr1 and gst-pi in human breast tumours: comparison to in vitro chemosensitivity. *Br J Cancer* 1990 May;61(5):712-6.
- Keizer HG, Joenje H. Increased cytosolic pH in multidrug-resistant human lung tumor cells effect of verapamil. *J Natl Cancer Inst* 1989;81(8):706-9.
- Keizer HG, Schuurhuis GJ, Broxterman HJ, Lankelma J, Schoonen WGEJ, Van Rijn J, Pinedo HM, Joenje H. Correlation of multidrug resistance with decreased drug accumulation altered subcellular drug distribution and increased p-glycoprotein expression in cultured sw-1573 human lung tumor cells. *Cancer Res* 1989;49(11):2988-93.
- Keller RP, Altermatt HJ, Nooter K, Poschmann G, Laissue JA, Bollinger P, Hiestand PC. SDZ PSC-833, a non-immunosuppressive cyclosporine: its potency in overcoming P-glycoprotein-mediated

- multidrug resistance of murine leukemia. *Int J Cancer* 1992 Feb 20;50(4):593-7.
- Kessel D. Effects of phorbol esters on doxorubicin transport systems. *Biochem Pharmacol* 1988; 37(11):2297-3000.
- Kessel D, Beck WT, Kukuruga D, Schulz V. Characterization of multidrug resistance by fluorescent dyes. *Cancer Res* 1991 Sep 1;51(17): 4665-70.
- Kessel D, Erickson C. Porphyrin photosensitization of multi-drug resistant cell types. *Photochem Photobiol* 1992 Mar;55(3):397-9.
- Kim R, Hirabayashi N, Nishiyama M, Aogi K, Toge T. Clinical significance of P-glycoprotein expression analyzed by immunohistochemical staining in cancer tissues. *Jpn J Surg* 1991;21(5):590-3.
- Kim R, Saeki T, Takagami S, Kirihara Y, Jinushi K, Nishiyama M, Niimoto M, Hattori T, Okada K. Prediction of the resistance of human tumors to adriamycin by chemosensitivity tests and DNA analysis of the multidrug resistance gene. *Jpn J Surg* 1990 Mar;20(2):192-6.
- Kimura K, Naito S, Soejima T, Sakamoto N, Kotoh S, Kumazawa J, Tsuruo T. Establishment and characterization of doxorubicin-resistant human bladder cancer cell line KK47/ADM. *J Urol* 1992 Aug;148(2 Pt 1):441-5.
- Klohs WD, Steinkampf RW. The effect of lysosomotropic agents and secretory inhibitors on anthracycline retention and activity in multiple drug-resistant cells. *Mol Pharmacol* 1988;34(2): 180-5.
- Klugmann FB, Decorti G, Crivellato E, Candussio L, Mallardi F, Baldini L. Effect of lysosomotropic and membrane active substances on adriamycin uptake and histamine release. *Anticancer Res* 1990 Nov-Dec;10(6):1571-7.
- Knick VC, Miller CG. In vivo derivation of a murine P388 leukemia subline resistant to 5'-nor-anhydrovinblastine (navelbine) and its cross-resistance profile [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2759.
- Knight C, Slade DL, Harker WG. Multidrug resistance in mitoxantrone-selected CEM leukemia cells appears to be unrelated to P-glycoprotein expression [abstract]. *Clin Res* 1991;39(1):68A.
- Krapcho AP, Getahun Z, Avery KL Jr, Vargas KJ, Hacker MP, Spinelli S, Pezzoni G, Manzotti C. Synthesis and antitumor evaluations of symmetrically and unsymmetrically substituted 1,4-bis[(aminoalkyl)amino]anthracene-9,10-diones and 1,4-bis[(aminoalkyl)amino]-5,8-dihydroxyanthracene-9,10-diones. *J Med Chem* 1991 Aug;34(8):2373-80.
- Kulkarni SS, Wang ZM, Spitzer G, Taha M, Hamada H, Tsuruo T, Dicke KA. Elimination of drug-resistant myeloma tumor cell lines by monoclonal anti-P-glycoprotein antibody and rabbit complement. *Blood* 1989 Nov 1;74(6):2244-51.
- Lahmy S, Salmon JM, Vigo J, Viallet P. Identification of multi-drug resistant cells in sensitive Friend leukemia cells by quantitative videomicrofluorimetry. *Cell Biochem Funct* 1992 Mar;10(1):9-17.
- Lampidis TJ, Fourcade A, Tapiero H. Relationship of membrane potential to acquired and intrinsic multiple drug resistance. In: Jacquillat C, Weil M, Khayat D, editors. *Chimiotherapie neo-adjuvante [Neo-adjuvant chemotherapy]*. 2nd International Congress; 1988 Feb 19-21; Paris. Paris: Les Editions Inserm; 1988. p. 655-60. (Colloque INSERM; 169).
- Lampidis TJ, Kolonias D, Tapiero H, Savaraj N, Cahn J. In-vitro cardiac potencies of multi-drug resistance modulators [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1990;31:373.
- Lankelma J, Muelder HS, Van Mourik F, Wong Fong Sang HW, Kraayenhof R, Van Grondelle R. Cellular daunomycin fluorescence in multidrug resistant 2780A-D cells and its relation to cellular drug localization. *Biochim Biophys Acta* 1991; 1093(2-3):147-52.
- LaQuaglia MP, Kopp EB, Spengler BA, Meyers MB, Biedler JL. Multidrug resistance in human neuroblastoma cells. *J Pediatr Surg* 1991 Sep; 26(9):1107-12.
- Larsen AK, Jacquemin-Sablon A. Multiple resistance mechanisms in Chinese hamster cells resistant to 9-hydroxyellipticine. *Cancer Res* 1989 Dec 15; 49(24 Pt 1):7115-9.
- Larsson R, Bergh J, Nygren P. Combination of cyclosporin A and buthionine sulfoximine (BSO) as a pharmacological strategy for circumvention of multidrug resistance in small cell lung cancer cell lines selected for resistance to doxorubicin. *Anticancer Res* 1991 Jan-Feb;11(1):455-9.
- Lee KY, Park JG, Gazdar AF, Goldstein LJ, Hwang ES, Kim JP. Correlation between MDR1 gene expression and in vitro drug sensitivity testing (DST) of human cancer cell lines [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1990;9:A219.
- Lehnert M, Emerson S, Kunke K, Dalton WS, Salmon SE. Combined chemosensitization for reversing MDR1: synergism of verapamil with quinine but antagonism with quinidine [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2244.

- Lehnert M, Kunke K, Dalton WS, Roe D, Dorr RT, Salmon SE. In vivo concentration of serum proteins significantly inhibits reversal of P-glycoprotein-mediated drug resistance by some chemosensitizers [abstract]. Proc Annu Meet Am Assoc Cancer Res 1990;31:A2250.
- Lemontt JF, Azzaria M, Gros P. Increased mdr gene expression and decreased drug accumulation in multidrug-resistant human melanoma cells. Cancer Res 1988;48(22):6348-53.
- Licht T, Fiebig HH, Bross KJ, Herrmann F, Berger DP, Shoemaker R, Mertelsmann R. Induction of multiple-drug resistance during anti-neoplastic chemotherapy in vitro. Int J Cancer 1991 Oct 21; 49(4):630-7.
- Liddil JD, Dorr RT, Dalton WS, Salmon SE. Correlation of multidrug resistance (MDR) to recombinant tumor necrosis factor (RTNF) sensitivity based on lysosomal enzyme activity [abstract]. Proc Annu Meet Am Soc Clin Oncol 1988;7:A192.
- Liley DTJ, Wiggins PM, Baguley BC. Localization of a nonintercalative DNA binding antitumor drug in mitochondria relationship to multidrug resistance. Eur J Cancer Clin Oncol 1989;25(9):1287-94.
- Limonta M, Ubezio P. [Anthracycline resistance: cytofluorometric study on infantile lymphoblastic leukemia]. Medicina (Firenze) 1989 Oct-Dec;9(4): 406-8. (Ita).
- Lincke CR, van der Blik AM, Schuurhuis GJ, van der Velde-Koerts T, Smit JJ, Borst P. Multidrug resistance phenotype of human BRO melanoma cells transfected with a wild-type human mdr1 complementary DNA. Cancer Res 1990 Mar 15; 50(6):1779-85.
- List AF, Spier C, Greer J, Azar C, Hutter J, Wolff S, Salmon S, Futscher B, Dalton W. Biochemical modulation of anthracycline resistance in acute leukemia with cyclosporin-A (CSA) [abstract]. Proc Annu Meet Am Soc Clin Oncol 1992;11: A865.
- Lock RB, Hill BT. Differential patterns of anti-tumour drug responses and mechanisms of resistance in a series of independently derived VP 16 resistant human tumour cell lines. Int J Cancer 1988; 42(3):373-81.
- Long BH, Wang L, Lorico A, Brattain MG, Casazza AM. Mechanisms of resistance to etoposide VP-16 and teniposide VM-26 in acquired resistant human colon and lung carcinoma cell lines [abstract]. Proc Annu Meet Am Assoc Cancer Res 1989;30:507.
- Long JP Jr, Prout GR Jr, Wong YK, Lin CW. The effect of verapamil on a multi-drug resistant bladder carcinoma cell line and its potential as an intravesical chemotherapeutic agent. J Urol 1990 May;143(5):1053-6.
- Loor F, Boesch D, Gaveriaux C, Jachez B, Pourtier-Manzanedo A, Emmer G. SDZ 280-446, a novel semi-synthetic cyclopeptide: in vitro and in vivo circumvention of the P-glycoprotein-mediated tumour cell multidrug resistance. Br J Cancer 1992 Jan;65(1):11-8.
- Lothstein L, Hsu SIH, Horwitz SB, Greenberger LM. Alternate overexpression of two phosphoglycoprotein genes is associated with changes in multidrug resistance in a j774.2 cell line. J Biol Chem 1989;264(27):16054-8.
- Luk CK, Tannock IF. Flow cytometric analysis of doxorubicin accumulation in cells from human and rodent cell lines. J Natl Cancer Inst 1989 Jan 4; 81(1):55-9.
- Lutzky J, Canada AL, Yamanishi DT, Bhalla K, Hindenburg AA. Effect of verapamil and buthionine sulfoximine (BSO) on daunorubicin (DNR) cytotoxicity of multidrug-resistant human melanoma cell lines overexpressing P-glycoprotein and glutathione-s-transferases [abstract]. Proc Annu Meet Am Assoc Cancer Res 1992;33:A3315.
- Marie JP, Helou C, Thevenin D, Delmer A, Zittoun R. In vitro effect of P-glycoprotein (P-gp) modulators on drug sensitivity of leukemic progenitors (CFU-L) in acute myelogenous leukemia (AML). Exp Hematol 1992 Jun;20(5):565-8.
- Marie JP, Zittoun R, Sikic BI. Multidrug resistance (mdr1) gene expression in adult acute leukemias: correlations with treatment outcome and in vitro drug sensitivity. Blood 1991 Aug 1;78(3):586-92.
- Matsumoto T, Tani E, Kaba K, Kochi N, Shindo H, Yamamoto Y, Sakamoto H, Furuyama J. Amplification and expression of a multidrug resistance gene in human glioma cell lines. J Neurosurg 1990 Jan;72(1):96-101.
- Mattern J, Bak M, Volm M. Occurrence of a multidrug resistant phenotype in human lung xenografts. Br J Cancer 1987;56(4):407-11.
- Maurya AK, Nair S, Mian AM, Singh SV. Mechanism of cross-resistance to mitomycin C in multidrug-resistant mouse leukemic P388 cells [abstract]. Proc Annu Meet Am Assoc Cancer Res 1991;32:A2100.
- Mazzoni A, Trave F, Canti G, Franco P. Effect of the tiapamil analog ro-11-2933 on cellular sensitivity to antitumor drugs in sensitive and multidrug resistant human ovarian cancer cells. Anticancer Res 1989; 9(2):367-72.
- McCrary CW, Huang X, Massey GV, Yanovich S, Pettit GR, Carchman RA. Expression of the

- multidrug resistance (MDR) gene does not confer resistance to the cytostatic effects of bryostatin 1 [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2210.
- McLachlin JR, Eglitis MA, Ueda K, Kantoff PW, Pastan IH, Anderson WF, Gottesman MM. Expression of a human complementary DNA for the multidrug resistance gene in murine hematopoietic precursor cells with the use of retroviral gene transfer. *J Natl Cancer Inst* 1990 Aug 1;82(15):1260-3.
- Mechetner EB, Roninson IB. Efficient inhibition of P-glycoprotein-mediated multidrug resistance with a monoclonal antibody [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2913.
- Mechetner EB, Roninson IB. Efficient inhibition of P-glycoprotein-mediated multidrug resistance with a monoclonal antibody. *Proc Natl Acad Sci U S A* 1992 Jul 1;89(13):5824-8.
- Merkel DE, Fuqua SAW, Tandon AK, Hill SM, Buzdar AU, McGuire WL. Electrophoretic analysis of 248 clinical breast cancer specimens for p-glycoprotein overexpression of gene amplification. *J Clin Oncol* 1989;7(8):1129-36.
- Michaeli J, Lebedev YB, Leng L, Tong WP, Richon VM, Marks PA, Rifkind RA. A multidrug resistance (MDR) phenotype in response to phorbol ester: role of P-glycoprotein and protein kinase C beta (PKC-beta) [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1990;31:A2224.
- Michel AD, Kunysz EA, Whiting RL. Interaction of cytotoxic agents with tritiated PN-200-110 binding sites of rat cerebrocortical and skeletal muscle membranes [abstract]. *Br J Pharmacol* 1989;96 Suppl:240P.
- Michieli M, Damiani D, Geromin A, Michelutti A, Fanin R, Raspadori D, Russo D, Visani G, Dinota A, Pileri S, et al. Overexpression of multidrug resistance-associated p170-glycoprotein in acute non-lymphocytic leukemia. *Eur J Haematol* 1992 Feb;48(2):87-92.
- Michieli M, Geromin A, Michelutti A, Damiani D, Savignano C, Patriarca F, Velisig M, Raspadori D, Baccarani M. Multidrug resistance (MDR)-associated P-170 glycoprotein in acute nonlymphocytic leukemia (ANLL) [abstract]. *Haematologica* 1991;76 Suppl 4:75.
- Michieli M, Giacca M, Fanin R, Damiani D, Geromin A, Baccarani M. MDR-1 gene amplification in acute lymphoblastic leukemia prior to antileukemic treatment. *Br J Haematol* 1991;78(2):288-9.
- Mickisch G, Keilhauer G, Schlick E, Tschada R, Alken P. Effects of R-verapamil (R-vpm) on P-170-mediated multidrug resistance (mdr) of human renal cell carcinoma (rcc) [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1990;31:A2423.
- Mickisch GH, Aksentijevich I, Schoenlein PV, Goldstein LJ, Galski H, Stahle C, Sachs DH, Pastan I, Gottesman MM. Transplantation of bone marrow cells from transgenic mice expressing the human MDR1 gene results in longterm protection against the myelosuppressive effect of chemotherapy in mice. *Blood* 1992 Feb 15;79(4):1087-93.
- Mickisch GH, Gottesman MM, Pastan I, Alken PM. New potent verapamil derivatives that reverse multidrug resistance in human renal carcinoma cells and in transgenic mice expressing the human MDR1 gene [abstract]. *J Urol* 1991;145(4 Suppl):379a.
- Mickisch GH, Merlino GT, Galski H, Gottesman MM, Pastan I. Transgenic mice that express the human multidrug-resistance gene in bone marrow enable a rapid identification of agents that reverse drug resistance. *Proc Natl Acad Sci U S A* 1991 Jan 15;88(2):547-51.
- Mickisch GH, Rahman A, Pastan I, Gottesman MM. Increased effectiveness of liposome-encapsulated doxorubicin in multidrug-resistant-transgenic mice compared with free doxorubicin. *J Natl Cancer Inst* 1992 May 20;84(10):804-5.
- Mickisch GH, Roehrich K, Koessig J, Forster S, Tschada RK, Alken PM. Mechanisms and modulation of multidrug resistance in primary human renal cell carcinoma. *J Urol* 1990 Sep;144(3):755-9.
- Mickley LA, Bates SE, Richert ND, Currier S, Tanaka S, Foss F, Rosen N, Fojo AT. Modulation of the expression of a multidrug resistance gene mdr-1-P-glycoprotein by differentiating agents. *J Biol Chem* 1989;264(30):18031-40.
- Millar BC, Bell JBG, Maitland JA, Zuiable A, Gore ME, Selby PJ, McElwain TJ. In vitro studies of ways to overcome resistance to VAMP high dose melphalan in the treatment of multiple myeloma. *Br J Haematol* 1989;71(2):213-22.
- Miller TP, Grogan TM, Dalton WS, Spier CM, Scheper RJ, Salmon SE. P-glycoprotein expression in malignant lymphoma and reversal of clinical drug resistance with chemotherapy plus high-dose verapamil. *J Clin Oncol* 1991 Jan;9(1):17-24.
- Millot JM, Debal V, Morjani H, Merle S, Kiss R, Manfait M. Characterization of a vinca-alkaloid resistance phenotype in J82 cells following selection with navelbine [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2201.
- Milroy R, Plumb JA, Banham SW, Kaye SB. Variable response to the resistance modifier verapamil in newly established small-cell lung cancer (SCLC) cell lines [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:572.

- Mimnaugh EG, Fairchild CR, Fruehauf JP, Sinha BK. Biochemical and pharmacological characterization of MCF-7 drug-sensitive and AdrR multidrug-resistant human breast tumor xenografts in athymic nude mice. *Biochem Pharmacol* 1991 Jul 5;42(2):391-402.
- Mimnaugh EG, Sinha BK, Rajagopalan S, Myers CE. Subcellular sites of enzymatic doxorubicin activation, oxyradical production and detoxification in sensitive and multidrug resistant MCF-7 human breast tumors [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2233.
- Mirski SE, Dicke FP, Cole SP. Non-P-glycoprotein-mediated multidrug resistance in the small-cell lung cancer (SCLC) cell line, H69AR [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2196.
- Miyamoto K, Wakusawa S, Nakamura S, Tajima K, Hidaka H. Multidrug resistance in Yoshida rat ascites hepatoma cell lines. *Anticancer Res* 1992 May-Jun;12(3):649-53.
- Mizuno K, Furuhashi Y, Maeda O, Iwata M, Misawa T, Kawai M, Kano T, Tomoda Y. Mitomycin C cross-resistance induced by adriamycin in human ovarian cancer cells in vitro. *Cancer Chemother Pharmacol* 1990;26(5):333-9.
- Montaudon D, Benckekroun MN, Londos-Gagliardi D, Robert J. Chromosomal modifications of a rat glioblastoma cell line during the acquisition and reversal of doxorubicin resistance. *Anticancer Res* 1990 Nov-Dec;10(6):1667-75.
- Mukaiyama T, Minowa S, Ogawa M. Analysis of MDR1 mRNA expression in breast cancer specimens by reverse-transcription polymerase chain reaction (RT-PCR) [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2786.
- Muller C, Laval F, Soues S, Birck C, Charcosset JY. High cell density-dependent resistance and P-glycoprotein-mediated multidrug resistance in mitoxantrone-selected Chinese hamster cells. *Biochem Pharmacol* 1992 May 28;43(10):2091-102.
- Muller C, Laval F, Soues S, Charcosset JY. Inducible amplification and increased expression of MDR genes in mitoxantrone-resistant hamster cells selected in one step [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1990;31:A2197.
- Murren JR, Cooper DL, Honig J, Edelson RL, Hait WN, Flynn SD. The multidrug-resistant phenotype is prevalent in Sezary Syndrome (SS) [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1992;11: A1130.
- Myers CE. Anthracyclines. *Cancer Chemother Biol Response Modif* 1988;10:33-9.
- Nakagawa M, Dixon KH, Gilbert L, Goldsmith ME, Cowan KH. Characterization of mitoxantrone resistant human breast cancer cell line [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2204.
- Narayana K, Grabowski D, Ford J, Drake F, Kerrigan D, Pommier Y, Ganapathi R. Trifluoperazine modulation of resistance to the topoisomerase II inhibitor etoposide in doxorubicin resistant L1210 murine leukemia cells. *Cancer Commun* 1991;3(2):37-44.
- Nelson EJ, Hinkle PM. Characterization of multidrug-resistant pituitary tumor cells. *Endocrinology* 1992 Jun;130(6):3246-56.
- Nooter K, Herweijer H, Sonneveld P, Verweij J, Hagenbeek A, Stoter G. Detection of multidrug resistance (MDR) in refractory cancer patients [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2092.
- Nooter K, Oostrum R, Jonker R, Van Dekken H, Stokdijk W, Van Den Engh G. Effect of cyclosporin A on daunorubicin accumulation in multidrug-resistant p388 leukemia cells measured by real-time flow cytometry. *Cancer Chemother Pharmacol* 1989;23(5):296-300.
- Nooter K, Sonneveld P, Janssen A, Oostrum R, Boersma T, Herweijer H, Valerio D, Hagemeyer A, Baas F. Expression of the *mdr3* gene in prolymphocytic leukemia: association with cyclosporin-A-induced increase in drug accumulation. *Int J Cancer* 1990 Apr 15;45(4): 626-31.
- Nooter K, Sonneveld P, Oostrum R, Herweijer H, Hagenbeek T, Valerio D. Overexpression of the *mdr1* gene in blast cells from patients with acute myelocytic leukemia is associated with decreased anthracycline accumulation that can be restored by cyclosporin-A. *Int J Cancer* 1990 Feb 15;45(2): 263-8.
- Nygren P, Larsson R, Gruber A, Peterson C, Bergh J. Doxorubicin selected multidrug-resistant small cell lung cancer cell lines characterised by elevated cytoplasmic Ca²⁺ and resistance modulation by verapamil in absence of P-glycoprotein overexpression. *Br J Cancer* 1991 Dec;64(6): 1011-8.
- Ohe Y, Nakagawa K, Fujiwara Y, Sasaki Y, Minato K, Bungo M, Niimi S, Horichi N, Fukuda M, Saijo N. In vitro evaluation of the new anticancer agents KT6149, MX 2, SM5887, menogaril, and liblomycin using cisplatin or adriamycin resistant human cancer cell lines. *Cancer Res* 1989;49(15): 4098-102.
- Osann K, Sweet P, Slater LM. Synergistic interaction of cyclosporin A and verapamil on vincristine and daunorubicin resistance in multidrug-resistant human leukemia cells in vitro. *Cancer Chemother Pharmacol* 1992;30(2):152-4.

- Osborne EJ, Cole SPC, Mackillop WJ. The effect of hyperthermia on doxorubicin accumulation and cytotoxicity in a human ovarian carcinoma cell line and its multidrug resistant variant [abstract]. *Br J Cancer* 1990;61(1):170-1.
- Oudard S, Thierry A, Jorgensen TJ, Rahman A. Sensitization of multidrug-resistant colon cancer cells to doxorubicin encapsulated in liposomes. *Cancer Chemother Pharmacol* 1991;28(4):259-65.
- Ozols RF. Reversal of drug resistance: clinical trials based on experimental studies in human tumor model systems. Paper presented at: Symposium on Mechanisms of Drug and Radiation Resistance of Tumor Cells; 1989 Jun 28-30; Villejuif, France.
- Ozols RF. Reversal of drug resistance: laboratory data and clinical trials. Paper presented at: Biology and therapy of breast cancer. Joint NCI-IST Symposium/3rd IST International Symposium; 1989 Sep 25-27; Genoa, Italy.
- Ozols RF, Hamilton TC, Fojo AT, Lai GM, Rothenberg M, Young RC. Reversal of alkylating agent and platinum resistance in ovarian cancer [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:526-7.
- Park JG, Kramer BS, Henslee JG, Lai S, Goldstein L, Gottesman MM, Gazdar AF. Characteristics and drug sensitivity patterns of human gastric carcinoma cell lines--comparison with colorectal carcinoma lines [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A432.
- Park JG, Kramer BS, Lai SL, Goldstein LJ, Gazdar AF. Chemosensitivity patterns and expression of human multidrug resistance-associated MDR1 gene by human gastric and colorectal carcinoma cell lines. *J Natl Cancer Inst* 1990 Feb 7;82(3):193-8.
- Pastan I, Gottesman MM, Ueda K, Lovelace E, Rutherford AV, Willingham MC. A retrovirus carrying an *mdr1* complementary DNA confers multidrug resistance and polarized expression of P-glycoprotein in MDCK cells. *Proc Natl Acad Sci U S A* 1988;85(12):4486-90.
- Pastan I, Willingham MC, Gottesman M. Molecular manipulations of the multidrug transporter: a new role for transgenic mice. *FASEB J* 1991 Aug; 5(11):2523-8.
- Pastan I, Willingham MC, Gottesman MM. Multidrug resistance. Paper presented at: 6th NCI-EORTC Symposium on New Drugs in Cancer Therapy; 1989 Mar 7-10; Amsterdam.
- Pennock GD, Dalton WS, Roeske WR, Appleton CP, Mosley K, Plezia P, Miller TP, Salmon SE. Systemic toxic effects associated with high-dose verapamil infusion and chemotherapy administration. *J Natl Cancer Inst* 1991 Jan 16; 83(2):105-10.
- Pincus R, Goldman ID. Decreased tight binding of mitoxantrone in P388 leukemia cells with multiple drug resistance [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1185.
- Pincus R, Goldman ID. Evidence for impaired mitoxantrone and vinblastine binding in P388 murine leukemia cells with multidrug resistance. *Biochem Pharmacol* 1990 Dec 15;40(12):2625-35.
- Pinedo HM, van Groeningen CJ, van Kalken CK. Cellular pharmacology and drug resistance in breast cancer. Paper presented at: Biology and therapy of breast cancer. Joint NCI-IST Symposium/3rd IST International Symposium; 1989 Sep 25-27; Genoa, Italy.
- Pirker R, Wallner J, Geissler K, Valent P, Bettelheim P, Lechner K, Hopfner M, Linkesch W, Ludwig H. MDR1 gene expression affects clinical outcome in acute myelogenous leukemia [abstract]. *Ann Oncol* 1990;1 Suppl:67.
- Plumb JA, Milroy R, Kaye SB. Sequential induction of drug resistance in an adherent small-cell lung cancer (SCLC) cell line [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2141.
- Politi PM, Sinha BK. Role of differential drug uptake efflux and binding of etoposide in sensitive and resistant human tumor cell lines implications for the mechanisms of drug resistance. *Mol Pharmacol* 1989;35(3):271-8.
- Pommerenke EW, Osswald H, Hahn EW, Volm M. Activity of various amphiphilic agents in reversing multidrug resistance of L 1210 cells. *Cancer Lett* 1990 Nov 19;55(1):17-23.
- Priebe W, Van T, Perez-Soler R. Activity of 3'-deaminated anthracyclines against MDR cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2245.
- Qian XD, Beck WT. Binding of an optically pure photoaffinity analogue of verapamil, LU-49888, to P-glycoprotein from multidrug-resistant human leukemic cell lines. *Cancer Res* 1990 Feb 15; 50(4):1132-7.
- Qian XD, Beck WT. Interaction of a photoactive anthracycline analog, [3H]-N-azido-benzoyldaunomycin (AB-DNR) with P-glycoprotein (Pgp) from multidrug-resistant human leukemic lymphoblasts (CEM/VLB5K) [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2160.
- Rabier MJ, Bruno NA, Slate DL. Multifactorial resistance in LS174T human colon carcinoma cells

- selected with doxorubicin. *Int J Cancer* 1991 Oct 21;49(4):601-7.
- Rahman A, Mickisch G, Pastan I, Gottesman M. Liposomal encapsulated doxorubicin (LED) circumvents doxorubicin (DOX) resistance in MDR transgenic mice [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2813.
- Ramu A, Pollard HB, Rosario LM. Doxorubicin resistance in p388 leukemia evidence for reduced drug influx. *Int J Cancer* 1989;44(3):539-47.
- Ramu A, Ramu N, Gorodetsky R. Reduced ouabain-sensitive potassium entry as a possible mechanism of multidrug-resistance in P388 cells. *Biochem Pharmacol* 1991 Oct 9;42(9):1699-704.
- Raviv Y, Pollard HB, Bruggemann EP, Pastan I, Gottesman MM. Photosensitized labeling of a functional multidrug transporter in living drug-resistant tumor cells. *J Biol Chem* 1990 Mar 5; 265(7):3975-80.
- Reddy PG, Graham GM, Datta S, Guarini L, Moulton TA, Jiang HP, Gottesman MM, Ferrone S, Fisher PB. Effect of recombinant fibroblast interferon and recombinant immune interferon on growth and the antigenic phenotype of multidrug-resistant human glioblastoma multiforme cells. *J Natl Cancer Inst* 1991 Sep 18;83(18):1307-15.
- Redmond A, Moran E, Clynes M. Analysis of the mechanism of resistance of 7 novel MDR variants. *Biochem Soc Trans* 1992;20(1):57s.
- Remnick RA, Gervasoni JE Jr, Hindenburg AA, Lutzky J, Krishna S, Rosado M, Taub RN. The subcellular distribution of daunorubicin in drug-resistant cell lines that do and do not overexpress the P-glycoprotein [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2032.
- Rhodes T, Twentyman PR. Effects of cyclosporin A and verapamil on cellular pharmacokinetics and chemosensitivity in an MDR cell line which does not express P-glycoprotein [abstract]. *Br J Cancer* 1991;63 Suppl 13:12.
- Richon VM, Weich N, Leng L, Kiyokawa H, Ngo L, Rifkind RA, Marks PA. Characteristics of erythroleukemia cells selected for vincristine resistance that have accelerated inducer-mediated differentiation. *Proc Natl Acad Sci U S A* 1991 Mar 1;88(5):1666-70.
- Ries F, Dicato M. Treatment of advanced and refractory breast cancer with doxorubicin, vincristine and continuous infusion of verapamil. A phase I-II clinical trial. *Med Oncol Tumor Pharmacother* 1991;8(1):39-43.
- Rittmann-Grauer LS, Yong MA, Sanders V, Mackensen DG. Reversal of Vinca alkaloid resistance by anti-P-glycoprotein monoclonal antibody HYB-241 in a human tumor xenograft. *Cancer Res* 1992 Apr 1; 52(7):1810-6.
- Rivoltini L, Colombo MP, Supino R, Ballinari D, Tsuruo T, Parmiani G. Modulation of multidrug resistance by verapamil or mdr1 anti-sense oligodeoxynucleotide does not change the high susceptibility to lymphokine-activated killers in mdr-resistant human carcinoma (LoVo) line. *Int J Cancer* 1990 Oct 15;46(4):727-32.
- Ro J, Sahin A, Ro JY, Fritsche H, Hortobagyi G, Blick M. Immunohistochemical analysis of P-glycoprotein expression correlated with chemotherapy resistance in locally advanced breast cancer. *Hum Pathol* 1990 Aug;21(8):787-91.
- Roberts D, Foglesong PD, Parganas E, Wiggins L. Reduced formation of lesions in the DNA of a multidrug-resistant 11210 subline selected for teniposide resistance. *Cancer Chemother Pharmacol* 1989;23(3):161-8.
- Ross D, Ordonez J, Cuddy D, Wooten P, Lee E, Thompson B, Schiffer C. Verapamil enhancement of daunorubicin uptake in subpopulations of blast cells from AML patients: relation to clinical response [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1989;8:A806.
- Ross D, Wooten P, Ordonez JV, Sridhara R, Lee E, Schiffer C. MDR1 expression and effects of cyclosporin-A, verapamil and progesterone on daunorubicin cytotoxicity in blast cells from acute myelogenous leukemia patients [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2839.
- Ross DD. Cellular and pharmacologic aspects of drug resistance in acute myeloid leukemia. *Curr Opin Oncol* 1991 Feb;3(1):21-9.
- Ross DD, Ordonez JV, Joneckis CC, Testa JR, Thompson BW. Isolation of highly multidrug-resistant P388 cells from drug-sensitive P388-S cells by flow cytometric cell sorting. *Cytometry* 1988; 9(4):359-67.
- Ross DD, Thompson BW, Ordonez JV, Joneckis CC. Improvement of flow-cytometric detection of multidrug-resistant cells by cell-volume normalization of intracellular daunorubicin content. *Cytometry* 1989;10(2):185-91.
- Ross KL, Sikic BI, Kercso KM, Owicki JC, Hafeman DG, Muir VC, Parce JW. Potentiometric monitoring of tumor cell chemosensitivity with a silicon based biosensor [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2410.
- Rowinsky EK. Current developments in antitumor antibiotics epipodophyllotoxins and vinca alkaloids. *Curr Opin Oncol* 1991;3(6):1060-9.

- Ruszala-Mallon V, Silva J, Raventos-Suarez C, Durr FE. P-glycoprotein-mediated multidrug resistance in ovarian carcinoma cells selected for resistance to bisantrene, a synthetic anticancer drug [abstract]. Proc Annu Meet Am Assoc Cancer Res 1990;31:A2110.
- Sadasivan R, Morgan R, Fabian C, Stephens R. Reversal of multidrug resistance in HL-60 cells by verapamil and liposome-encapsulated doxorubicin. Cancer Lett 1991 May 1;57(2):165-71.
- Saeki T, Shimabuku AM, Azuma Y, Shibano Y, Komano T, Ueda K. Expression of human P-glycoprotein in yeast cells - effects of membrane component sterols on the activity of P-glycoprotein. Agric Biol Chem 1991;55(7):1859-66.
- Safa AR. Photoaffinity labeling of P-glycoprotein in multidrug-resistant cells. Cancer Invest 1992;10(4):295-305.
- Safa AR. Photoaffinity labeling of the multidrug-resistance-related P-glycoprotein with photoactive analogs of verapamil. Proc Natl Acad Sci U S A 1988;85(19):7187-91.
- Safa AR, Agresti M, Tamai I, Mehta ND, Vahabi S. The alpha 1-adrenergic photoaffinity probe [125I]arylazidoprazosin binds to a specific peptide of P-glycoprotein in multidrug-resistant cells. Biochem Biophys Res Commun 1990 Jan 15;166(1):259-66.
- Safa AR, Mehta ND, Agresti M. Photoaffinity labeling of p-glycoprotein in multidrug resistant cells with photoactive analogs of colchicine. Biochem Biophys Res Commun 1989;162(3):1402-8.
- Salmon SE, Dalton WS, Grogan TM, Plezia P, Lehnert M, Roe DJ, Miller TP. Multidrug-resistant myeloma: laboratory and clinical effects of verapamil as a chemosensitizer. Blood 1991 Jul 1;78(1):44-50.
- Salmon SE, Grogan TM, Miller T, Scheper R, Dalton WS. Prediction of doxorubicin resistance in-vitro in myeloma lymphoma and breast cancer by p-glycoprotein staining. J Natl Cancer Inst 1989;81(8):696-701.
- Salmon SE, Soehnlen B, Dalton WS, Meltzer P, Scuderi P. Effects of tumor necrosis factor on sensitive and multidrug resistant human leukemia and myeloma cell lines. Blood 1989;74(5):1723-7.
- Samuels BL, Murray JL, Safa AR. Additive reversal of multidrug resistance by combinations of non-cross-toxic modulating agents [abstract]. Proc Annu Meet Am Assoc Cancer Res 1990;31:A2138.
- Sanfilippo O, Di Fronzo G, Ronchi E. Natural or acquired drug resistance and GP170 (GP) expression in human breast cancers [abstract]. Proc Annu Meet Am Assoc Cancer Res 1990;31:A2209.
- Sanfilippo O, Ronchi E, De Marco C, Di Fronzo G, Silvestrini R. Expression of P-glycoprotein in breast cancer tissue and in vitro resistance to doxorubicin and vincristine. Eur J Cancer 1991;27(2):155-8.
- Santostasi G, Kutty RK, Krishna G. Increased toxicity of anthracycline antibiotics induced by calcium entry blockers in cultured cardiomyocytes. Toxicol Appl Pharmacol 1991 Mar 15;108(1):140-9.
- Sato H, Gottesman MM, Goldstein LJ, Pastan I, Block AM, Sandberg AA, Preisler HD. Expression of the multidrug resistance gene in myeloid leukemias. Leuk Res 1990;14(1):11-21.
- Sato H, Preisler H, Day R, Raza A, Larson R, Browman G, Goldberg J, Vogler R, Grunwald H, Gottlieb A, et al. MDR1 transcript levels as an indication of resistant disease in acute myelogenous leukaemia. Br J Haematol 1990 Jul;75(3):340-5.
- Satta T, Isobe K, Yamauchi M, Nakashima I, Akiyama S, Itou K, Watanabe T, Takagi H. Establishment of drug resistance in human gastric and colon carcinoma xenograft lines. Jpn J Cancer Res 1991 May;82(5):593-8.
- Satta T, Isobe K, Yamauchi M, Nakashima I, Takagi H. Expression of MDR1 and glutathione S transferase-pi genes and chemosensitivities in human gastrointestinal cancer. Cancer 1992 Feb 15;69(4):941-6.
- Savaraj N, Teeter L, Kuo MT, Wu CJ, Tapiero H, Lampidis T. Characteristics of rhodamine and adriamycin-induced multidrug-resistant cells [abstract]. Proc Annu Meet Am Assoc Cancer Res 1991;32:A2187.
- Saxena M, Sharma R, Singhal SS, Ahmad H, Awasthi YC. The effect of doxorubicin on the transport of glutathione conjugates from human erythrocytes. Biochem Arch 1991;7(4):285-92.
- Schaefer A, Westendorf J, Lingelbach K, Schmidt C, Marquardt H. Doxorubicin-resistant Friend erythroleukemia cells are less resistant towards N,N-dimethylated anthracyclines [abstract]. Proc Annu Meet Am Assoc Cancer Res 1991;32:A2171.
- Scheper RJ, Bulte JWM, Brakkee JGP, Quak JJ, Van Der Schoot E, Balm AJM, Meijer CJLM, Broxterman HJ, Kuiper CM, et al. Monoclonal antibody JSB-1 detects a highly conserved epitope on the P-glycoprotein associated with multi-drug-resistance. Int J Cancer 1988;42(3):389-94.
- Schinkel AH, Roelofs EM, Borst P. Characterization of the human MDR3 P-glycoprotein and its

- recognition by P-glycoprotein-specific monoclonal antibodies. *Cancer Res* 1991 May 15;51(10):2628-35.
- Schoenlein PV, Shen DW, Johnson BP, Pastan I, Gottesman MM. The amplification of the human MDR1 gene occurs via episome formation in KB carcinoma cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1990;31:A2107.
- Schurr E, Raymond M, Bell JC, Gros P. Characterization of the multidrug resistance protein expressed in cell clones stably transfected with the mouse *mdr1* complementary DNA. *Cancer Res* 1989;49(10):2729-34.
- Schuurhuis GJ, Broxterman HJ, Cervantes A, van Heijningen TH, de Lange JH, Baak JP, Pinedo HM, Lankelma J. Quantitative determination of factors contributing to doxorubicin resistance in multidrug-resistant cells. *J Natl Cancer Inst* 1989 Dec 20;81(24):1887-92.
- Schuurhuis GJ, Pinedo HM, Broxterman HJ, van Kalken CK, Kuiper CM, Lankelma J. Differential sensitivity of multi-drug-resistant and -sensitive cells to resistance-modifying agents and the relation with reversal of anthracycline resistance. *Int J Cancer* 1990 Aug 15;46(2):330-6.
- Schwartz GK, Arkin H, Holland JF, Ohnuma T. Protein kinase C activity and multidrug resistance in MOLT-3 human lymphoblastic leukemia cells resistant to trimetrexate. *Cancer Res* 1991 Jan 1; 51(1):55-61.
- Scudder SA, Brown JM, Sikic BI. DNA cross-linking and cytotoxicity of the alkylating cyanomorpholino derivative of doxorubicin in multidrug-resistant cells. *J Natl Cancer Inst* 1988;80(16):1294-8.
- Scudder SA, Saunders KA, Andreotti VA, White RWD. Rhodamine 123 efflux as a measure of drug resistance [abstract]. *Clin Res* 1991;39(1):68a.
- Sehested M, Bindslev N, Demant EJ, Skovsgaard T, Jensen PB. Daunorubicin and vincristine binding to plasma membrane vesicles from daunorubicin-resistant and wild type Ehrlich ascites tumor cells. *Biochem Pharmacol* 1989;38(18):3017-28.
- Sehested M, Jensen PB, Skovsgaard T, Bindslev N, Demant EJ, Friche E, Vindeløv L. Inhibition of vincristine binding to plasma membrane vesicles from daunorubicin-resistant Ehrlich ascites cells by multidrug resistance modulators. *Br J Cancer* 1989 Dec;60(6):809-14.
- Sehested M, Simpson D, Skovsgaard T. Freeze fracture study of plasma membranes of daunorubicin sensitive and resistant Ehrlich ascites tumor cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1228.
- Sehested M, Skovsgaard T, Jensen PB, Demant EJ, Friche E, Bindslev N. Transport of the multidrug resistance modulators verapamil and azidopine in wild type and daunorubicin resistant Ehrlich ascites tumour cells. *Br J Cancer* 1990 Jul;62(1):37-41.
- Seidman AD, Scher HI. The evolving role of chemotherapy for muscle infiltrating bladder cancer. *Semin Oncol* 1991 Dec;18(6):585-95.
- Sekiya S, Nunoyama T, Shirasawa H, Kimura H, Kawata M, Iijima N, Sugimoto Y, Tsuruo T, Takamizawa H. Expression of a human multidrug resistance gene in human ovarian carcinoma cell lines. *Arch Gynecol Obstet* 1992;251(2):79-86.
- Seneviratne C, Goldenberg GJ. Further characterization of drug-sensitivity and cross-resistance profiles of cloned cell lines of Adriamycin-sensitive and -resistant P388 leukemia. *Cancer Commun* 1989;1(1):21-7.
- Shalinsky DR, Howell SB. Synergistic enhancement of the cytotoxicity of vinblastine (VBL) and colchicine (COL) by dipyridamole (DPM) in drug-resistant KB carcinoma cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2097.
- Sheldon K, Marks A, Baumal R. Sensitivity of multidrug resistant KB-C1 cells to an antibody dextran adriamycin conjugate. *Anticancer Res* 1989;9(3):637-42.
- Shen DW, Lu YG, Chin KV, Pastan I, Gottesman MM. Human hepatocellular carcinoma cell lines exhibit multidrug resistance unrelated to MDR1 gene expression. *J Cell Sci* 1991 Mar;98(Pt 3): 317-22.
- Shibata H, Furusawa S, Kawauchi H, Sasaki K, Takayanagi Y. [Modulation of anthracycline resistance by reserpine in P388 leukemia cells]. *Nippon Yakurigaku Zasshi* 1991 Jul;98(1):1-6. (Jpn).
- e.
Cancer
Res 1992
May 15;
52(10):2
874-9.

- Shimm DS, Olson S, Hill AB. Radiation resistance in a multidrug resistant human T-cell leukemia line. *Int J Radiat Oncol Biol* 1988;15(4):931-6.
- Shimoyama M. Detection of multidrug resistant (MDR) cancer cells by monoclonal antibodies. Paper presented at: Drug resistance as a biochemical target in cancer chemotherapy. 13th Bristol-Myers Squibb Symposium on Cancer Research; 1990 May 10-11; Tokyo, Japan.
- Shinoda H, Inaba M, Tsuruo T. In vivo circumvention of vincristine resistance in mice with P388 leukemia using a novel compound, AHC 52. *Cancer Res* 1989;49(7):1722-6.
- Shoji Y, Fisher MH, Periasamy A, Herman B, Juliano RL. Verapamil and cyclosporin A modulate doxorubicin toxicity by distinct mechanisms. *Cancer Lett* 1991 May 24;57(3):209-18.
- Sikic BI, Brophy NA, Berry JM, Marie JP, Ehsan MN, Tsuruo T, Roninson IB, Smith SD. Multidrug resistance gene expression in ovarian and breast cancers, leukemias, and lymphomas. Paper presented at: 6th NCI-EORTC Symposium on New Drugs in Cancer Therapy; 1989 Mar 7-10; Amsterdam.
- Silbermann MH, Boersma AW, Janssen AL, Scheper RJ, Herweijer H, Nooter K. Effects of cyclosporin A and verapamil on the intracellular daunorubicin accumulation in Chinese hamster ovary cells with increasing levels of drug-resistance. *Int J Cancer* 1989 Oct 15;44(4):722-6.
- Sinha BK, Politi PM. Anthracyclines. *Cancer Chemother Biol Response Modif* 1990;11:45-57.
- Sinicrope FA, Dudeja PK, Safa AR, Brasitus TA. Modulation of P-glycoprotein-dependent tritiated daunomycin uptake in rat liver canalicular membrane vesicles [abstract]. *Clin Res* 1991; 39(3):743a.
- Skovsgaard T. Drug transport in multidrug-resistant tumor cells a revision of the pump hypothesis. In: Tapiero H, Robert J, Lampidis TJ, editors. 1st International Interface of Clinical and Laboratory Responses to Anticancer Drugs; 1989 Mar 13-15; Villejuif, France. Paris: Les Editions Inserm; 1989. p. 233-44. (Colloque INSERM; 191).
- Skovsgaard T. Transport and multidrug resistance: indications of a changed pH-gradient across the membrane. *Pezcoller Found Symp* 1990;1:209-31.
- Slapak CA, Daniel JC, Levy SB. Sequential emergence of distinct resistance phenotypes in murine erythroleukemia cells under adriamycin selection: decreased anthracycline uptake precedes increased P-glycoprotein expression. *Cancer Res* 1990 Dec 15;50(24):7895-901.
- Slapak CA, Lecerf JM, Daniel JC, Levy SB. Energy-dependent accumulation of daunorubicin into subcellular compartments of human leukemia cells and cytoplasts. *J Biol Chem* 1992 May 25;267(15):10638-44.
- Slate DL, Bruno N, Carver LA, Rabier M. Isolation and characterization of multiple drug resistant carcinoma cell lines [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A1975.
- Slovak ML, Coccia M, Meltzer PS, Trent JM. Molecular analysis of two human doxorubicin-resistant cell lines: evidence for differing multidrug resistance mechanisms. *Anticancer Res* 1991 Jan-Feb;11(1):423-8.
- Slovak ML, Hoeltge GA, Dalton WS, Trent JM. Pharmacological and biological evidence for differing mechanisms of doxorubicin resistance in two human tumor cell lines. *Cancer Res* 1988; 48(10):2793-7.
- Solary E, Bidan JM, Calvo F, Chauffert B, Caillot D, Mugneret F, Gauville C, Tsuruo T, Carli PM, Guy H. P-glycoprotein expression and in-vitro reversion of doxorubicin resistance by verapamil in clinical specimens from acute leukemia and myeloma. *Leukemia* 1991;5(7):592-7.
- Solary E, Velay I, Chauffert B, Bidan JM, Caillot D, Dumas M, Guy H. Sufficient levels of quinine in the serum circumvent the multidrug resistance of the human leukemic cell line K562/ADM. *Cancer* 1991 Oct 15;68(8):1714-9.
- Solary E, Velay I, Chauffert B, Caillot D, Bidan JM, Dumas M, Casasnovas O, Guy H. Quinine circumvents the doxorubicin resistance of a multidrug resistant human leukemic cell-line, K562/DXR. *Nouv Rev Fr Hematol* 1990;32(5):361-3.
- Sonneveld P, Durie BG, Lokhorst HM, Marie JP, Solbu G, Sciu S, Zittoun R, Lowenberg B, Nooter K. Modulation of multidrug-resistant multiple myeloma by cyclosporin. The Leukaemia Group of the EORTC and the HOVON. *Lancet* 1992 Aug 1; 340(8814):255-9.
- Sonneveld P, Nooter K. Reversal of drug-resistance by cyclosporin-A in a patient with acute myelocytic leukaemia. *Br J Haematol* 1990 Jun;75(2):208-11.
- Spolstra EC, Dekker H, Schuurhuis GJ, Broxterman HJ, Lankelma J. P-glycoprotein drug efflux pump involved in the mechanisms of intrinsic drug resistance in various colon cancer cell lines. Evidence for a saturation of active daunorubicin transport. *Biochem Pharmacol* 1991;41(3):349-60.
- Spolstra EC, Westerhoff HV, Dekker H, Lankelma J. Kinetics of daunorubicin transport by P-glycoprotein of intact cancer cells. *Eur J Biochem* 1992 Jul 15;207(2):567-79.

- Steinhoff A, Muenchmeyer M, Looft G, Ertmann R. Measurements of anthracycline-accumulation in multidrug-resistant (MDR) and sensitive leukemia cells by fluorometry effect of verapamil and other membrane-transport modulation drugs [abstract]. Naunyn Schmiedebergs Arch Pharmacol 1989; 339 Suppl:R42.
- Stewart J, Gorman NT. Multi-drug resistance genes in the management of neoplastic disease. J Vet Intern Med 1991 Jul-Aug;5(4):239-47.
- Sugawara I, Hamada H, Nakahama M, Okamoto S, Tsuruo T, Mori S. Further characterization of the human adrenal-derived P-glycoprotein recognized by monoclonal antibody MRK 16 reacting with only human P-glycoprotein. Jpn J Cancer Res 1989 Dec;80(12):1199-205.
- Sugimoto Y, Asami N, Tsuruo T. Expression of P-glycoprotein mRNA in human gastric tumors. Jpn J Cancer Res 1989 Oct;80(10):993-9.
- Sukhanov VA, D'Yakov VL, Lalaev VV, Yakh'Yaev AV, Voronkova IM, Donenko FV, Borovkova NB, Moroz LV. [P-glycoprotein expression in P-388 leukemia cell with induced resistance to doxorubicin]. Byull Eksp Biol Med 1991;111(3): 290-1. (Rus).
- Sutter C, Volm M. Genomic organization and expression of multidrug resistance specific sequences in S-180 mouse tumor cell lines and normal tissues of mice [abstract]. Eur J Cell Biol Suppl 1989;(26):86.
- Suzuki H, Tomida A, Nishimura T. Cytocidal activity of a synthetic isoprenoid, N-solaneyl-N,N'-bis(3,4-dimethoxybenzyl)ethylenediamine, and its potentiation of antitumor drugs against multidrug-resistant and sensitive cells in vitro. Jpn J Cancer Res 1990 Mar;81(3):298-303.
- Sweatman TW, Koseki Y, Seshadri R, Israel M, Beck WT. Activity of n-benzyladriamycin-14-valerate (AD 198) in vitro against mechanistically different multidrug-resistant CEM cell lines [abstract]. Proc Annu Meet Am Assoc Cancer Res 1988;29:A1076.
- Sweet P, Chan PK, Slater LM. Cyclosporin A and verapamil enhancement of daunorubicin-produced nucleolar protein b23 translocation in daunorubicin-resistant and sensitive human and murine tumor cells. Cancer Res 1989;49(3):677-80.
- Takeda Y, Nishio K, Sugimoto Y, Kasahara K, Kubo S, Fujiwara Y, Niitani H, Saijo N. Establishment of a human leukemia subline resistant to the growth-inhibitory effect of 12-O-tetradecanoylphorbol 13-acetate (TPA) and showing non-P-glycoprotein-mediated multi-drug resistance. Int J Cancer 1991 Jul 30;48(6):931-7.
- Taylor CW, Dalton WS. Multiple mechanisms of drug resistance in MCF-7 human breast cancer cells [abstract]. Proc Annu Meet Am Assoc Cancer Res 1989;30:A2109.
- Taylor CW, Dalton WS, Parrish PR, Gleason MC, Bellamy WT, Thompson FH, Roe DJ, Trent JM. Different mechanisms of decreased drug accumulation in doxorubicin and mitoxantrone resistant variants of the MCF7 human breast cancer cell line. Br J Cancer 1991 Jun;63(6):923-9.
- te Boekhorst PA, van Kapel J, Schoester M, Sonneveld P. Reversal of typical multidrug resistance by cyclosporin and its non-immunosuppressive analogue SDZ PSC 833 in Chinese hamster ovary cells expressing the mdrl phenotype. Cancer Chemother Pharmacol 1992;30(3):238-42.
- Tetu B, Lacasse B, Bouchard HL, Lagace R, Huot J, Landry J. P-glycoprotein and HSP-27 expression in malignant fibrous histiocytoma, a clinicopathologic and immunohistochemical study [abstract]. Lab Invest 1991;64(1):9A.
- Thierry AR, Jorgensen TJ, Forst D, Belli JA, Dritschilo A, Rahman A. Modulation of multidrug resistance in Chinese hamster cells by liposome-encapsulated doxorubicin. Cancer Commun 1989;1(5):311-6. Published erratum appears in Cancer Commun 1989 Dec;1(6):395.
- Thierry AR, Rahman A, Vige D, Notario V, Dritschilo A. Modulation of multidrug resistance by antisense oligodeoxynucleotides encapsulated in liposomes [abstract]. Proc Annu Meet Am Assoc Cancer Res 1991;32:A2578.
- Thierry AR, Vige D, Dritschilo A, Rahman A. Modulation of multidrug resistance by liposomally encapsulated doxorubicin in two human MDR tumor cell lines [abstract]. Proc Annu Meet Am Assoc Cancer Res 1991;32:A2214.
- Toffoli G, Frustaci S, Tumiotta L, Talamini R, Gherlinzoni F, Picci P, Boiocchi M. Expression of MDR1 and GST-pi in human soft tissue sarcomas: relation to drug resistance and biological aggressiveness. Ann Oncol 1992 Jan;3(1):63-9.
- Toffoli G, Viel A, Tumiotta L, Biscontin G, Boiocchi M. Multidrug-resistance in human colon carcinoma cell lines [abstract]. Anticancer Res 1990;10(5B):1406-7.
- Toffoli G, Viel A, Tumiotta L, Biscontin G, Rossi C, Boiocchi M. Pleiotropic-resistant phenotype is a multifactorial phenomenon in human colon carcinoma cell lines. Br J Cancer 1991 Jan; 63(1):51-6.

- Toffoli G, Viel A, Tumiotta L, Maestro R, Biscontin G, Boiocchi M. Expression of the *mdr1* gene in human colorectal carcinomas: relationship with multidrug resistance inferred from analysis of human colorectal carcinoma cell lines. *Cancer Chemother Pharmacol* 1992;29(4):283-9.
- Toffoli G, Viel A, Tumiotta L, Maestro R, Biscontin G, Boiocchi M. Prognostic significance of *mdr-1* mRNA expression in untreated human colon carcinomas. Paper presented at: Symposium on Mechanisms of Drug and Radiation Resistance of Tumor Cells; 1989 Jun 28-30; Villejuif, France.
- Tong AW, Lee J, Wang RM, Dalton WS, Tsuruo T, Fay JW, Stone MJ. Elimination of chemoresistant multiple myeloma clonogenic colony-forming cells by combined treatment with a plasma cell-reactive monoclonal antibody and a p-glycoprotein-reactive monoclonal antibody. *Cancer Res* 1989;49(17):4829-34.
- Tong W, Berman E, Lin S. Pharmacokinetic study of high-dose tamoxifen with daunorubicin: a phase I trial with escalation of tamoxifen [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A3156.
- Toth K, Vaughan MM, Slocum HK, Fredericks WJ, Chen Y, Karakousis C, Baker RM, Rustum YM. Comparison of immunocytochemical and Western blot detection of P-glycoprotein in 15 human cell lines and 47 sarcoma biopsies [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2190.
- Toth K, Vaughan MM, Slocum HK, Fredericks WJ, Chen YF, Arredondo MA, Harstrick A, Karakousis C, Baker RM, Rustum YM. Comparison of an immunoperoxidase "sandwich" staining method and Western blot detection of P-glycoprotein in human cell lines and sarcomas. *Am J Pathol* 1992 May; 140(5):1009-16.
- Treupel L, Poupon MF, Couvreur P, Puisieux F. [Vectorisation of doxorubicin in nanospheres and reversion of pleiotropic resistance of tumor cells]. *C R Acad Sci III* 1991;313(3):171-4. (Fre).
- Tsuruo T. Multidrug resistance: a transport system of antitumor agents and xenobiotics. *Int Symp Princess Takamatsu Cancer Res Fund* 1990;21:241-51.
- Tsuruo T. Proteins involved in multidrug resistance and their implication for therapy. *Pezcoller Found Symp* 1990;1:131-43.
- Tsuruo T, Hamada H, Sato S, Heike Y. Inhibition of multidrug-resistant human tumor growth in athymic mice by anti-P-glycoprotein monoclonal antibodies. *Jpn J Cancer Res* 1989 Jul;80(7):627-31.
- Tsuruo T, Sugimoto Y, Hamada H, Roninson I, Okumura M, Adachi K, Morishima Y, Ohno R. Detection of multidrug resistance markers, P-glycoprotein and *mdr1* and mRNA, in human leukemia cells. *Jpn J Cancer Res* 1987;78(12):1415-9.
- Tsuruo T, Yusa K, Sudo Y, Takamori R, Sugimoto Y. A fluorine-containing anthracycline me-2303 as a new antitumor agent against murine and human tumors and their multidrug-resistant sublines. *Cancer Res* 1989;49(20):5537-42.
- Twentyman PR. Anthracycline distribution in multicellular tumor spheroids of parental and MDR cells studied by confocal microscopy [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2804.
- Twentyman PR, Bleehen NM. Resistance modification by PSC-833, a novel non-immunosuppressive cyclosporin [corrected]. *Eur J Cancer* 1991; 27(12):1639-42. Published erratum appears in *Eur J Cancer* 1992;28(2-3):616.
- Twentyman PR, Wright KA. Derivation and characterization of a cell line with acquired resistance to cyclosporin A [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2250.
- Ujhazy P, Chen Y, Fredericks W, Ehrke MJ. Collateral sensitivity to tumor necrosis factor in an adriamycin resistant EL4 cell line [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A1625.
- Van de Vrie W, Gheuens EE, Bijma A, De Bruijn EA, Marquet RL, Van Oosterom AT, Eggermont AM. A syngeneic in vivo model of a multidrug-resistant colon carcinoma, CC531 in the WAG rat [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A1270.
- Van de Vrie W, Gheuens EE, Durante NM, De Bruijn EA, Marquet RL, Van Oosterom AT, Eggermont AM. Cyclosporin-A and its analog PSC 833 can reverse intrinsic multidrug resistance in a rat colon carcinoma [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2893.
- Van Der Blik AM, Baas F, Van Der Velde Koerts T, Biedler JL, Meyers MB, OzoLs RF, Hamilton TC, Joenje H, Borst P. Genes amplified and overexpressed in human multidrug resistant cell lines. *Cancer Res* 1988;48(21):5927-32.
- van der Valk P, van Kalken CK, Ketelaars H, Broxterman HJ, Scheffer G, Kuiper CM, Tsuruo T, Lankelma J, Meijer CJ, Pinedo HM, et al. Distribution of multi-drug resistance-associated P-glycoprotein in normal and neoplastic human tissues. Analysis with 3 monoclonal antibodies recognizing different epitopes of the P-glycoprotein molecule. *Ann Oncol* 1990;1(1):56-64.

- van Kalken CK, Kuiper CM, Broxterman HJ, Feller N, Scheper RJ, Lankelma J, Meijer CJ, Pinedo HM, Giaccone G. Expression of P-glycoprotein in the human fetal adrenal is related to secretion of specific steroids [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2825.
- van Kalken CK, van der Hoeven JJ, de Jong J, Giaccone G, Schuurhuis GJ, Maessen PA, Blokhuis WM, van der Vijgh WJ, Pinedo HM. Bepridil in combination with anthracyclines to reverse anthracycline resistance in cancer patients. *Eur J Cancer* 1991;27(6):739-44.
- Vasanthakumar G, Ahmed NK. Antisense oligonucleoside methylphosphonate modulates daunorubicin transport in multidrug-resistant K562 cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1990;31:A2121.
- Vasanthakumar G, Ahmed NK. Modulation of drug resistance in a daunorubicin resistant subline with oligonucleoside methylphosphonates. *Cancer Commun* 1989;1(4):225-32. Published erratum appears in *Cancer Commun* 1990;2(8):295.
- Versantvoort CH, Broxterman HJ, Pinedo HM, de Vries EG, Feller N, Kuiper CM, Lankelma J. Energy-dependent processes involved in reduced drug accumulation in multidrug-resistant human lung cancer cell lines without P-glycoprotein expression. *Cancer Res* 1992 Jan 1;52(1):17-23.
- Verweij J, Herweijer H, Oosterom R, van der Burg ME, Planting AS, Seynaeve C, Stoter G, Nooter K. A phase II study of epidoxorubicin in colorectal cancer and the use of cyclosporin-A in an attempt to reverse multidrug resistance. *Br J Cancer* 1991 Aug;64(2):361-4.
- Volm M, Bak M Jr, Efferth T, Lathan B, Mattern J. Immunocytochemical detection of a resistance-associated glycoprotein in tissue culture cells ascites tumors and human tumor xenografts by MAB-265-F4. *Anticancer Res* 1988;8(4):531-6.
- Volm M, Bak M Jr, Efferth T, Mattern J. Induced multidrug resistance in murine leukemia I1210 and associated changes in a surface-membrane glycoprotein. *J Cancer Res Clin Oncol* 1989; 115(1):17-24.
- Volm M, Efferth T. Relationship of DNA ploidy to chemoresistance of tumors as measured by in vitro tests. *Cytometry* 1990;11(3):406-10.
- Volm M, Mattern J, Pommerenke EW. Time course of MDR gene amplification during in vivo selection for doxorubicin-resistance and during reversal in murine leukemia L 1210. *Anticancer Res* 1991 Mar-Apr;11(2):579-85.
- Volm M, Mattern J, Samsel B. Overexpression of P-glycoprotein and glutathione S-transferase-pi in resistant non-small cell lung carcinomas of smokers. *Br J Cancer* 1991 Oct;64(4):700-4.
- Volm M, Pommerenke EW, Efferth T, Lohrke H, Mattern J. Circumvention of multi-drug resistance in human kidney and kidney carcinoma in vitro. *Cancer* 1991 May 15;67(10):2484-9.
- Von Hoff D, VanDevanter D, Forseth B, Davidson K, Waddelow T, Wahl G. Hydroxyurea can decrease drug resistance gene copy numbers in tumor cell lines [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1990;31:A2243.
- Wadler S, Wiernik PH. Partial reversal of doxorubicin resistance by forskolin and 1,9-dideoxyforskolin in murine sarcoma S180 variants. *Cancer Res* 1988; 48(3):539-43.
- Wadler S, Yang CP. Reversal of doxorubicin resistance by hydrophobic, but not hydrophilic, forskolins. *Mol Pharmacol* 1991 Dec;40(6):960-4.
- Wall DM, Hu XF, Zalcborg JR, Parkin JD. Rapid functional assay for multidrug resistance in human tumor cell lines using the fluorescent indicator fluo-3. *J Natl Cancer Inst* 1991 Feb 6;83(3):206-7.
- Wallace RE, Lindh D, Greenberger L, Raventos-Suarez C, Durr FE. Development of a human breast carcinoma (MX-1E) cell line resistant to calicheamicin [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2163.
- Ward NE, O'Brian CA. Distinct patterns of phorbol-ester-induced downregulation of protein kinase C activity in adriamycin-selected multidrug resistant and parental murine fibrosarcoma cells. *Cancer Lett* 1991;58(3):189-94.
- Warrington RC, Fang WD. Reversal of the multidrug-resistant phenotype of Chinese hamster ovary cells by l-histidinol. *J Natl Cancer Inst* 1989;81(10): 798-803.
- Watanabe M, Komeshima N, Naito M, Isoe T, Otake N, Tsuruo T. Cellular pharmacology of MX2, a new morpholino anthracycline, in human pleiotropic drug-resistant cells. *Cancer Res* 1991 Jan 1;51(1): 157-61.
- Watanabe M, Komeshima N, Nakajima S, Tsuruo T. Mx-2 a morpholinoanthracycline as a new antitumor agent against drug-sensitive and multidrug-resistant human and murine tumor cells. *Cancer Res* 1988; 48(23):6653-7.

- Waud WR, Harrison SD Jr, Temple CG Jr, Griswold DP Jr. Antitumor drug cross-resistance in vivo in a murine P388 leukemia resistant to ethyl 5-amino-1,2-dihydro-2-methyl-3-phenylpyrido[3,4-b]pyrazin-7-ylcarbamate 2-hydroxyethanesulfonate hydrate (NSC 370,147) 370147. *Cancer Chemother Pharmacol* 1992;29(3):190-4.
- Weaver JL, Pine PS, Aszalos A, Schoenlein PV, Currier SJ, Padmanabhan R, Gottesman MM. Laser scanning and confocal microscopy of daunorubicin, doxorubicin, and rhodamine 123 in multidrug-resistant cells. *Exp Cell Res* 1991 Oct;196(2):323-9.
- Weber JM, Sircar S, Horvath J, Dion P. Non P-glycoprotein mediated multidrug resistance in detransformed rat cells selected for resistance to methylglyoxal bis(guanylhydrazone). *Cancer Res* 1989;49(21):5779-83.
- Whelan RD, Deuchars K, Hosking LK, Ling V, Hill BT. Overexpression of P-glycoprotein in Chinese hamster ovary cells following fractionated X-irradiation in vitro [abstract]. *Br J Cancer* 1990; 62(3):491.
- Willman CL, Kopecky KJ, Weick J, Appelbaum F, Grever MR, Head DR, Elias L, Balcerzak SP, Mills GM, Hynes HE. Biologic parameters that predict treatment response in de novo acute myeloid leukemia (AML): CD34, but not multidrug resistance (MDR) gene expression, is associated with a decreased complete remission (CR) rate and CD34+ patients more frequently achieve CR with high-dose cytosine arabinoside [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1992;11:A857.
- Wilson RE, Keng PC, Sutherland RM. Drug resistance in Chinese hamster ovary cells during recovery from severe hypoxia. *J Natl Cancer Inst* 1989;81(16):1235-40.
- Woodcock DM, Linsenmeyer ME, Chojnowski G, Krieger AB, Nink V, Webster LK, Sawyer WH. Reversal of multidrug resistance by surfactants. *Br J Cancer* 1992 Jul;66(1):62-8.
- Yang JM, Hait WN. Use of multidrug resistant L1210 cell line for in vitro and in vivo drug screening [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2161.
- Yang KP, Liang YF, Samaan NA. Intrinsic drug resistance in a human medullary thyroid carcinoma cell line: association with overexpression of *mdr1* gene and low proliferation fraction. *Anticancer Res* 1991;11(3):1065-8.
- Yanovich S, Gewirtz DA, Hall RE, Pickard P, Boise L, Westin E. Reactivity and functional properties of a monoclonal antibody developed against an MDR K562 subline [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A1998.
- Yanovich S, Hall RE, Gewirtz DA. Characterization of a k562 multidrug-resistant cell line. *Cancer Res* 1989;49(16):4499-503.
- Yanovich S, Hall RE, Gewirtz DA. Resistance to natural killer (NK) cell lysis is associated with multiple drug resistance (MDR) [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1082.
- Yin MB, Bankusli I, Rustum YM. Effect of verapamil, DMDP (RO11-2933), a tiapamil analog, and dipyrindamole, a nucleoside transport inhibitor, on the extent and duration of doxorubicin-induced DNA single strand breaks in multidrug-resistant P-388 cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2103.
- Yu G, Ahmad S, Aquino A, Fairchild CR, Trepel JB, Ohno S, Suzuki K, Tsuruo T, Cowan KH, Glazer RI. Transfection with protein kinase C alpha confers increased multidrug resistance to MCF-7 cells expressing P-glycoprotein. *Cancer Commun* 1991 Jun;3(6):181-9.
- Yuan ZK, Sauerteig A, Krishan A. Multiple drug resistance markers and chemosensitivity of human melanoma cells to doxorubicin [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2112.
- Zalcborg JR, Krauer K, Hur XF, McKenzie IF, Pietersz G. Anthracycline conjugates bypass cellular mechanisms of resistance in multidrug resistant (MDR) cells [abstract]. Paper presented at: Cancer in the 1990's: is more aggressive treatment better? 17th Annual Scientific Meeting of the Clinical Oncological Society of Australia Inc.; 1990 Nov 26-28; Melbourne, Australia.
- Zamora JM, Pearce HL, Beck WT. Physical-chemical properties shared by compounds that modulate multidrug resistance in human leukemic cells. *Mol Pharmacol* 1988;33(4):454-62.
- Zou CP, Van NT, Kuo MT. Isolation and characterization of putative intrinsic multidrug resistant Chinese hamster ovary cells by fluorescence activated cell sorting. *Anticancer Res* 1992 Mar-Apr;12(2):427-32.
- Zwelling LA, Slovak ML, Doroshow JH, Hinds M, Chan D, Parker E, Mayes J, Sie KL, Meltzer PS, Trent JM. HT1080/DR4: a P-glycoprotein-negative human fibrosarcoma cell line exhibiting resistance to topoisomerase II-reactive drugs despite the presence of a drug-sensitive topoisomerase II. *J Natl Cancer Inst* 1990 Oct 3;82(19):1553-61.

-Antimetabolites

- Arienti F, Gambacorti-Passerini C, Borin L, Rivoltini L, Orazi A, Pogliani EM, Corneo G, Parmiani G. Increased susceptibility to lymphokine activated killer (LAK) lysis of relapsing vs. newly diagnosed acute leukemic cells without changes in drug resistance or in the expression of adhesion molecules. *Ann Oncol* 1992;3(2):155-62.
- Arkin H, Ohnuma T, Kamen BA, Holland JF, Vallabhajosula S. Multidrug resistance in a human leukemic cell line selected for resistance to trimetrexate. *Cancer Res* 1989 Dec 1;49(23):6556-61.
- Arkin H, Ohnuma T, Schwartz GK, Cuttner J, Holland JF. Lack of staurosporine (STSN) influence on multidrug resistance (MDR) in human leukemic cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2004.
- Assaraf YG, Molina A, Schimke RT. Cross-resistance to the lipid-soluble antifolate trimetrexate in human carcinoma cells with the multidrug-resistant phenotype. *J Natl Cancer Inst* 1989 Feb 15; 81(4):290-4.
- Assaraf YG, Molina A, Schimke RT. Sequential amplification of dihydrofolate reductase and multidrug resistance genes in Chinese hamster ovary cells selected for stepwise resistance to the lipid-soluble antifolate trimetrexate. *J Biol Chem* 1989 Nov 5;264(31):18326-34.
- Bhushan A, Abramson R, Chiu JF, Tritton TR. Expression of c-fos in human and murine multidrug-resistant cells. *Mol Pharmacol* 1992 Jul;42(1):69-74.
- Borst P. Genetic mechanisms of drug resistance. A review. *Acta Oncol* 1991;30(1):87-105.
- Casazza AM, Catino JJ. Mechanisms and strategies related to drug resistance. Paper presented at: *Strategies in Cancer Medical Therapy: Biological Bases and Clinical Implications*; 1989 Apr 12-15; Forli, Italy.
- Christen RD, Shalinsky DR, Howell SB. Enhancement of the loss of multiple drug resistance by hydroxyurea [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1991;10:A209.
- Ellenberger TE, Beverley SM. Multiple drug resistance and conservative amplification of the H region in leishmania-major. *J Biol Chem* 1989; 264(25):15094-103.
- Ferguson PJ, Cheng YC. Phenotypic instability of drug sensitivity in a human colon carcinoma cell line. *Cancer Res* 1989;49(5):1148-53.
- Fry DW, Besserer JA. Characterization of trimetrexate transport in human lymphoblastoid cells and development of impaired influx as a mechanism of resistance to lipophilic antifolates. *Cancer Res* 1988;48(24 Pt 1):6986-91.
- Fuchs B, Ostmeier H, Suter L. P-glycoprotein expression in malignant melanoma. *J Cancer Res Clin Oncol* 1991;117(2):168-71.
- Giai M, Biglia N, Sismondi P. Chemoresistance in breast tumors. *Eur J Gynaecol Oncol* 1991; 12(5):359-73.
- Gupta RS, Murray W, Gupta R. Cross resistance pattern towards anticancer drugs of a human carcinoma multidrug-resistant cell line. *Br J Cancer* 1988;58(4):441-7.
- Haber M, Reed C, Kavallaris M, Norris MD, Stewart BW. Resistance to drugs associated with the multidrug resistance phenotype following selection with high-concentration methotrexate. *J Natl Cancer Inst* 1989;81(16):1250-4.
- Harder S. Verapamil, a promising agent for circumvention of multidrug-resistance. *Onkologie* 1991;14(3):212-7.
- Henderson GB. Mediation of cellular anion detoxification in leukemic cells by unidirectional efflux pumps. *Adv Enzyme Regul* 1989;29:61-72.
- Ito T, Ohnuma T, Holland JF, Mattern MR. Altered DNA topoisomerase (TOPO) II activity in human leukemia sublines resistant to trimetrexate (TMQ) [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2078.
- Kimiya K, Naito S, Soejima T, Sakamoto N, Kotoh S, Kumazawa J, Tsuruo T. Establishment and characterization of doxorubicin-resistant human bladder cancer cell line, KK47/ADM. *J Urol* 1992 Aug;148(2 Pt 1):441-5.
- Klohs WD, Sebolt JS, Steinkampf RW, Havlick MJ, Berman EM, Werbel LM, Leopold WR, Jackson RC. Correlation between in vitro and in vivo testing of DNA-binders versus antifolates in multiple drug resistant (MDR) P388 cells (P388R) [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1271.
- Knick VC, Miller CG. In vivo derivation of a murine P388 leukemia subline resistant to 5'-nor-anhydrovinblastine (navelbine) and its cross-resistance profile [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2759.
- Kobayashi H, Takemura Y, Miyachi H, Ohnuma T. Alterations of MDR1 and dihydrofolate reductase genes in human leukemia sublines resistant to various folate analogs [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A1932.

- Koh EH, Chung HC, Kim JH, Roh JK, Kim BS, Min JS, Lee KS. Value of immunohistochemical detection of P-glycoprotein in breast cancer before and after induction chemotherapy [abstract]. Proc Annu Meet Am Assoc Cancer Res 1991;32:182.
- List AF, Spier C, Greer J, Azar C, Hutter J, Wolff S, Salmon S, Futscher B, Dalton W. Biochemical modulation of anthracycline resistance in acute leukemia with cyclosporin-A (CSA) [abstract]. Proc Annu Meet Am Soc Clin Oncol 1992;11: A865.
- Lutzky J, Canada AL, Yamanishi DT, Bhalla K, Hindenburg AA. Effect of verapamil and buthionine sulfoximine (BSO) on daunorubicin (DNR) cytotoxicity of multidrug-resistant human melanoma cell lines overexpressing P-glycoprotein and glutathione-s-transferases [abstract]. Proc Annu Meet Am Assoc Cancer Res 1992;33:A3315.
- Mattern J, Bak M, Volm M. Occurrence of a multidrug resistant phenotype in human lung xenografts. Br J Cancer 1987;56(4):407-11.
- Mazzoni A, Trave F, Canti G, Franco P. Effect of the tiapamil analog ro-11-2933 on cellular sensitivity to antitumor drugs in sensitive and multidrug resistant human ovarian cancer cells. Anticancer Res 1989; 9(2):367-72.
- Mechetner EB, Roninson IB. Efficient inhibition of P-glycoprotein-mediated multidrug resistance with a monoclonal antibody. Proc Natl Acad Sci U S A 1992 Jul 1;89(13):5824-8.
- Michieli M, Giacca M, Fanin R, Damiani D, Geromin A, Baccarani M. MDR-1 gene amplification in acute lymphoblastic leukemia prior to antileukemic treatment. Br J Haematol 1991;78(2):288-9.
- Mickisch GH, Merlino GT, Galski H, Gottesman MM, Pastan I. Transgenic mice that express the human multidrug-resistance gene in bone marrow enable a rapid identification of agents that reverse drug resistance. Proc Natl Acad Sci U S A 1991 Jan 15; 88(2):547-51.
- Miyachi H, Takemura Y, Kobayashi H, Ohnuma T. CB3717 induced enhancement of multidrug resistance (MDR) in a trimetrexate (TMQ)-resistant human acute lymphoblastic leukemia cell line [abstract]. Proc Annu Meet Am Assoc Cancer Res 1990;31:A2251.
- Molina A, Assaraf YG, Schimke RT. Acquisition of resistance to the lipophilic antifolate trimetrexate in human breast carcinoma cells [abstract]. Clin Res 1989;37(2):469a.
- Murren JR, Cooper DL, Honig J, Edelson RL, Hait WN, Flynn SD. The multidrug-resistant phenotype is prevalent in Sezary Syndrome (SS) [abstract]. Proc Annu Meet Am Soc Clin Oncol 1992;11: A1130.
- Norris MD, Haber M, Gilbert J, Madafiglio J, Kavallaris M, Stewart BW, Mechetner EB, Gudkov AV, Roninson IB. Selection for MDR1 gene expression by high concentration methotrexate [abstract]. Proc Annu Meet Am Assoc Cancer Res 1992;33:A2840.
- Okabe Kado J, Hayashi M, Honma Y, Hozumi M, Tsuruo T. Inhibition by erythroid differentiation factor (activin A) of P-glycoprotein expression in multidrug resistant human K562 erythroleukemia cells. Cancer Res 1991;51(10):2582-6.
- Ouellette M, Fase-Fowler F, Borst P. The amplified H circle of methotrexate-resistant leishmania tarentolae contains a novel P-glycoprotein gene. EMBO J 1990 Apr;9(4):1027-33.
- Park JG, Kramer BS, Lai SL, Goldstein LJ, Gazdar AF. Chemosensitivity patterns and expression of human multidrug resistance-associated MDR1 gene by human gastric and colorectal carcinoma cell lines. J Natl Cancer Inst 1990 Feb 7;82(3):193-8.
- Pinedo HM, van Groeningen CJ, van Kalken CK. Cellular pharmacology and drug resistance in breast cancer. Paper presented at: Biology and therapy of breast cancer. Joint NCI-IST Symposium/3rd IST International Symposium; 1989 Sep 25-27; Genoa, Italy.
- Ross DD. Cellular and pharmacologic aspects of drug resistance in acute myeloid leukemia. Curr Opin Oncol 1991 Feb;3(1):21-9.
- Safa AR, Mehta ND, Agresti M. Photoaffinity labeling of p-glycoprotein in multidrug resistant cells with photoactive analogs of colchicine. Biochem Biophys Res Commun 1989;162(3): 1402-8.
- Sharma RC, Assaraf YG, Schimke RT. Verapamil potentiation of trimetrexate cytotoxicity and dihydrofolate reductase gene amplification in CHO cells [abstract]. Proc Annu Meet Am Assoc Cancer Res 1990;31:A2012.
- Shen DW, Lu YG, Chin KV, Pastan I, Gottesman MM. Human hepatocellular carcinoma cell lines exhibit multidrug resistance unrelated to MRD1 gene expression. J Cell Sci 1991 Mar;98(Pt 3):317-22.
- Shimm DS, Olson S, Hill AB. Radiation resistance in a multidrug resistant human T-cell leukemia line. Int J Radiat Oncol Biol Phys 1988;15(4):931-6.
- Shinoda H, Inaba M, Tsuruo T. In vivo circumvention of vincristine resistance in mice with P388 leukemia using a novel compound, AHC 52. Cancer Res 1989;49(7):1722-6.
- Sonneveld P, Nooter K. Reversal of drug-resistance by cyclosporin-A in a patient with acute myelocytic leukaemia. Br J Haematol 1990 Jun;75(2):208-11.
- Takemura Y, Ohnuma T, Miyachi H, Sekiguchi S. A human leukemia cell line made resistant to two

- folate analogues, trimetrexate and N10-propargyl-5,8-dideazafofolic acid (CB3717). *J Cancer Res Clin Oncol* 1991;117(6):519-25.
- Tsuruo T, Sugimoto Y, Hamada H, Roninson I, Okumura M, Adachi K, Morishima Y, Ohno R. Detection of multidrug resistance markers, P-glycoprotein and *mdr1* and mRNA, in human leukemia cells. *Jpn J Cancer Res* 1987;78(12):1415-9.
- Waud WR, Harrison SD Jr, Temple CG Jr, Griswold DP Jr. Antitumor drug cross-resistance in vivo in a murine P388 leukemia resistant to ethyl 5-amino-1,2-dihydro-2-methyl-3-phenylpyrido[3,4-b]pyrazin-7-ylcarbamate 2-hydroxyethanesulfonate hydrate (NSC 370,147) 370147. *Cancer Chemother Pharmacol* 1992;29(3):190-4.
- Wilson RE, Keng PC, Sutherland RM. Drug resistance in Chinese hamster ovary cells during recovery from severe hypoxia. *J Natl Cancer Inst* 1989;81(16):1235-40.
- Immunosuppressive agents**
- Arvelo F, Hanania N, Mangin C, Baldeyrou P, Arriagada R, Le Chevalier T, Ruffie P, Poupon MF. Multidrug resistance and *mdr1* gene expression in a human small cell lung carcinoma before treatment. Paper presented at: Symposium on Mechanisms of Drug and Radiation Resistance of Tumor Cells; 1989 Jun 28-30; Villejuif, France.
- Beck WT, Qian X, Danks MK. Circumvention of multidrug resistance due to P-glycoprotein or to altered DNA topoisomerase II. Paper presented at: 3rd International Congress on the Neo-adjuvant Chemotherapy; 1991 Feb 6-9; France. (Eng, Fre).
- Benard J, Bourhis J, Hartmann O, Boccon-Gibod L, Duvillard P, Lhomme C, Michel G, Lemerle J, Goldstein L, Gottesman M, et al. Overexpression of human MDR1 gene is related to prior chemotherapy in ovarian carcinomas and in neuroblastomas. Paper presented at: Symposium on Mechanisms of Drug and Radiation Resistance of Tumor Cells; 1989 Jun 28-30; Villejuif, France.
- Boesch D, Gaveriaux C, Jachez B, Pourtier-Manzanedo A, Bollinger P, Loor F. In vivo circumvention of P-glycoprotein-mediated multidrug resistance of tumor cells with SDZ PSC 833. *Cancer Res* 1991 Aug 15;51(16):4226-33.
- Boesch D, Muller K, Pourtier-Manzanedo A, Loor F. Restoration of daunomycin retention in multidrug-resistant P388 cells by submicromolar concentrations of SDZ PSC 833, a nonimmunosuppressive cyclosporin derivative. *Exp Cell Res* 1991 Sep;196(1):26-32.
- Boscoboinik D, Epanand RM. Increased cellular internalization of amphiphiles in a multidrug-resistant CHO cell line. *Biochim Biophys Acta* 1989;1014(1):53-6.
- Boscoboinik D, Epanand RM. Increased rate of transbilayer diffusion of amphiphiles in multidrug-resistant cell lines [abstract]. *Cancer Chemother Pharmacol* 1989;24 Suppl 2:S78.
- Boscoboinik D, Gupta RS, Epanand RM. Investigation of the relationship between altered intracellular pH and multidrug resistance in mammalian cells. *Br J Cancer* 1990 Apr;61(4):568-72.
- Bourhis J, Goldstein LJ, Riou G, Pastan I, Gottesman MM, Benard J. Expression of a human multidrug resistance gene in ovarian carcinomas. *Cancer Res* 1989;49(18):5062-5.
- Broxterman HJ, Pinedo HM, Schuurhuis GJ, Lankelma J. Cyclosporin A and verapamil have different effects on energy metabolism in multidrug-resistant tumour cells. *Br J Cancer* 1990 Jul;62(1):85-8.

- Cantwell BMJ, Bozzino JM, Corris P, Harris AL. The multidrug resistant phenotype in clinical practice evaluation of cross resistance to ifosfamide and mesna after VP-16-213 doxorubicin and vincristine VPAV for small cell lung cancer. *Eur J Cancer Clin Oncol* 1988;24(2):123-30.
- Chambers SK, Hait WN, Kacinski BM, Keyes SR, Handschumacher RE. Enhancement of anthracycline growth inhibition in parent and multidrug-resistant Chinese hamster ovary cells by cyclosporin A and its analogues. *Cancer Res* 1989; 49(22):6275-9.
- Chan HS, Thorner PS, Weitzman S, Solh H, Koren G, Thiessen J, Haddad G, Giesbrecht E, Verjee Z, Greenberg ML, et al. Cyclosporin A for reversal of multidrug resistance in childhood malignancies [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2854.
- Chao NJ, Aihara M, Blume KG, Sikic BI. Modulation of etoposide (VP-16) cytotoxicity by verapamil or cyclosporine in multidrug-resistant human leukemic cell lines and normal bone marrow. *Exp Hematol* 1990 Dec;18(11):1193-8.
- Coley HM, Twentyman PR, Workman P. Improved cellular accumulation is characteristic of anthracyclines which retain high activity in multidrug resistant cell lines, alone or in combination with verapamil or cyclosporin A. *Biochem Pharmacol* 1989 Dec 15;38(24):4467-75.
- Cumber PM, Jacobs A, Hoy T, Whittaker JA, Tsuruo T, Padua RA. Increased drug accumulation ex vivo with cyclosporin in chronic lymphatic leukemia and its relationship to epitope masking of P-glycoprotein. *Leukemia* 1991 Dec;5(12):1050-3.
- Dietel M, Bunge A, Heidebrecht HJ, Reymann A, Seidel A. Resistance to the adriamycin-resistance reversing potency of cyclosporin A in P-glycoprotein-positive Friend leukemia cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2906.
- Dorr RT. Mitomycin, ifosfamide, and mesna in the treatment of lung cancer. *Semin Oncol* 1990 Aug;17(4 Suppl 7):2-5.
- Dorr RT, Liddil JD. Modulation of mitomycin C-induced multidrug resistance in-vitro. *Cancer Chemother Pharmacol* 1991;27(4):290-4.
- Durie BGM, Dalton WS. Reversal of drug resistance in multiple myeloma with verapamil. *Br J Haematol* 1988;68(2):203-6.
- Durivage HJ, Buzaid AC, Todd MB, Poo WJ, March JC, Davis CA, Hait WN. A phase I-II study of pulse cyclosporin-A (CsA) plus vinblastine (VBL) in selected refractory malignancies [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1991;10:A335.
- Erlichman C, Bjarnason G, Bunting P, DeAngelis C, Kerr I, Maki E, Moore M, Rahemtulla C, Thiessen J, Walker S. Cyclosporin A (CyA) modulation of doxorubicin (D): a pharmacokinetic/ pharmacodynamic trial [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1991;10:A314.
- Fardel O, Ratanasavanh D, Loyer P, Ketterer B, Guillouzo A. Overexpression of the multidrug resistance gene product in adult rat hepatocytes during primary culture. *Eur J Biochem* 1992 Apr 15;205(2):847-52.
- Ferguson LR, Turner PM, Baguley BC. Stimulation of bacterial mutagenicity by inhibitors of mammalian cell multidrug resistance. *Mutat Res* 1991 Dec;264(4):231-4.
- Foxwell BM, Mackie A, Ling V, Ryffel B. Identification of the multidrug resistance-related P-glycoprotein as a cyclosporine binding protein. *Mol Pharmacol* 1989 Oct;36(4):543-6.
- Friche E, Jensen PB, Nissen NI. Comparison of cyclosporin A and SDZ PSC833 as multidrug-resistance modulators in a daunorubicin-resistant Ehrlich ascites tumor. *Cancer Chemother Pharmacol* 1992;30(3):235-7.
- Friche E, Jensen PB, Sehested M, Demant EJ, Nissen NN. The solvents cremophor EL and Tween 80 modulate daunorubicin resistance in the multidrug resistant Ehrlich ascites tumor. *Cancer Commun* 1990;2(9):297-303.
- Fuchs B, Ostmeier H, Suter L. P-glycoprotein expression in malignant melanoma. *J Cancer Res Clin Oncol* 1991;117(2):168-71.
- Gaveriaux C, Boesch D, Boelsterli JJ, Bollinger P, Eberle MK, Hiestand P, Payne T, Traber R, Wenger R, Loor F. Overcoming multidrug resistance in Chinese hamster ovary cells in vitro by cyclosporin A (Sandimmune) and non-immunosuppressive derivatives. *Br J Cancer* 1989 Dec;60(6):867-71.
- Giai M, Biglia N, Sisoni P. Chemoresistance in breast tumors. *Eur J Gynaecol Oncol* 1991;12(5): 359-73.
- Goldberg H, Ling V, Wong PY, Skorecki K. Reduced cyclosporin accumulation in multidrug-resistant cells. *Biochem Biophys Res Commun* 1988;152(2): 552-8.
- Gosland MP, Brophy NA, Duran GE, Yahanda AM, Adler KM, Hardy RI, Halsey J, Sikic BI. Bilirubin: a physiological substrate for the multidrug transporter [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2533.
- Gupta RS, Murray W, Gupta R. Cross resistance pattern towards anticancer drugs of a human

- carcinoma multidrug-resistant cell line. *Br J Cancer* 1988;58(4):441-7.
- Gupta S, Tsuruo T, Gollapudi S. Induction of P-glycoprotein expression in T cells and inhibition by cyclosporin A. A role of PKC isoforms [abstract]. *FASEB J* 1991;5(5):A995.
- Hait WN, Aftab DT. Rational design and pre-clinical pharmacology of drugs for reversing multidrug resistance. *Biochem Pharmacol* 1992;43(1):103-7.
- Hait WN, Stein JM, Koletsky AJ, Harding MW, Handschumacher RE. Activity of cyclosporin A and a non-immunosuppressive cyclosporin against multidrug resistant leukemic cell lines. *Cancer Commun* 1989;1(1):35-43.
- Harris AL, Hochhauser D. Mechanisms of multidrug resistance in cancer treatment. *Acta Oncol* 1992; 31(2):205-13.
- Herweijer H, Sonneveld P, Baas F, Nooter K. Expression of *mdr1* and *mdr3* multidrug-resistance genes in human acute and chronic leukemias and association with stimulation of drug accumulation by cyclosporine. *J Natl Cancer Inst* 1990 Jul 4; 82(13):1133-40.
- Herweijer H, Van Den Engh G, Nooter K. A rapid and sensitive flow cytometric method for the detection of multidrug-resistant cells. *Cytometry* 1989;10(4):463-8.
- Herzog CE, Tsokos M, Fojo AT, Bates SE. Calcium channel blockers (CCBs) induce P-glycoprotein (Pgp) in human colon carcinoma (HCC) cell lines [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2185.
- Hofslie E. Multimedikamentresistens - teoretiske og kliniske aspekter [Multidrug resistance - theoretical and clinical aspects]. *Tidsskr Nor Laegeforen* 1992;112(4):472-4. (Nor).
- Hu XF, Martin TJ, Bell DR, de Luise M, Zalberg JR. Combined use of cyclosporin A and verapamil in modulating multidrug resistance in human leukemia cell lines. *Cancer Res* 1990 May 15;50(10):2953-7.
- Ishida Y, Shimada Y, Shimoyama M. Synergistic effect of cyclosporin A and verapamil in overcoming vincristine resistance of multidrug-resistant cultured human leukemia cells. *Jpn J Cancer Res* 1990 Aug;81(8):834-41.
- Jancis EM, Carbone R, Loechner KJ, Dannies PS. Estradiol induction of rhodamine 123 efflux and multidrug-resistance pump mRNA in rat pituitary tumor cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2820.
- Keller RP, Altermatt HJ, Donatsch P, Zihlmann H, Laissue JA, Hiestand PC. Pharmacologic interactions between the resistance-modifying cyclosporine SDZ PSC 833 and etoposide (VP 16-213) enhance in vivo cytostatic activity and toxicity. *Int J Cancer* 1992 May 28;51(3):433-8.
- Keller RP, Altermatt HJ, Nooter K, Poschmann G, Laissue JA, Bollinger P, Hiestand PC. SDZ PSC-833, a non-immunosuppressive cyclosporine: its potency in overcoming P-glycoprotein-mediated multidrug resistance of murine leukemia. *Int J Cancer* 1992 Feb 20;50(4):593-7.
- Kemnitz J, Uysal A, Haverich A, Heublein B, Cohnert TR, Stangel W, Georgii A. Multidrug resistance in heart transplant patients: a preliminary communication on a possible mechanism of therapy-resistant rejection. *J Heart Lung Transplant* 1991 Mar-Apr;10(2):201-10.
- Knick VC, Miller CG. In vivo derivation of a murine P388 leukemia subline resistant to 5'-nor-anhydrovinblastine (navelbine) and its cross-resistance profile [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2759.
- Koh EH, Chung HC, Kim JH, Roh JK, Kim BS, Min JS, Lee KS. Value of immunohistochemical detection of P-glycoprotein in breast cancer before and after induction chemotherapy [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:182.
- Larsson R, Bergh J, Nygren P. Combination of cyclosporin A and buthionine sulfoximine (BSO) as a pharmacological strategy for circumvention of multidrug resistance in small cell lung cancer cell lines selected for resistance to doxorubicin. *Anticancer Res* 1991 Jan-Feb;11(1):455-9.
- Licht T, Fiebig HH, Bross KJ, Herrmann F, Berger DP, Shoemaker R, Mertelsmann R. Induction of multiple-drug resistance during anti-neoplastic chemotherapy in vitro. *Int J Cancer* 1991 Oct 21; 49(4):630-7.
- Lincke CR, van der Bliet AM, Schuurhuis GJ, van der Velde-Koerts T, Smit JJ, Borst P. Multidrug resistance phenotype of human BRO melanoma cells transfected with a wild-type human *mdr1* complementary DNA. *Cancer Res* 1990 Mar 15; 50(6):1779-85.
- List AF, Spier C, Greer J, Azar C, Hutter J, Wolff S, Salmon S, Futscher B, Dalton W. Biochemical modulation of anthracycline resistance in acute leukemia with cyclosporin-A (CSA) [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1992;11: A865.
- Loor F, Boesch D, Gaveriaux C, Jachez B, Pourtier-Manzanedo A, Emmer G. SDZ 280-446, a novel semi-synthetic cyclopeptide: in vitro and in vivo circumvention of the P-glycoprotein-mediated

- tumour cell multidrug resistance. *Br J Cancer* 1992 Jan;65(1):11-8.
- Lum BL, Kaubisch S, Adler KM, Yahanda AM, Gosland MP, Sikic BI. Enhanced leukopenia by cyclosporine in a phase I clinical trial of modulation of etoposide resistance: pharmacokinetic and pharmacodynamic analysis [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A1413.
- Lum BL, Kaubisch S, Gosland MP, Jew LL, Ehsan MN, Schnur DP, Yahanda AM, Adler KM, Hardy R, Brophy NA, et al. The effect of cyclosporin (CSA) on etoposide (E) pharmacokinetics in a phase I trial of E with CSA as a modulator of multidrug resistance [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1991;10:A277.
- Marie JP, Bastie JN, Coloma F, Just-Landi S, Filleul A, Catalin J, Zittoun R. A phase I-II trial of cyclosporine (CSA) with etoposide (E) and mitoxantrone (M) in advanced acute leukemia (AL) [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1992;11:A911.
- Marie JP, Helou C, Thevenin D, Delmer A, Zittoun R. In vitro effect of P-glycoprotein (P-gp) modulators on drug sensitivity of leukemic progenitors (CFU-L) in acute myelogenous leukemia (AML). *Exp Hematol* 1992 Jun;20(5):565-8.
- Mattern J, Bak M, Volm M. Occurrence of a multidrug resistant phenotype in human lung xenografts. *Br J Cancer* 1987;56(4):407-11.
- McMichael A, Klohs W, Steinkampf R, Elliott W, Ramu A. Tioperidone: a new chemosensitizer for multidrug resistance [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2243.
- Michieli M, Giacca M, Fanin R, Damiani D, Geromin A, Baccarani M. MDR-1 gene amplification in acute lymphoblastic leukemia prior to antileukemic treatment. *Br J Haematol* 1991;78(2):288-9.
- Mickisch GH, Aksentjevich I, Schoenlein PV, Goldstein LJ, Galski H, Stahle C, Sachs DH, Pastan I, Gottesman MM. Transplantation of bone marrow cells from transgenic mice expressing the human MDR1 gene results in long-term protection against the myelosuppressive effect of chemotherapy in mice. *Blood* 1992 Feb 15;79(4):1087-93.
- Mickisch GH, Aksentjevich Y, Gottesman MM, Pastan I. Transplantation of bone marrow cells expressing the human MDR1 gene results in long-term protection against the myelosuppressive effect of chemotherapy in mice [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2803.
- Millar BC, Bell JBG, Maitland JA, Zuiable A, Gore ME, Selby PJ, McElwain TJ. In vitro studies of ways to overcome resistance to VAMP high dose melphalan in the treatment of multiple myeloma. *Br J Haematol* 1989;71(2):213-22.
- Miller TP, Grogan TM, Dalton WS, Spier CM, Scheper RJ, Salmon SE. P-glycoprotein expression in malignant lymphoma and reversal of clinical drug resistance with chemotherapy plus high-dose verapamil. *J Clin Oncol* 1991 Jan; 9(1):17-24.
- Miller TP, Grogan TM, Spier CM, Salmon SE, Dalton WS. High-dose verapamil infusion added to chemotherapy reverses drug resistance in lymphoma patients in relapse [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1989;8:A984.
- Mizuno K, Furuhashi Y, Maeda O, Iwata M, Misawa T, Kawai M, Kano T, Tomoda Y. Mitomycin C cross-resistance induced by adriamycin in human ovarian cancer cells in vitro. *Cancer Chemother Pharmacol* 1990;26(5):333-9.
- Mizuno K, Furuhashi Y, Misawa T, Iwata M, Kawai M, Kikkawa F, Kano T, Tomoda Y. Modulation of multidrug resistance by immunosuppressive agents: cyclosporin analogues, FK506 and mizoribine. *Anticancer Res* 1992 Jan-Feb; 12(1):21-5.
- Naito M, Oh-hara T, Yamazaki A, Danki T, Tsuruo T. Reversal of multidrug resistance by an immunosuppressive agent FK-506. *Cancer Chemother Pharmacol* 1992;29(3):195-200.
- Naito M, Tsuruo T. Competitive inhibition by verapamil of ATP-dependent high affinity vincristine binding to the plasma membrane of multidrug-resistant K562 cells without calcium ion involvement. *Cancer Res* 1989;49(6):1452-5.
- Nooter K, Herweijer H, Sonneveld P, Verweij J, Hagenbeek A, Stoter G. Detection of multidrug resistance (MDR) in refractory cancer patients [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2092.
- Nooter K, Oostrum R, Jonker R, Van Dekken H, Stokdijk W, Van Den Engh G. Effect of cyclosporin A on daunorubicin accumulation in multidrug-resistant p388 leukemia cells measured by real-time flow cytometry. *Cancer Chemother Pharmacol* 1989;23(5):296-300.
- Nooter K, Sonneveld P, Janssen A, Oostrum R, Boersma T, Herweijer H, Valerio D, Hagemeijer A, Baas F. Expression of the mdr3 gene in prolymphocytic leukemia: association with cyclosporin-A-induced increase in drug accumulation. *Int J Cancer* 1990 Apr 15;45(4): 626-31.
- Nooter K, Sonneveld P, Oostrum R, Herweijer H, Hagenbeek T, Valerio D. Overexpression of the mdr1 gene in blast cells from patients with acute myelocytic leukemia is associated with decreased anthracycline accumulation that can be restored by cyclosporin-A. *Int J Cancer* 1990 Feb 15;45(2): 263-8.
- Nygren P, Larsson R. Verapamil and cyclosporin A sensitize human kidney tumor cells to vincristine in

- absence of membrane P-glycoprotein and without apparent changes in the cytoplasmic free Ca²⁺ concentration. *Biosci Rep* 1990 Apr;10(2):231-7.
- Onishi Y, Handel LM, Hall L, Fojo AT, Young RC, Ozols RF, Hamilton TC. Multidrug resistance (mdr-1) gene amplification and overexpression (OE) in human ovarian cancer (HOC) cell lines from untreated patients (pts) and pts refractory to combination chemotherapy (CC) [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2280.
- Osann K, Sweet P, Slater LM. Synergistic interaction of cyclosporin A and verapamil on vincristine and daunorubicin resistance in multidrug-resistant human leukemia cells in vitro. *Cancer Chemother Pharmacol* 1992;30(2):152-4.
- Petrini M, Carulli G, Mattii L, Sabbatini A, Pardi C, Caracciolo F, Grassi B. [The pleiotropic drug resistance phenotype: role of reverting agents "in vitro" and "in vivo"]. *Haematologica* 1991 Jun; 76 Suppl 3:173-6. (Ita).
- Pierre A, Perez V, Leonce S, Anstett M, Atassi G. In vitro circumvention of multidrug resistance by cyclosporin A, cremophor EL, reserpine or verapamil [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2241.
- Pinedo HM, van Groeningen CJ, van Kalken CK. Cellular pharmacology and drug resistance in breast cancer. Paper presented at: Biology and therapy of breast cancer. Joint NCI-IST Symposium/3rd IST International Symposium; 1989 Sep 25-27; Genoa, Italy.
- Pourtier-Manzanedo A, Boesch D, Loor F. FK-506 (fujimycin) reverses the multidrug resistance of tumor cells in vitro. *Anticancer Drugs* 1991 Jun; 2(3):279-83.
- Rhodes T, Twentyman PR. Effects of cyclosporin A and verapamil on cellular pharmacokinetics and chemosensitivity in an MDR cell line which does not express P-glycoprotein [abstract]. *Br J Cancer* 1991;63 Suppl 13:12.
- Ro J, Sahin A, Ro JY, Fritsche H, Hortobagyi G, Blick M. Immunohistochemical analysis of P-glycoprotein expression correlated with chemotherapy resistance in locally advanced breast cancer. *Hum Pathol* 1990 Aug;21(8):787-91.
- Ross D, Wooten P, Ordonez JV, Sridhara R, Lee E, Schiffer C. MDR1 expression and effects of cyclosporin-A, verapamil and progesterone on daunorubicin cytotoxicity in blast cells from acute myelogenous leukemia patients [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2839.
- Ruszala-Mallon V, Silva J, Raventos-Suarez C, Durr FE. P-glycoprotein-mediated multidrug resistance in ovarian carcinoma cells selected for resistance to bisantrene, a synthetic anticancer drug [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1990;31:A2110.
- Ryffel B, Woerly G, Rodriguez C, Foxwell BM. Identification of the multidrug resistance-related membrane glycoprotein as an acceptor for cyclosporine. *J Recept Res* 1991;11(1-4):675-86.
- Safa AR. P-glycoprotein as a target for chemosensitizing agents. Paper presented at: 1st International Interface of Clinical and Laboratory Responses to Anticancer Drugs; 1989 Mar 13-15; Villejuif, France.
- Safa AR. Photoaffinity labeling of P-glycoprotein in multidrug-resistant cells. *Cancer Invest* 1992;10(4): 295-305.
- Salminen A, Elson HF, Mickley LA, Fojo AT, Gottesman MM. Implantation of recombinant rat myocytes into adult skeletal muscle: a potential gene therapy. *Hum Gene Ther* 1991 Spring;2(1): 15-26.
- Salmon SE, Miller T, Grogan T, Dalton WS. Reversal of multidrug resistance (MDR) with chemosensitizers: an emerging clinical reality. Paper presented at: Drug resistance as a biochemical target in cancer chemotherapy. 13th Bristol-Myers Squibb Symposium on Cancer Research; 1990 May 10-11; Tokyo, Japan.
- Samuels B, Murray J, Sherman J, Agresti M, Safa A. Combination multidrug resistance modulation: synergism and additivity [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2236.
- Samuels B, Ratain M, Mick R, Vogelzang NJ, Schilsky R, O'Brien S, Harrison H. Phase I trial of multidrug resistance modulation with cyclosporine A [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A1163.
- Samuels BL, Murray JL, Safa AR. Additive reversal of multidrug resistance by combinations of non-cross-toxic modulating agents [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1990;31:A2138.
- Schluesener HJ, Koepfel C, Jung S. Multidrug transport in human autoimmune T line cells and peripheral blood lymphocytes. *Immunopharmacology* 1992 Jan-Feb;23(1):37-48.
- Schuurhuis GJ, Pinedo HM, Broxterman HJ, van Kalken CK, Kuiper CM, Lankelma J. Differential sensitivity of multi-drug-resistant and -sensitive cells to resistance-modifying agents and the relation with reversal of anthracycline resistance. *Int J Cancer* 1990 Aug 15;46(2):330-6.
- Shimoyama M. Detection of multidrug resistant (MDR) cancer cells by monoclonal antibodies. Paper presented at: Drug resistance as a biochemical target in cancer chemotherapy. 13th Bristol-Myers Squibb Symposium on Cancer Research; 1990 May 10-11; Tokyo, Japan.

- Shoji Y, Fisher MH, Periasamy A, Herman B, Juliano RL. Verapamil and cyclosporin A modulate doxorubicin toxicity by distinct mechanisms. *Cancer Lett* 1991 May 24;57(3):209-18.
- Silbermann MH, Boersma AW, Janssen AL, Scheper RJ, Herweijer H, Nooter K. Effects of cyclosporin A and verapamil on the intracellular daunorubicin accumulation in Chinese hamster ovary cells with increasing levels of drug-resistance. *Int J Cancer* 1989 Oct 15;44(4):722-6.
- Slater LM, Sweet P, Gupta S. Cyclosporin a (CsA) and verapamil (Vp) effects on altered mitochondrial potentials (MoP) in multidrug-resistant (mdr) acute lymphatic leukemia (ALL) [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2260.
- Slater LM, Wetzel M, Cho J, Sweet P. Development of cyclosporin A mediated immunity in L1210 leukaemia. *Br J Cancer* 1991 Dec;64(6):1098-102.
- Solary E, Velay I, Chauffert B, Bidan JM, Caillot D, Dumas M, Guy H. Sufficient levels of quinine in the serum circumvent the multidrug resistance of the human leukemic cell line K562/ADM. *Cancer* 1991 Oct 15;68(8):1714-9.
- Sonneveld P, Durie BG, Lokhorst HM, Marie JP, Solbu G, Suci S, Zittoun R, Lowenberg B, Nooter K. Modulation of multidrug-resistant multiple myeloma by cyclosporin. The Leukaemia Group of the EORTC and the HOVON. *Lancet* 1992 Aug 1; 340(8814):255-9.
- Sonneveld P, Nooter K. Reversal of drug-resistance by cyclosporin-A in a patient with acute myelocytic leukaemia. *Br J Haematol* 1990 Jun;75(2):208-11.
- Sonneveld P, Nooter K, Burghouts JTM, Herweijer H, Adriaansen HJ, Van Dongen JJM. High expression of the mdr3 multidrug-resistance gene in advanced-stage chronic lymphocytic leukemia. *Blood* 1992;79(6):1496-500.
- Sonneveld P, Nooter K, Herweyer H, te Boekhorst P, van Kapel J, Lowenberg B. Multidrug resistance (mdr1) in leukemia and myeloma: detection, clinical relevance and circumvention [abstract]. *Haematologica* 1991;76 Suppl 4:74.
- Spolstra EC, Dekker H, Broxterman HJ, Lankelma J. The effect of cyclosporin A and verapamil on daunomycin accumulation rate in the murine colon carcinoma cell line C-26 [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A1929.
- Spolstra EC, Dekker H, Schuurhuis GJ, Broxterman HJ, Lankelma J. P-glycoprotein drug efflux pump involved in the mechanisms of intrinsic drug resistance in various colon cancer cell lines. Evidence for a saturation of active daunorubicin transport. *Biochem Pharmacol* 1991;41(3):349-60.
- Stow MW, Warr JR. Amplification and expression of MDR genes and flanking sequences in verapamil hypersensitive hamster cell lines. *Biochim Biophys Acta* 1991;1092(1):7-14.
- Sweet P, Chan PK, Slater LM. Cyclosporin A and verapamil enhancement of daunorubicin-produced nucleolar protein b23 translocation in daunorubicin-resistant and sensitive human and murine tumor cells. *Cancer Res* 1989;49(3):677-80.
- Tamai I, Safa AR. Azidopine noncompetitively interacts with vinblastine and cyclosporin A binding to P-glycoprotein in multidrug resistant cells. *J Biol Chem* 1991 Sep 5;266(25):16796-800.
- Tamai I, Safa AR. Competitive interaction of cyclosporins with the Vinca alkaloid-binding site of P-glycoprotein in multidrug-resistant cells. *J Biol Chem* 1990 Sep 25;265(27):16509-13.
- te Boekhorst PA, van Kapel J, Schoester M, Sonneveld P. Reversal of typical multidrug resistance by cyclosporin and its non-immunosuppressive analogue SDZ PSC 833 in Chinese hamster ovary cells expressing the mdr1 phenotype. *Cancer Chemother Pharmacol* 1992;30(3):238-42.
- Tebbi CK, Chervinsky D, Baker RM. Modulation of drug resistance in homoharringtonine-resistant C-1300 neuroblastoma cells with cyclosporine A and dipyridamole. *J Cell Physiol* 1991 Sep;148(3): 464-71.
- Tickman RJ, Holoye P, Robey-Cafferty S, Bruner J. P-glycoprotein (PGP) in small cell carcinoma of lung expression before and after chemotherapy and its influence upon responsiveness to a preoperative chemotherapy regimen [abstract]. *Lab Invest* 1990; 62(1):99a.
- Tobe S, Lieberman D, Goldberg H, Skorecki K, Reithmeier R. Detection and localization of P-glycoprotein (P-gp) in the kidney [abstract]. *Kidney Int* 1990;37(1):234.
- Toffoli G, Frustaci S, Tumiotta L, Talamini R, Gherlinzoni F, Picci P, Boiocchi M. Expression of MDR1 and GST-pi in human soft tissue sarcomas: relation to drug resistance and biological aggressiveness. *Ann Oncol* 1992;3(1):63-9.
- Tsuruo T, Sugimoto Y, Hamada H, Roninson I, Okumura M, Adachi K, Morishima Y, Ohno R. Detection of multidrug resistance markers, P-glycoprotein and mdr1 and mRNA, in human leukemia cells. *Jpn J Cancer Res* 1987;78(12): 1415-9.
- Twentyman PR. Anthracycline distribution in multicellular tumor spheroids of parental and MDR cells studied by confocal microscopy [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33: A2804.

- Twentyman PR. Cyclosporins as drug resistance modifiers. *Biochem Pharmacol* 1992 Jan 9; 43(1):109-17.
- Twentyman PR. Modification of cytotoxic drug resistance by non-immunosuppressive cyclosporins. *Br J Cancer* 1988;57(3):254-8.
- Twentyman PR. Strategies for circumventing resistance to cytotoxic drugs. Paper presented at: 5th Biennial Conference of the Indian Association of Cancer Chemotherapists; 1989 Feb 17-19; Bombay, India.
- Twentyman PR, Bleehen NM. Resistance modification by PSC-833, a novel non-immunosuppressive cyclosporin [corrected]. *Eur J Cancer* 1991; 27(12):1639-42. Published erratum appears in *Eur J Cancer* 1992;28(2-3):616.
- Twentyman PR, Wright KA. Derivation and characterization of a cell line with acquired resistance to cyclosporin A [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2250.
- Twentyman PR, Wright KA, Wallace HM. Cyclosporin A and non-immunosuppressive analogs inhibit growth of human lung cancer cells in vitro [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A1921.
- Twentyman PR, Wright KA, Wallace HM. Effects of cyclosporin A and a non-immunosuppressive analogue, O-acetyl cyclosporin A, upon the growth of parent and multidrug resistant human lung cancer cells in vitro. *Br J Cancer* 1992 Mar;65(3):335-40.
- Van de Vrie W, Gheuens EE, Durante NM, De Bruijn EA, Marquet RL, Van Oosterom AT, Eggermont AM. Cyclosporin-A and its analog PSC 833 can reverse intrinsic multidrug resistance in a rat colon carcinoma [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2893.
- Van Der Zee AGJ, Hollema H, De Jong S, Boonstra H, Gouw A, Willemse PHB, Zijlstra JG, De Vries EGE. P-glycoprotein expression and DNA topoisomerase I and II activity in benign tumors of the ovary and in malignant tumors of the ovary before and after platinum cyclophosphamide chemotherapy. *Cancer Res* 1991;51(21):5915-20.
- van Kalken CK, Kuiper CM, Broxterman HJ, Feller N, Schepers RJ, Lankelma J, Meijer CJ, Pinedo HM, Giaccone G. Expression of P-glycoprotein in the human fetal adrenal is related to secretion of specific steroids [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2825.
- Verweij J, Herweijer H, Oosterom R, van der Burg ME, Planting AS, Seynaeve C, Stoter G, Nooter K. A phase II study of epidoxorubicin in colorectal cancer and the use of cyclosporin-A in an attempt to reverse multidrug resistance. *Br J Cancer* 1991 Aug;64(2):361-4.
- Volm M, Bak M Jr, Efferth T, Mattern J. Induced multidrug resistance in murine leukemia L1210 and associated changes in a surface-membrane glycoprotein. *J Cancer Res Clin Oncol* 1989; 115(1):17-24.
- Yahanda AM, Adler KM, Hardy R, Brophy NA, Halsey J, Sikic BI. A phase I trial of etoposide (E) with cyclosporine (CSA) as a modulator of multidrug resistance (MDR) [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1991;10:A276.
- Yang JM, Hait WN. Use of multidrug resistant L1210 cell line for in vitro and in vivo drug screening [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2161.

-Nitrogen mustard compounds

- Alexanian R, Barlogie B. New treatment strategies for multiple myeloma. *Am J Hematol* 1990 Nov;35(3):194-8.
- Cantwell BMJ, Bozzino JM, Corris P, Harris AL. The multidrug resistant phenotype in clinical practice: evaluation of cross resistance to ifosfamide and mesna after VP-16-213 doxorubicin and vincristine VPAV for small cell lung cancer. *Eur J Cancer Clin Oncol* 1988;24(2):123-30.
- Deffie AM, Alam T, Seneviratne C, Beenken SW, Batra JK, Shea TC, Henner WD, Goldenberg GJ. Multifactorial resistance to adriamycin relationship of DNA repair glutathione transferase activity drug efflux and P-glycoprotein in cloned cell lines of adriamycin-sensitive and adriamycin-resistant P388 leukemia. *Cancer Res* 1988;48(13):3595-602.
- Dorr RT. Mitomycin, ifosfamide, and mesna in the treatment of lung cancer. *Semin Oncol* 1990 Aug;17(4 Suppl 7):2-5.
- Dorr RT, Liddil JD, Von Hoff DD, Soble M, Osborne CK. Antitumor activity and murine pharmacokinetics of parenteral acronycine. *Cancer Res* 1989;49(2):340-4.
- Durie BGM, Dalton WS. Reversal of drug resistance in multiple myeloma with verapamil. *Br J Haematol* 1988;68(2):203-6.
- Fine RL, Patel J, Chabner BA. Phorbol esters induce multidrug resistance in human breast cancer cells. *Proc Natl Acad Sci U S A* 1988;85(2):582-6.
- Grandi M, Capolongo L, Ballinari D, Giuliani FC, Mongelli N. Cytotoxicity and intracellular levels of distamycin A in sensitive and DX-resistant cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2015.
- Gupta RS, Murray W, Gupta R. Cross resistance pattern towards anticancer drugs of a human carcinoma multidrug-resistant cell line. *Br J Cancer* 1988;58(4):441-7.
- Harder S. Verapamil, a promising agent for circumvention of multidrug-resistance. *Onkologie* 1991;14(3):212-7.
- Harris AL. Mechanisms of cytotoxic drug resistance in breast cancer. Paper presented at: Biennial International Breast Cancer Research Conference; 1989 Mar 5-9; Tel Aviv University, Tel Aviv.
- Harris AL, Hochhauser D. Mechanisms of multidrug resistance in cancer treatment. *Acta Oncol* 1992; 31(2):205-13.
- Hoffmann D, Gerken M, Hermentin P, Sedlacek HH. B 880308 -- a new anthracycline derivative demonstrating maintained activity against multidrug resistant cell lines [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2410.
- Jagannath S, Barlogie B, Dicke K, Alexanian R, Zagars G, Cheson B, Lemaistre FC, Smallwood L, Pruitt K, Dixon DO. Autologous bone marrow transplantation in multiple myeloma: identification of prognostic factors. *Blood* 1990 Nov 1;76(9):1860-6.
- Knight C, Slade DL, Harker WG. Multidrug resistance in mitoxantrone-selected CEM leukemia cells appears to be unrelated to P-glycoprotein expression [abstract]. *Clin Res* 1991;39(1):68A.
- Lee FYF, Sciandra J, Siemann DW. A study of the mechanism of resistance to adriamycin in-vivo glutathione metabolism P-glycoprotein expression and drug transport. *Biochem Pharmacol* 1989; 38(21):3697-706.
- Lincke CR, Van Der Blik AM, Van Der Velde-Koerts T, Borst P. The multidrug resistant phenotype of the wild-type human MDR1 gene [abstract]. *J Chemother Infect Dis Malig* 1989;Suppl 1: A309.
- Mattern J, Bak M, Volm M. Occurrence of a multidrug resistant phenotype in human lung xenografts. *Br J Cancer* 1987;56(4):407-11.
- Meijer C, de Vries EG, Timmer-Bosscha H, Scheper RJ, de Ley L, Berendsen HH, Mulder NH. Resistance mechanisms in three human small cell lung cancer cell lines established from one patient during clinical follow-up [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1221.
- Millar BC, Bell JBG, Maitland JA, Zuiable A, Gore ME, Selby PJ, McElwain TJ. In vitro studies of ways to overcome resistance to VAMP high dose melphalan in the treatment of multiple myeloma. *Br J Haematol* 1989;71(2):213-22.
- Murren JR, Cooper DL, Honig J, Edelson RL, Hait WN, Flynn SD. The multidrug-resistant phenotype is prevalent in Sezary Syndrome (SS) [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1992;11: A1130.
- Ozols RF. Reversal of drug resistance: clinical trials based on experimental studies in human tumor model systems. Paper presented at: Symposium on Mechanisms of Drug and Radiation Resistance of Tumor Cells; 1989 Jun 28-30; Villejuif, France.
- Ozols RF. Reversal of drug resistance: laboratory data and clinical trials. Paper presented at: Biology and therapy of breast cancer. Joint NCI-IST Symposium/3rd IST International Symposium; 1989 Sep 25-27; Genoa, Italy.
- Ozols RF, Hamilton TC, Fojo AT, Lai GM, Rothenberg M, Young RC. Reversal of alkylating agent and

- platinum resistance in ovarian cancer [abstract]. Proc Annu Meet Am Assoc Cancer Res 1988;29:526-7.
- Rabier MJ, Bruno NA, Slate DL. Multifactorial resistance in LS174T human colon carcinoma cells selected with doxorubicin. *Int J Cancer* 1991 Oct 21;49(4):601-7.
- Seneviratne C, Goldenberg GJ. Further characterization of drug-sensitivity and cross-resistance profiles of cloned cell lines of Adriamycin-sensitive and -resistant P388 leukemia. *Cancer Commun* 1989;1(1):21-7.
- Shen DW, Lu YG, Chin KV, Pastan I, Gottesman MM. Human hepatocellular carcinoma cell lines exhibit multidrug resistance unrelated to MRD1 gene expression. *J Cell Sci* 1991 Mar;98(Pt 3):317-22.
- Sonneveld P, Nooter K, Burghouts JTM, Herweijer H, Adriaansen HJ, Van Dongen JJM. High expression of the *mdr3* multidrug-resistance gene in advanced-stage chronic lymphocytic leukemia. *Blood* 1992;79(6):1496-500.
- Tebbi CK, Chervinsky D, Baker RM. Modulation of drug resistance in homoharringtonine-resistant C-1300 neuroblastoma cells with cyclosporine A and dipyrindamole. *J Cell Physiol* 1991 Sep;148(3):464-71.
- Toffoli G, Frustaci S, Tumiotto L, Talamini R, Gherlinzoni F, Picci P, Boiocchi M. Expression of MDR1 and GST-pi in human soft tissue sarcomas: relation to drug resistance and biological aggressiveness. *Ann Oncol* 1992;3(1):63-9.
- Waud WR, Harrison SD Jr, Temple CG Jr, Griswold DP Jr. Antitumor drug cross-resistance in vivo in a murine P388 leukemia resistant to ethyl 5-amino-1,2-dihydro-2-methyl-3-phenylpyrido[3,4-b]pyrazin-7-ylcarbamate 2-hydroxyethanesulfonate hydrate (NSC 370,147) 370147. *Cancer Chemother Pharmacol* 1992;29(3):190-4.
- Phytogenic compounds**
- Abraham I, Wolf CL, Sampson KE, McGovren JP, DeKoning TF. Tirilazad mesylate, a 21 aminosteroid, and the reversal of multidrug resistance [abstract]. Proc Annu Meet Am Assoc Cancer Res 1992;33:A2866.
- Adams DJ, Knick VC. MDR and non-MDR forms of cellular resistance to 5'-nor-anhydrovinblastine (navelbine) [abstract]. Proc Annu Meet Am Assoc Cancer Res 1992;33:A2760.
- Aftab DT, Hait WN. Effects of phorbol 12-myristate 13-acetate on drug accumulation and P-glycoprotein phosphorylation in sensitive and multidrug-resistant MCF-7 cells [abstract]. Proc Annu Meet Am Assoc Cancer Res 1992;33:A2821.
- Agarwala S, Bahnson R, Wilson J, Szumowski J, Downs M, Ernstoff M. Evaluation of the combination of vinblastine and quinidine in patients with metastatic renal cell carcinoma - a phase I study [abstract]. Proc Annu Meet Am Assoc Cancer Res 1991;32:A1161.
- Aihara M, Aihara Y, Schmidt-Wolf G, Schmidt-Wolf I, Sikic BI, Blume KG, Chao NJ. A combined approach for purging multidrug-resistant leukemic cell lines in bone marrow using a monoclonal antibody and chemotherapy. *Blood* 1991 May 1; 77(9):2079-84.
- Akiyama SI, Cornwell MM, Kuwano M, Pastan I, Gottesman MM. Most drugs that reverse multidrug resistance also inhibit photoaffinity labeling of P-glycoprotein by a vinblastine analog. *Mol Pharmacol* 1988;33(2):144-7.
- Akiyama SI, Yoshimura A, Kikuchi H, Sumizawa T, Kuwano M, Tahara Y. Synthetic isoprenoid photoaffinity labeling of P-glycoprotein specific to multidrug-resistant cells. *Mol Pharmacol* 1989; 36(5):730-5.
- Alexanian R, Barlogie B. New treatment strategies for multiple myeloma. *Am J Hematol* 1990 Nov;35(3):194-8.
- Allen CN, Harpur ES, Gray TJ, Simmons NL, Hirst BH. Efflux of bis-carboxyethyl-carboxyfluorescein (BCECF) by a novel ATP-dependent transport mechanism in epithelial cells. *Biochem Biophys Res Commun* 1990 Oct 15;172(1):262-7.
- Anderson M, Warr JR. Expression of verapamil hypersensitivity in multidrug-resistant cells grown as multicellular spheroids. *Cancer Chemother Pharmacol* 1990;26(2):151-4.

- Andreeff M, Hegewisch-Becker S, Haimi J, Rehmann B, Berman E, Bertino J. Multidrug resistance, expression of P-glycoprotein, anthracycline uptake and ARA-C resistance in acute leukemia: assessment by flow cytometry and correlation with response to therapy [abstract]. *J Chemother Infect Dis Malig* 1989;Suppl 1:A480.
- Arias IM, Gatmaitan Z, Mazzanti R, Shu H, Kumamoto Y. Structure and function of P-glycoprotein in the normal liver and intestine. *Int Symp Princess Takamatsu Cancer Res Fund* 1990;21:229-39.
- Arienti F, Gambacorti-Passerini C, Borin L, Rivoltini L, Orazi A, Pogliani EM, Corneo G, Parmiani G. Increased susceptibility to lymphokine activated killer (LAK) lysis of relapsing vs. newly diagnosed acute leukemic cells without changes in drug resistance or in the expression of adhesion molecules. *Ann Oncol* 1992;3(2):155-62.
- Arkin H, Ohnuma T, Kamen BA, Holland JF, Vallabhajosula S. Multidrug resistance in a human leukemic cell line selected for resistance to trimetrexate. *Cancer Res* 1989 Dec 1;49(23):6556-61.
- Arkin H, Ohnuma T, Schwartz GK, Cuttner J, Holland JF. Lack of staurosporine (STSN) influence on multidrug resistance (MDR) in human leukemic cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2004.
- Asoh K, Saburi Y, Sato S, Nogae I, Kohno K, Kuwano M. Potentiation of some anticancer agents by dipyradamole against drug-sensitive and drug-resistant cancer cell lines. *Jpn J Cancer Res* 1989 May;80(5):475-81.
- Assaraf YG, Molina A, Schimke RT. Sequential amplification of dihydrofolate reductase and multidrug resistance genes in Chinese hamster ovary cells selected for stepwise resistance to the lipid-soluble antifolate trimetrexate. *J Biol Chem* 1989 Nov 5;264(31):18326-34.
- Azzaria M, Schurr E, Gros P. Discrete mutations introduced in the predicted nucleotide-binding sites of the *mdr1* gene abolish its ability to confer multidrug resistance. *Mol Cell Biol* 1989 Dec; 9(12):5289-97.
- Baas F, Jongsma AP, Broxterman HJ, Arceci RJ, Housman D, Scheffer GL, Riethorst A, van Groenigen M, Nieuwint AW, Joenje H. Non-P-glycoprotein mediated mechanism for multidrug resistance precedes P-glycoprotein expression during in vitro selection for doxorubicin resistance in a human lung cancer cell line. *Cancer Res* 1990 Sep 1;50(17):5392-8.
- Barrand MA, Twentyman PR. Variations in P-glycoprotein expression in response to drug treatment in mouse tumor cell lines [abstract]. *Br J Cancer* 1991;63 Suppl 13:12.
- Bates SE, Currier SJ, Alvarez M, Fojo AT. Modulation of P-glycoprotein phosphorylation and drug transport by sodium butyrate. *Biochemistry* 1992 Jul 21;31(28):6366-72.
- Bates SE, Currier SJ, Fojo AT. Modulation of P-glycoprotein (Pgp) specificity by sodium butyrate (NaB) [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2164.
- Bates SE, Denicoff AM, Cowan K, Tucker E, Begley M, Goldspiel B, Myers C, Fojo T. A study of MDR-1 expression and pharmacologic reversal in human breast cancer [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1991;10:A148.
- Bates SE, Scala S, Dickstein B, Fojo AT. Modulation of P-glycoprotein (Pgp) function by dephosphorylation [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2905.
- Bates SE, Shieh CY, Mickley LA, Dichek HL, Gazdar A, Loriaux DL, Fojo AT. Mitotane enhances cytotoxicity of chemotherapy in cell lines expressing a multidrug resistance gene (*mdr-1*/P-glycoprotein) which is also expressed by adrenocortical carcinomas. *J Clin Endocrinol Metab* 1991 Jul; 73(1):18-29.
- Beck WT, Cirtain MC, Glover CJ, Felsted RL, Safa AR. Effects of indole alkaloids on multidrug resistance and labeling of P-glycoprotein by a photoaffinity analog of vinblastine. *Biochem Biophys Res Commun* 1988;153(3):959-66.
- Beck WT, Qian XD. Photoaffinity substrates for P-glycoprotein. *Biochem Pharmacol* 1992;43(1):89-93.
- Bellamy W, Gleason M, Futscher B, Dalton W. Altered P-glycoprotein (P-170)-mediated doxorubicin (D) resistance in a verapamil (V)-resistant human multiple myeloma cell line [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2181.
- Belli JA, Zhang Y. P-glycoprotein fused to the membrane of sensitive cells imparts transient resistance to adriamycin [abstract]. *Cancer Chemother Pharmacol* 1989;24 Suppl 2:S77.
- Belli JA, Zhang Y, Fritz P. Transfer of adriamycin resistance by fusion of Mr 170,000 P-glycoprotein to the plasma membrane of sensitive cells. *Cancer Res* 1990 Apr 1;50(7):2191-7.
- Benard J, Bourhis J, Hartmann O, Boccon-Gibod L, Duvillard P, Lhomme C, Michel G, Lemerle J, Goldstein L, Gottesman M, et al. Overexpression of human MDR1 gene is related to prior chemotherapy in ovarian carcinomas and in neuroblastomas. Paper presented at: Symposium on Mechanisms of Drug and Radiation Resistance of Tumor Cells; 1989 Jun 28-30; Villejuif, France.

- Benard J, Bourhis J, Riou G. Inducing chemoresistance in the N-myc oncogene and associated genes. Prognostic value for neuroblastoma. *Bull Cancer* 1991;78(1):91-7.
- Benard J, Da Silva J, Renaud L. Differential expression of drug resistance in a human ovarian tumor cell line, IGR-OV1, following in vitro treatment with doxorubicin (DXR), vincristine (VCR), or cis-platinum (CDDP). Paper presented at: 2nd International Congress on Neo-Adjuvant Chemotherapy; 1989 Feb 19-21; Paris.
- Benard J, Da Silva J, Teyssier JR, Riou G. Over expression of MDR 1 gene with no DNA amplification in a multiple drug resistant human ovarian carcinoma cell line. *Int J Cancer* 1989; 43(3):471-7.
- Benard J, Teyssier JR, Riou G. Loss of tumorigenicity in a multiple drug resistant human ovarian carcinoma cell line [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1224.
- Berman E, Adams M, Duigou-Osterndorf R, Godfrey L, Clarkson B, Andreeff M. Effect of tamoxifen on cell lines displaying the multidrug-resistant phenotype. *Blood* 1991 Feb 15;77(4):818-25.
- Berman E, McBride M. Comparative cellular pharmacology of daunorubicin and idarubicin in human multidrug-resistant leukemia cells. *Blood* 1992 Jun 15;79(12):3267-73.
- Berry JM, Brophy NA, Smith SD, Bergstrom SK, Scudder SA, Roninson IB, Sikic BI. Increased expression of the multidrug resistance gene MDR1 in human cancers [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1988;7:A193.
- Berry JM, Swensen RE, Brophy NA, Scudder SA, Sikic BI. Increased expression of the multidrug resistance gene mdr1 in ovarian cancers [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30: A2051.
- Bhushan A, Abramson R, Chiu JF, Tritton TR. Expression of c-fos in human and murine multidrug-resistant cells. *Mol Pharmacol* 1992 Jul;42(1):69-74.
- Bhuyan BK, Smith KS, Sampson KE, Abraham I. V79 cells resistant to the alkylating agent U-73975 are multidrug resistant [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2179.
- Biedler JL. Genetic aspects of multidrug resistance (MDR). Paper presented at: American Cancer Society National Conference on Integration of Molecular Genetics into Cancer Management; 1991 Apr 10-12; Miami, FL.
- Biedler JL, Chang TD, Scotto KW, Melera PW, Spengler BA. Chromosomal organization of amplified genes in multidrug-resistant Chinese hamster cells. *Cancer Res* 1988;48(11):3179-87.
- Biedler JL, Meyers MB, Spengler BA. Collateral sensitivity of multidrug-resistant Chinese hamster cells to calcium channel blockers: correlation with P-glycoprotein content [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1171.
- Boesch D, Gaveriaux C, Jachez B, Pourtier-Manzanedo A, Bollinger P, Loor F. In vivo circumvention of P-glycoprotein-mediated multidrug resistance of tumor cells with SDZ PSC 833. *Cancer Res* 1991 Aug 15;51(16):4226-33.
- Boscoboinik D, Debanne MT, Stafford AR, Jung CY, Gupta RS, Epanand RM. Radiation inactivation studies of membranes from multidrug resistant cells [abstract]. *Cancer Chemother Pharmacol* 1989; 24 Suppl 2:S78.
- Boscoboinik D, Gupta RS, Epanand RM. Altered intracellular pH and Na⁺/H⁺ antiport activity in multidrug-resistant cell lines [abstract]. *Cancer Chemother Pharmacol* 1989;24 Suppl 2:S86.
- Bourhis J, Goldstein LJ, Riou G, Pastan I, Gottesman MM, Benard J. Expression of a human multidrug resistance gene in ovarian carcinomas. *Cancer Res* 1989;49(18):5062-5.
- Boven E, Venema E, Erkelens CA, Van Muijen M, Sanders KH, Pinedo HM. Enhancement of drug efficacy by the new calcium channel blocker B8509-035 in the BRO/MDR1.1 model [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33: A2876.
- Bradley G, Naik M, Ling V. P-glycoprotein expression in multidrug-resistant human ovarian carcinoma cell lines. *Cancer Res* 1989;49(10): 2790-6.
- Broxterman HJ, Kuiper CM, Schuurhuis GJ, Tsurou T, Pinedo HM, Lankelma J. Increase of daunorubicin and vincristine accumulation in multidrug resistant human ovarian carcinoma cells by a monoclonal antibody reacting with P-glycoprotein. *Biochem Pharmacol* 1988;37(12):2389-94.
- Broxterman HJ, Pinedo HM, Kuiper CM, Van Der Hoeven JJM, De Lange P, Quak JJ, Scheper RJ, Keizer HG, Jan Schuurhuis G, Lankelma J. Immunohistochemical detection of p-glycoprotein in human tumor cells with a low degree of drug resistance. *Int J Cancer* 1989;43(2):340-3.
- Broxterman HJ, Schuurhuis GJ, Lankelma J, Baak JP, Pinedo HM. Towards functional screening for multidrug resistant cells in human malignancies. *Pezcoller Found Symp* 1990;1:309-29.
- Burk RK, Garfield S, Johnson K, Thorgierson SS. Transformation of rat liver epithelial cells with V-H-

- RAS or V-RAF causes expression of MDR-1 glutathione-S-transferase-P and increased resistance to cytotoxic chemicals. *Carcinogenesis* 1988; 9(12):2329-32.
- Busche R, Tuemmler B, Cano-Gauci DF, Riordan JR. Equilibrium kinetic and photoaffinity labeling studies of daunomycin binding to p-glycoprotein-containing membranes of multidrug-resistant Chinese hamster ovary cells. *Eur J Biochem* 1989; 183(1):189-98.
- Busche R, Tuemmler B, Riordan JR, Cano-Gauci DF. Preparation and utility of a radioiodinated analogue of daunomycin in the study of multidrug resistance. *Mol Pharmacol* 1989;35(4):414-21.
- Cairo MS, Plunkett JM, Gillan E, Weinthal J, Knoppel E, van de Ven C, Sender L. A novel preparative and purging regimen employing verapamil to modulate multiple drug resistance during autologous bone marrow transplant in acute lymphoblastic leukemia: a pilot study [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A1191.
- Cairo MS, Plunkett JM, Kantawala S, Knoppel E, Nguyen A, van de Ven C. Purging of multiple drug resistant acute lymphoblastic leukemia (L100) for autologous bone marrow transplantation with vincristine (V) and VP-16: selective modulation by verapamil (VPL) [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A1017.
- Callahan HL, Beverley SM. Heavy metal resistance: a new role for P-glycoproteins in Leishmania. *J Biol Chem* 1991 Oct 5;266(28):18427-30.
- Cano-Gauci DF, Busche R, Tuemmler B, Riordan JR. Fast kinetic analysis of drug transport in multidrug resistant cells using a pulsed quench-flow apparatus. *Biochem Biophys Res Commun* 1990 Feb 28; 167(1):48-53.
- Cantwell BMJ, Bozzino JM, Corris P, Harris AL. The multidrug resistant phenotype in clinical practice evaluation of cross resistance to ifosfamide and mesna after VP-16-213 doxorubicin and vincristine VPAV for small cell lung cancer. *Eur J Cancer Clin Oncol* 1988;24(2):123-30.
- Capranico G, De Isabella P, Castelli C, Supino R, Parmiani G, Zunino F. P-glycoprotein gene amplification and expression in multidrug-resistant murine p388 and b16 cell lines. *Br J Cancer* 1989; 59(5):682-5.
- Carulli G, Petrini M, Marini A, Vaglini F, Caracciolo F, Grassi B. P-glycoprotein and drug resistance in acute leukemias and in the blastic crisis of chronic myeloid leukemia. *Haematologica* 1990 Nov-Dec; 75(6):516-21.
- Cass CE, Janowska-Wieczorrek A, Lynch MA, Sheinin H, Hindenburg AA, Beck WT. Effect of duration of exposure to verapamil on vincristine activity against multidrug-resistant human leukemic cell lines. *Cancer Res* 1989;49(21):5798-804.
- Castillo G, Vera JC, Yang CP, Horwitz SB, Rosen OM. Functional expression of murine multidrug resistance in *Xenopus laevis* oocytes. *Proc Natl Acad Sci U S A* 1990 Jun;87(12):4737-41.
- Chambers TC, McAvoy EM, Jacobs JW, Eilon G. Protein kinase C phosphorylates P-glycoprotein in multidrug resistant human KB carcinoma cells. *J Biol Chem* 1990 May 5;265(13):7679-86.
- Chambers TC, Zheng B, Kuo JF. Regulation by phorbol ester and protein kinase C inhibitors, and by a protein phosphatase inhibitor (okadaic acid), of P-glycoprotein phosphorylation and relationship to drug accumulation in multidrug-resistant human KB cells. *Mol Pharmacol* 1992 Jun;41(6):1008-15.
- Chan HSL, Bradley G, Thorner P, Haddad G, Gallie BL, Ling V. Methods in laboratory investigation. A sensitive method for immunocytochemical detection of P-glycoprotein in multidrug resistant human ovarian carcinoma cell lines. *Lab Invest* 1988;59(6):870-5.
- Chan HSL, Bradley G, Thorner P, Haddad G, Gallie BL, Ling V. A sensitive method for immunocytochemical detection of p-glycoprotein in multidrug-resistant human ovarian carcinoma cell lines. *Lab Invest* 1988;59(6):870-5.
- Chang JY, Han FS, Liu SY, Wang ZQ, Lee KH, Cheng YC. Effect of 4 beta-arylamino derivatives of 4'-O-demethylepipodophyllotoxin on human DNA topoisomerase II, tubulin polymerization, KB cells, and their resistant variants. *Cancer Res* 1991 Apr 1;51(7):1755-9.
- Chao NJ. Combination of monoclonal antibody and chemotherapy for purging multidrug-resistant cells from bone marrow. Paper presented at: 3rd International Symposium on Bone Marrow Purging and Processing; 1991 Oct 3-5; San Diego, CA.
- Chapekar MS, Huggett AC, Cheng CC, Hampton LL, Lin KH, Thorgeirsson SS. Isolation and characterization of a rat liver epithelial cell line resistant to the antiproliferative effects of transforming growth factor beta (type 1). *Cancer Res* 1990 Jun 15;50(12):3600-4.
- Chen AY, Yu C, Potmesil M, Wall ME, Wani MC, Liu LF. Camptothecin overcomes MDR1-mediated resistance in human KB carcinoma cells. *Cancer Res* 1991 Nov 15;51(22):6039-44.
- Chin KV, Tanaka S, Darlington G, Pastan I, Gottesman MM. Heat shock and arsenite increase expression of the multidrug resistance (MDR1) gene in human

- renal carcinoma cells. *J Biol Chem* 1990 Jan 5; 265(1):221-6.
- Choi K, Chen CJ, Kriegler M, Roninson IB. An altered pattern of cross-resistance in multidrug-resistant human cells results from spontaneous mutations in the *mdr1* P-glycoprotein gene. *Cell* 1988;53(4):519-30.
- Choi K, Frommel TO, Stern RK, Perez CF, Kriegler M, Tsuruo T, Roninson IB. Multidrug resistance after retroviral transfer of the human *MDR1* gene correlates with P-glycoprotein density in the plasma membrane and is not affected by cytotoxic selection. *Proc Natl Acad Sci U S A* 1991 Aug 15; 88(16):7386-90.
- Christen RD, Shalinsky DR, Howell SB. Enhancement of the loss of multiple drug resistance by hydroxyurea [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1991;10:A209.
- Christen RD, Shalinsky DR, Howell SB. Enhancement of the loss of multiple drug resistance by hydroxyurea. *Semin Oncol* 1992 Jun; 19(3 Suppl 9):94-100.
- Cohen D, Yang CP, Horwitz SB. The products of the *mdr1a* and *mdr1b* genes from multidrug resistant murine cells have similar degradation rates. *Life Sci* 1990;46(7):489-95.
- Coon JS, Knudson W, Clodfelter K, Lu B, Weinstein RS. Solutol HS-15 nontoxic polyoxyethylene esters of 12 hydroxystearic acid reverses multidrug resistance. *Cancer Res* 1991;51(3):897-902.
- Cordon-Cardo C, O'Brien JP, Boccia J, Casals D, Bertino JR, Melamed MR. Expression of the multidrug resistance gene product (P-glycoprotein) in human normal and tumor tissues. *J Histochem Cytochem* 1990 Sep;38(9):1277-87.
- Cordon-Cardo C, O'Brien JP, Casals D, Boccia J, Bertino JR. Immunohistochemical and immunopathologic expression of the multidrug resistance gene product. *Cancer Cells* 1989; 7:87-93.
- Croop J, Gros P, Housman D. Mutational analysis of a site involved in colchicine resistance in the mouse *MDR1* gene [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2166.
- Cumber P, Padua RA, Holmes J, Carter G, Jacobs A. Multidrug resistance in chronic lymphatic leukemia. Paper presented at: British Association for Cancer Research/Association for Cancer Physicians/Leukaemia Research Fund Joint Winter Meeting on Leukaemia and Lymphomas; 1989 Dec 11-12; London, UK.
- Cuvier C, Roblot-Treupel L, Millot JM, Couvreur P, Manfait M, Poupon MF. Doxorubicin, loaded on nanospheres, bypasses multidrug resistance and is detectable as bound to nuclear DNA by microspectrofluorometry. Paper presented at: Symposium on Mechanisms of Drug and Radiation Resistance of Tumor Cells; 1989 Jun 28-30; Villejuif, France.
- Dalton WS, Grogan TM, Meltzer PS, Scheper RJ, Durie BGM, Taylor CW, Miller TP, Salmon SE. Drug resistance in multiple myeloma and non Hodgkin's lymphoma: Detection of P glycoprotein and potential circumvention by addition of verapamil to chemotherapy. *J Clin Oncol* 1989; 7(4):415-24.
- Dalton WS, Grogan TM, Miller TP. The role of P-glycoprotein in drug-resistant hematologic malignancies. *Cancer Treat Res* 1991;57:187-208.
- Davis J, Bines S, Economou S, Roninson I, Chaudhary P, Coon J. Solutol HS 15 reverses multiple drug resistance in a human *MDR-1*-mouse melanoma system [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1991;10:A200.
- DeHerdt SV, Andrews EL, Marder P, Moore RE, Hoskins J, Bumol TF. Characterization of the multiple drug resistance phenotype of several human colorectal carcinoma cell lines selected with vinca alkaloids [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1419.
- Delaporte C, Larsen AK, Dautry F, Jacquemin-Sablon A. Influence of *myc* overexpression on the phenotypic properties of Chinese hamster lung cells resistant to antitumor agents. *Exp Cell Res* 1991 Dec;197(2):176-82.
- Demidova NS, Chernova OB, Siyanova EY, Goncharova AS, Kopnin BP. Newly formed chromosome-like structures in independent mouse P388 sublines with developed in vivo *mdr1* gene amplification. *Somat Cell Mol Genet* 1991 Nov; 17(6):581-90.
- Devine SE, Ling V, Melera PW. Amino acid substitutions in P-glycoprotein alter multidrug resistance [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2837.
- Devine SE, Ling V, Melera PW. Point mutations in the *pgp1* (p-glycoprotein) gene [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2156.
- Dhainaut A, Regnier G, Atassi G, Pierre A, Leonce S, Kraus-Berthier L, Prost JF. New triazine derivatives as potent modulators of multidrug resistance. *J Med Chem* 1992 Jun 26;35(13): 2481-96.
- Dhir R, Gros P. Functional analysis of chimeric proteins constructed by exchanging homologous domains of two P-glycoproteins conferring distinct drug resistance profiles. *Biochemistry* 1992 Jul 7; 31(26):6103-10.

- Dimeric vinca alkaloids that reverse MDR. *Curr Opin Ther Pat* 1992;2(1):3-4.
- Dimopoulos MA, Alexanian R. Irreversibility of drug resistance in VAD-refractory myeloma [letter]. *Am J Hematol* 1992 Jun;40(2):154-5.
- Dorr RT. Mitomycin, ifosfamide, and mesna in the treatment of lung cancer. *Semin Oncol* 1990 Aug; 17(4 Suppl 7):2-5.
- Doz F, Michon J, Quintana E, Pacquement H, Zucker JM. [Multidrug resistance of solid tumors in children]. *Arch Fr Pediatr* 1991 Oct;48(8):585-8. (Fre).
- Dupuis ML, Ramoni C, Yassen A, Samoggia P, Tombesi M, Caserta M, Cianfriglia M. The over-expression of P-glycoprotein in K-562 and DAUDI cells, is associated with a high susceptibility to NK and LAK cells. *J Biol Regul Homeost Agents* 1991 Oct-Dec;5(4):137-41.
- Durie BGM, Dalton WS. Reversal of drug resistance in multiple myeloma with verapamil. *Br J Haematol* 1988;68(2):203-6.
- Durivage HJ, Buzaid AC, Todd MB, Poo WJ, March JC, Davis CA, Hait WN. A phase I-II study of pulse cyclosporin-A (CsA) plus vinblastine (VBL) in selected refractory malignancies [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1991;10:A335.
- Eietel M, Arps H, Niendorf A. Immunocytochemical evidence of p170 positive, mitoxantrone (DHAD) containing vesicles and structurally altered microtubules in a human gastric carcinoma cell line with atypical multidrug resistance (MDR) [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30: A704.
- Eliason JF, Ramuz H, Kaufmann F. Human multi-drug-resistant cancer cells exhibit a high degree of selectivity for stereoisomers of verapamil and quinidine. *Int J Cancer* 1990 Jul 15;46(1):113-7.
- Elliott WL, Roberts BJ, Steinkampf RW, Leopold WR, Klohs WD. In vivo studies on multidrug-resistant (MDR) tumors with the new chemosensitizer, tioperidone [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2858.
- Ellis AL, Gewirtz DA, Munger C, Woods KE, Randolph JK, Boise L, Yanovich S. Multifactorial drug resistance in the rat hepatoma [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A1999.
- Ellis AL, Munger CE, Bunch RT, Woods KE, Randolph JK, Boise L, Swerdlow PS, Zwelling LA, Hinds M, Yanovich S, et al. Components of intrinsic drug resistance in the rat hepatoma. *Biochem Pharmacol* 1992 Jan 22;43(2):331-42.
- Epand RF, Epand RM. The new potent immunosuppressant FK-506 reverses multidrug resistance in Chinese hamster ovary cells. *Anticancer Drug Des* 1991 Jul;6(3):189-93.
- Epand RF, Epand RM, Gupta RS, Cragoe EJ Jr. Reversal of intrinsic multidrug resistance in Chinese hamster ovary cells by amiloride analogs. *Br J Cancer* 1991;63(2):247-51.
- Epstein J, Xiao H, Oba BK. P-glycoprotein expression in plasma cell myeloma is associated with resistance to VAD. *Blood* 1989;74(3):913-7.
- Etievant C, Breillout F, Kiss R. Monitoring by means of digital cell image analysis of verapamil-induced morphonuclear modifications in chemosensitive as opposed to chemoresistant neoplastic cell lines [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2713.
- Evans SS, Rustum YM. The combined effects of alpha-interferon with doxorubicin (DOX) and vinblastine (VLB) on multidrug-resistant ovarian carcinoma and leukemic cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2101.
- Fairchild CR, Cowan KH. Keynote address: Multidrug resistance: a pleiotropic response to cytotoxic drugs. *Int J Radiat Oncol Biol Phys* 1991 Feb;20(2):361-7.
- Fairchild CR, Ivy SP, Kao Shan CS, Whang Peng J, Rosen N, Israel MA, Melera PW, Cowan KH, Goldsmith ME. Isolation of amplified and overexpressed DNA sequences from Adriamycin resistant human breast cancer cells. *Cancer Res* 1987;47(19):5141-8.
- Fairchild CR, Moscow JA, O'Brien EE, Cowan KH. Multidrug resistance in cells transfected with human genes encoding a variant P-glycoprotein and glutathione S-transferase-pi. *Mol Pharmacol* 1990 Jun;37(6):801-9.
- Fan D, Fidler IJ, Ward NE, Seid C, Earnest LE, Housey GM, O'Brian CA. Stable expression of a cDNA encoding rat brain protein kinase C-beta I confers a multidrug-resistant phenotype on rat fibroblasts. *Anticancer Res* 1992 May-Jun; 12(3):661-7.
- Fardel O, Ratanasavanh D, Loyer P, Ketterer B, Guillouzo A. Overexpression of the multidrug resistance gene product in adult rat hepatocytes during primary culture. *Eur J Biochem* 1992 Apr 15;205(2):847-52.
- Ferguson PJ, Cheng YC. Phenotypic instability of drug sensitivity in a human colon carcinoma cell line. *Cancer Res* 1989;49(5):1148-53.
- Figueredo A, Arnold A, Goodyear M, Findlay B, Neville A, Normandeau R, Jones A. Addition of verapamil and tamoxifen to the initial chemotherapy of small cell lung cancer. A phase I/II study. *Cancer* 1990 May 1;65(9):1895-902.

- Fine RL, Patel J, Chabner BA. Phorbol esters induce multidrug resistance in human breast cancer cells. *Proc Natl Acad Sci U S A* 1988;85(2):582-6.
- Fine RL, Sachs CW, Albers M, Williams A. Tamoxifen potentiates the cytotoxicity of vinblastine by increasing intracellular drug accumulation [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2226.
- Fine RM. Multidrug resistance. *Cancer Chemother Biol Response Modif* 1988;10:73-84.
- Fleming GF, Amato JM, Agresti M, Safa AR. Megestrol acetate reverses multidrug resistance and interacts with P-glycoprotein. *Cancer Chemother Pharmacol* 1992;29(6):445-9.
- Fleming GF, Amato JM, Agresti M, Safa AR. Reversal of multidrug resistance by megestrol acetate [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2253.
- Ford JM, Bruggemann EP, Pastan I, Gottesman MM, Hait WN. Cellular and biochemical characterization of thioxanthenes for reversal of multidrug resistance in human and murine cell lines. *Cancer Res* 1990 Mar 15;50(6):1748-56.
- Ford JM, Hait WN. Further characterization of the thioxanthene class of multidrug resistance antagonists [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:570.
- Friche E, Jensen PB, Nissen NI. Comparison of cyclosporin A and SDZ PSC833 as multidrug-resistance modulators in a daunorubicin-resistant Ehrlich ascites tumor. *Cancer Chemother Pharmacol* 1992;30(3):235-7.
- Friche E, Skovsgaard T, Nissen NI. Anthracycline resistance. *Acta Oncol* 1989;28(6):877-81.
- Friedlander ML, Bell DR, Leary J, Davey RA. Comparison of Western blot analysis and immunocytochemical detection of P-glycoprotein in multidrug resistant cells. *J Clin Pathol* 1989 Jul; 42(7):719-22.
- Fry DW, Besserer JA. Characterization of trimetrexate transport in human lymphoblastoid cells and development of impaired influx as a mechanism of resistance to lipophilic antifolates. *Cancer Res* 1988;48(24 Pt 1):6986-91.
- Ganapathi R, Grabowski D, Ford J, Heiss C, Kerrigan D, Pommier Y. Progressive resistance to doxorubicin in mouse leukemia L1210 cells with multidrug resistance phenotype: reductions in drug-induced topoisomerase II-mediated DNA cleavage. *Cancer Commun* 1989;1(4):217-24.
- Ganapathi R, Kuo T, Teeter L, Grabowski D, Ford J. Relationship between expression of P-glycoprotein and efficacy of trifluoperazine in multidrug-resistant cells. *Mol Pharmacol* 1991 Jan;39(1):1-8.
- Garozzo A, Allegra E. P-glycoprotein expression in relation to natural resistance in untreated head and neck solid tumours [abstract]. *Eur J Cancer* 1991; 27 Suppl 3:S42.
- Gaveriaux C, Boesch D, Boelsterli JJ, Bollinger P, Eberle MK, Hiestand P, Payne T, Traber R, Wenger R, Loor F. Overcoming multidrug resistance in Chinese hamster ovary cells in vitro by cyclosporin A (Sandimmune) and non-immunosuppressive derivatives. *Br J Cancer* 1989 Dec;60(6):867-71.
- Gekeler V, Handgretinger R, Weger S, Wilisch A, Kruepelmann S, Niethammer D, Probst H. MDR1 P-glycoprotein expression in NK cells. *Nat Immun Cell Growth Regul* 1991;10(3):123-4.
- Germann UA, Willingham MC, Pastan I, Gottesman MM. Expression of the human multidrug transporter in insect cells by a recombinant baculovirus. *Biochemistry* 1990 Mar 6;29(9): 2295-303.
- Geromin A, Signor M, Vigevani E, Michieli M, Michelutti A, Damiani D, Fasola G, Baccarani M. A prospective evaluation of P170 glycoprotein in normal blood mononuclear cells during chemotherapy [abstract]. *Haematologica* 1991; 76 Suppl 4:75.
- Gewirtz DA, Grant S, Woods KE. Modulation of adriamycin sensitivity in multidrug-resistant MCF-7 breast tumor cells by tomosifen [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2898.
- Goldberg H, Ling V, Wong PY, Skorecki K. Reduced cyclosporin accumulation in multidrug-resistant cells. *Biochem Biophys Res Commun* 1988;152(2): 552-8.
- Goldstein LJ, Fojo AT, Ueda K, Crist W, Green A, Brodeur G, Pastan I, Gottesman MM. Expression of the multidrug resistance, MDR1, gene in neuroblastomas. *J Clin Oncol* 1990 Jan;8(1): 128-36.
- Gore ME, Selby PJ, Millar B, Maitland J, McElwain TJ. The use of verapamil to overcome drug resistance in myeloma [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1988;7:A882.
- Gosland MP, Lum BL, Sikic BI. Reversal by cefoperazone of resistance to etoposide, doxorubicin, and vinblastine in multidrug resistant human sarcoma cells. *Cancer Res* 1989 Dec 15; 49(24 Pt 1):6901-5.
- Gottesman MM, Goldstein LJ, Pastan I. Expression of the multidrug-resistance (MDR1) gene in breast cancer and other cancers. Paper presented at: Biennial International Breast Cancer Research

- Conference; 1989 Mar 5-9; Tel Aviv University, Tel Aviv.
- Gottesman MM, Goldstein LJ, Willingham MC, Pastan I. Molecular biology of a human multidrug transporter. Paper presented at: Molecular diagnostics of human cancer. Cold Spring Harbor Meeting on Cancer Cells; 1988 Sep 7-11; Cold Spring Harbor, NY.
- Gottesman MM, Pastan I. Mechanism and function of the multidrug transporter [abstract]. Proc Annu Meet Am Assoc Cancer Res 1990;31:517-8.
- Gottesman MM, Pastan I. A membrane protein that transports natural product cytotoxic drugs. Sero-nol Symp Publ Raven Press 1989;64:81-7.
- Greenberger L, Lothstein L, Mellado W, Yang CP, Han E, Horwitz SB. Structural analysis of distinct P-glycoproteins overproduced in murine multidrug resistant cells [abstract]. Proc Annu Meet Am Assoc Cancer Res 1988;29:A1174.
- Greenberger LM, Lisanti CJ, Silva JT, Horwitz SB. Domain mapping of the photoaffinity drug-binding sites in P-glycoprotein encoded by mouse *mdr1b*. J Biol Chem 1991 Nov 5;266(31):20744-51.
- Greenberger LM, Lothstein L, Hsu SI, Depinho SG, Horwitz SB. The p-glycoprotein gene family regulated gene switching correlates with altered phenotype [abstract]. J Cell Biol 1988;107(6 Pt 3):366A.
- Greenberger LM, Lothstein L, Williams SS, Horwitz SB. Distinct P-glycoprotein precursors are overproduced in independently isolated drug-resistant cell lines. Proc Natl Acad Sci U S A 1988;85(11):3762-6.
- Greenberger LM, Williams SS, Georges E, Ling V, Horwitz SB. Electrophoretic analysis of P-glycoproteins produced by mouse J774.2 and Chinese hamster ovary multidrug-resistant cells. J Natl Cancer Inst 1988;80(7):506-10.
- Greenberger LM, Yang CP, Gindin E, Horwitz SB. Photoaffinity probes for the alpha 1-adrenergic receptor and the calcium channel bind to a common domain in P-glycoprotein. J Biol Chem 1990 Mar 15;265(8):4394-401.
- Gros P, Dhir R, Croop J, Talbot F. A single amino acid substitution strongly modulates the activity and substrate specificity of the mouse *mdr1* and *mdr3* drug efflux pumps. Proc Natl Acad Sci U S A 1991 Aug 15;88(16):7289-93.
- Gros P, Talbot F, Tang-Wai D, Bibi E, Kaback HR. Lipophilic cations: a group of model substrates for the multidrug-resistance transporter. Biochemistry 1992 Feb 25;31(7):1992-8.
- Gruber A, Vitols S, Norgren S, Arestrom I, Bjorkholm M, Reizenstein P, Peterson C, Luthman H. Quantitative determination of *mdr1* gene expression in leukemic cells from patients with acute leukemia [abstract]. Proc Annu Meet Am Assoc Cancer Res 1992;33:A1408.
- Gupta RS. Intrinsic multidrug resistance phenotype of Chinese hamster rodent cells in comparison to human cells. Biochem Biophys Res Commun 1988;153(2):598-605.
- Gupta RS, Murray W, Gupta R. Cross resistance pattern towards anticancer drugs of a human carcinoma multidrug-resistant cell line. Br J Cancer 1988;58(4):441-7.
- Gutierrez PL, Wilder PJ, Biswal N. In vitro multidrug resistance of P388 murine leukemia selected for resistance to diaziquone. Cancer Commun 1989;1(3):181-90.
- Haas C, Born J, Noland B, Wink B, Mann P, Gasparovic C, Matwiyoff N. Increased killing of multidrug-resistant KBV-1 cells by a trifluoromethyl acridine analog of quinacrine [abstract]. Proc Annu Meet Am Assoc Cancer Res 1992;33:A3136.
- Haber M, Reed C, Kavallaris M, Norris MD, Stewart BW. Resistance to drugs associated with the multidrug resistance phenotype following selection with high-concentration methotrexate. J Natl Cancer Inst 1989;81(16):1250-4.
- Hagiwara M, Wakusawa S, Miyamoto K, Hidaka H. Obviation of drug resistance and affinity purification of P-glycoprotein by isoquinolinesulfonamides. Cancer Lett 1991 Nov; 60(2):103-7.
- Hait WN, Choudhury S, Srimatkandada V. Characterization of a human chronic myelogenous leukemia cell line expressing the multidrug resistance gene [abstract]. Proc Annu Meet Am Assoc Cancer Res 1991;32:A2186.
- Hamada H, Tsuruo T. Characterization of the ATPase activity of the M-R 170000 to 180000 membrane glycoprotein P-glycoprotein associated with multidrug resistance in K562-ADM cells. Cancer Res 1988;48(17):4926-32.
- Hammond JR, Johnstone RM, Gros P. Enhanced efflux of tritiated vinblastine from Chinese hamster ovary cells transfected with a full-length complementary DNA clone for the *mdr1* gene. Cancer Res 1989;49(14):3867-71.
- Harder S. Verapamil, a promising agent for circumvention of multidrug-resistance. Onkologie 1991;14(3):212-7.
- Harker WG, Tom C, McGregor JR, Slade L, Samlowski WE. Human tumor cell line resistance to

- chemotherapeutic agents does not predict resistance to natural killer or lymphokine-activated killer cell-mediated cytotoxicity. *Cancer Res* 1990 Sep 15;50(18):5931-6.
- Harris JE, Coon JS, Anderson KM. Selective reversal of multidrug resistance by 5,8,11,14-Eicosatetraenoic acid (ETYA) [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2907.
- Haussermann K, Benz B, Gekeler V, Schumacher K, Eichelbaum M. Effects of verapamil enantiomers and major metabolites on the cytotoxicity of vincristine and daunomycin in human lymphoma cell lines. *Eur J Clin Pharmacol* 1991;40(1):53-9.
- Henderson DM, Sifri CD, Rodgers M, Wirth DF, Hendrickson N, Ullman B. Multidrug resistance in *Leishmania donovani* is conferred by amplification of a gene homologous to the mammalian *mdr1* gene. *Mol Cell Biol* 1992 Jun;12(6):2855-65.
- Henderson GB. Mediation of cellular anion detoxification in leukemic cells by unidirectional efflux pumps. *Adv Enzyme Regul* 1989;29:61-72.
- Henderson GB, Strauss BP. Evidence for cyclic AMP and cholate extrusion in C6 rat glioma cells by a common anion efflux pump. *J Biol Chem* 1991; 266(3):1641-5.
- Hill AB, Beck WT, Trent JM. Cytogenetic and molecular characterization of tumors in nude mice derived from a multidrug resistant human leukemia cell line. *Cancer Res* 1988;48(2):393-8.
- Hill B, Deuchars K, Ling V, Hosking L, Whelan RD. Significant overexpression of P-glycoprotein by mammalian tumor cells following in vitro exposure to fractionated x-irradiation [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2067.
- Hill BT, Whelan RD, Hosking LK, de Vries EG, Mulder NH, Dunn T. Evaluation of S9788 as a potential modulator of drug resistance against human tumor sublines expressing differing resistance mechanisms in vitro [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2881.
- Hitselberger Kanitz MH, Mastro JM, Starling JJ. In vivo expression of P-glycoprotein in two human colon carcinoma xenografts is rapidly modulated following therapy with a free or monoclonal antibody-conjugated vinca alkaloid [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2805.
- Hitselberger MH, Starling JJ. Two human colon tumor cell lines which express comparable P-glycoprotein display a five thousand-fold difference in in vitro sensitivity to a vinca alkaloid [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32: A2207.
- Hoffmann D, Gerken M, Hermentin P, Sedlacek HH. B 880308 -- a new anthracycline derivative demonstrating maintained activity against multidrug resistant cell lines [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2410.
- Hofslø E. Multimedikamentresistens - teoretiske og kliniske aspekter [Multidrug resistance - theoretical and clinical aspects]. *Tidsskr Nor Laegeforen* 1992;112(4):472-4. (Nor).
- Hofslø E, Nissen-Meyer J. Effect of erythromycin and tumor necrosis factor on the drug resistance of multidrug-resistant cells reversal of drug resistance by erythromycin. *Int J Cancer* 1989;43(3):520-5.
- Hollt V, Kouba M, Dietel M, Vogt G. Stereoisomers of calcium antagonists which differ markedly in their potencies as calcium blockers are equally effective in modulating drug transport by P-glycoprotein. *Biochem Pharmacol* 1992 Jun 23; 43(12):2601-8.
- Holmes J, Jacobs A, Carter G, Janowska-Wieczorek A, Padua RA. Multidrug resistance in hemopoietic cell lines myelodysplastic syndromes and acute myeloblastic leukaemia. *Br J Haematol* 1989; 72(1):40-4.
- Horio M, Chin KV, Currier SJ, Goldenberg S, Williams C, Pastan I, Gottesman MM, Handlers J. Transepithelial transport of drugs by the multidrug transporter in cultured Madin-Darby canine kidney cell epithelia. *J Biol Chem* 1989;264(25):14880-4.
- Horio M, Gottesman MM, Pastan I. ATP dependent transport of vinblastine in vesicles from human multidrug resistant cells. *Proc Natl Acad Sci U S A* 1988;85(10):3580-4.
- Horio M, Lovelace E, Pastan I, Gottesman MM. Agents which reverse multidrug-resistance are inhibitors of [3H]vinblastine transport by isolated vesicles. *Biochim Biophys Acta* 1991 Jan 9; 1061(1):106-10.
- Horton JK, Thimmaiah KN, Houghton JA, Horowitz ME, Houghton PJ. Modulation by verapamil of vincristine pharmacokinetics and toxicity in mice bearing human tumor xenografts. *Biochem Pharmacol* 1989;38(11):1727-36.
- Howell SB, Vick JS, Sanga R. Synergistic potentiation of etoposide, doxorubicin, and vinblastine activity by dipyrindamole [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1988;7:A213.
- Hsu SIH, Lothstein L, Horwitz SB. Differential overexpression of three *mdr* gene family members in multidrug-resistant j774.2 mouse cells evidence that distinct p-glycoprotein precursors are encoded by unique *mdr* genes. *J Biol Chem* 1989;264(20): 12053-62.

- Huet S, Schott B, Robert J. P-glycoprotein overexpression cannot explain the complete doxorubicin-resistance phenotype in rat glioblastoma cell lines. *Br J Cancer* 1992 Apr;65(4):538-44.
- Hunter J, Hirst BH, Simmons NL. Epithelial secretion of vinblastine by human intestinal adenocarcinoma cell (HCT-8 and T84) layers expressing P-glycoprotein. *Br J Cancer* 1991 Sep;64(3):437-44.
- Hunter J, Hirst BH, Simmons NL. Transepithelial vinblastine secretion mediated by P-glycoprotein is inhibited by forskolin derivatives. *Biochem Biophys Res Commun* 1991 Dec 16;181(2):671-6.
- Ichikawa M, Yoshimura A, Furukawa T, Sumizawa T, Akiyama S. Modulators of the multidrug-transporter, P-glycoprotein, exist in the human plasma. *Biochem Biophys Res Commun* 1990 Jan 15;166(1):74-80.
- Ichikawa M, Yoshimura A, Sumizawa T, Shudo N, Kuwazuru Y, Furukawa T, Akiyama S. Interaction of organic chemicals with P-glycoprotein in the adrenal gland, kidney, and a multidrug-resistant KB cell. *J Biol Chem* 1991 Jan 15; 266(2):903-8.
- Ikeda S, Sugita M, Yoshimura A, Sumizawa T, Douzono H, Nagata Y, Akiyama S. Aspergillus species strain M39 produces two naphtho-gamma-pyrones that reverse drug resistance in human KB cells. *Int J Cancer* 1990 Mar 15;45(3):508-13.
- Ikeda SI. [Aspergillus-SP strain M39 produces two naphtho-gamma-pyrones that reverse drug resistance in human KB cells]. *Med J Kagoshima Univ* 1991; 42(4):367-78. (Jpn).
- Ince P, Appleton DR, Finney KJ, Moorghen M, Sunter JP, Watson AJ. Verapamil sensitizes normal and neoplastic rodent intestinal tissues to the stathmokinetic effect of vincristine in-vivo. *Br J Cancer* 1988;57(4):348-52.
- Ince P, Elliot K, Moorghen M, Finney KJ, Appleton DR, Watson AJ, Sunter JP. Possible role for p-glycoprotein in normal rat colon [abstract]. *J Pathol* 1988;155(4):351a.
- Ince P, Elliott K, Appleton DR, Moorghen M, Finney KJ, Sunter JP, Harris AL, Watson AJ. Modulation by verapamil of vincristine pharmacokinetics and sensitivity to metaphase arrest of the normal rat colon in organ culture. *Biochem Pharmacol* 1991 Apr 15;41(8):1217-25.
- Ishida Y, Ohtsu T, Hamada H, Sugimoto Y, Tobinai K, Minato K, Tsuruo T, Shimoyama M. Multidrug resistance in cultured human leukemia and lymphoma cell lines detected by a monoclonal antibody, MRK16. *Jpn J Cancer Res* 1989 Oct; 80(10):1006-13.
- Ishida Y, Shimada Y, Shimoyama M. Synergistic effect of cyclosporin A and verapamil in overcoming vincristine resistance of multidrug-resistant cultured human leukemia cells. *Jpn J Cancer Res* 1990 Aug;81(8):834-41.
- Iwahashi T, Okochi E, Ono K, Sugawara I, Tsuruo T, Mori S. Establishment of multidrug resistant human colorectal carcinoma HCT-15 cell lines and their properties. *Anticancer Res* 1991 May-Jun; 11(3):1309-12.
- Jagannath S, Barlogie B, Dicke K, Alexanian R, Zagars G, Cheson B, Lemaistre FC, Smallwood L, Pruitt K, Dixon DO. Autologous bone marrow transplantation in multiple myeloma: identification of prognostic factors. *Blood* 1990 Nov 1;76(9): 1860-6.
- Jamis-Dow CA, Myers CE, Yeh GC. Increased lactate production associated with early stages of adriamycin resistance in human breast cancer cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A1991.
- Jardillier JC, Warren L, Colin M, Madoulet C. Effect of vanadate on multidrug resistance in CEM cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2833.
- Jolicoeur-Paquet L, Naismith AL, Costello PC, Riordan JR. P-glycoprotein is expressed in the brain and recognizes some analgesic drugs [abstract]. *FASEB J* 1989;3(3):A424.
- Takechi Y, Kanamaru H, Yoshida O. Elevated expression of multidrug-resistance gene mdr in renal cell carcinomas is associated with intrinsic drug resistance [abstract]. *J Urol* 1988;139(4 Pt 2): 422a.
- Takechi Y, Kanamaru H, Yoshida O, Ohkubo H, Nakanishi S, Gottesman MM, Pastan I. Measurement of multidrug-resistance messenger RNA in urogenital cancers elevated expression in renal cell carcinoma is associated with intrinsic drug resistance. *J Urol* 1988;139(4):862-5.
- Kamimoto Y, Gatmaitan Z, Hsu J, Arias IM. The function of gp170 the multidrug resistance gene product in rat liver canalicular membrane vesicles. *J Biol Chem* 1989;264(20):11693-8.
- Kamiwatari M, Nagata Y, Kikuchi H, Yoshimura A, Sumizawa T, Shudo N, Sakoda R, Seto K, Akiyama SI. Correlation between reversing of multidrug resistance and inhibiting of tritiated azidopine photolabeling of p-glycoprotein by newly synthesized dihydropyridine analogues in a human cell line. *Cancer Res* 1989;49(12):3190-5.
- Kane M, Laucius JF, Bellet R, Berd D, Mastrangelo M, Rose L, Rabinowitz M. Phase I/II trial of etoposide (E) and cefoperazone (C) in the treatment

- of refractory neoplasms [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1991;10:A315.
- Kane SE, Gottesman MM. Multidrug resistance in the laboratory and clinic. *Cancer Cells Mon Rev* 1989;1(1):33-6.
- Kato S, Ideguchi H, Muta K, Nishimura J, Nawata H. Mechanisms involved in the development of adriamycin resistance in human leukemic cells. *Leuk Res* 1990;14(6):567-73.
- Kawada M, Sumi S, Umezawa K, Inouye S, Sawa T, Seto H. Circumvention of multidrug resistance in human carcinoma KB cells by polyether antibiotics. *J Antibiot (Tokyo)* 1992 Apr;45(4):556-62.
- Kawada M, Umezawa K. Long lasting accumulation of vinblastine in inostamycin treated multidrug resistant KB cells. *Jpn J Cancer Res* 1991;82(10): 1160-4.
- Kaye SB, Kerr DJ. Multidrug resistance: clinical relevance in hematological malignancies. *Blood Rev* 1991;5(1):38-41.
- Khleif SN, Gazdar A, Bates SE. P-glycoprotein (Pgp) expression and function in an adrenocortical carcinoma (ACC) cell line: A model for studying the normal function of Pgp [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:359.
- Kimiya K, Naito S, Soejima T, Sakamoto N, Kotoh S, Kumazawa J, Tsuruo T. Establishment and characterization of doxorubicin-resistant human bladder cancer cell line, KK47/ADM. *J Urol* 1992 Aug;148(2 Pt 1):441-5.
- Kiue A, Sano T, Naito A, Inada H, Suzuki K, Okumura M, Kikuchi J, Sato S, Takano H, Kohno K, et al. Reversal by two dihydropyridine compounds of resistance to multiple anticancer agents in mouse P388 leukemia in vivo and in vitro. *Jpn J Cancer Res* 1990 Oct;81(10):1057-64.
- Klohs WD, Steinkampf RW. The effect of lysosomotropic agents and secretory inhibitors on anthracycline retention and activity in multiple drug-resistant cells. *Mol Pharmacol* 1988;34(2): 180-5.
- Klopman G, Srivastava S, Kolossvary I, Epanand RF, Ahmed N, Epanand RM. Structure-activity study and design of multidrug-resistant reversal compounds by a computer automated structure evaluation methodology. *Cancer Res* 1992 Aug 1; 52(15):4121-9.
- Knick VC, Miller CG. In vivo derivation of a murine P388 leukemia subline resistant to 5'-nor-anhydrovinblastine (navelbine) and its cross-resistance profile [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2759.
- Knight C, Slade DL, Harker WG. Multidrug resistance in mitoxantrone-selected CEM leukemia cells appears to be unrelated to P-glycoprotein expression [abstract]. *Clin Res* 1991;39(1):68A.
- Kohno K, Kikuchi J, Sato SI, Takano H, Saburi Y, Asoh KI, Kuwano M. Vincristine-resistant human cancer KB cell line and increased expression of multidrug-resistance gene. *Jpn J Cancer Res* 1988; 79(11):1238-46.
- Kohno K, Sato S, Takano H, Matsuo K, Kuwano M. The direct activation of human multidrug resistance gene (MDR1) by anticancer agents. *Biochem Biophys Res Commun* 1989 Dec 29;165(3): 1415-21.
- Kohno K, Sato S, Uchiumi T, Takano H, Kato S, Kuwano M. Tissue-specific enhancer of the human multidrug-resistance (MDR1) gene. *J Biol Chem* 1990 Nov 15;265(32):19690-6.
- Konen PL, Currier SJ, Rutherford AV, Gottesman MM, Pastan I, Willingham MC. The multidrug transporter: rapid modulation of efflux activity monitored in single cells by the morphologic effects of vinblastine and daunomycin. *J Histochem Cytochem* 1989 Jul;37(7):1141-5.
- Koseki Y, Sweatman TW, Seshadri R, Israel M. N-benzyladriamycin-14-valerate (AD 198) synergizes the cytotoxic effects of adriamycin (ADR) and vinblastine (VBL) but not etoposide (VP-16) in multidrug resistant (MDR) cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2892.
- Kramer RA, Morse B, Summerhayes I. C-HA-RAS-I oncogene-induced differentiation and decreased MDR1 gene expression in a human colorectal carcinoma cell line [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2189.
- Kuhl JS, Lau D, Duran G, Blume KG, Chao NJ, Sivic BI. Multiple mechanisms of resistance to etoposide in variants of murine P388 leukemia [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2150.
- Kulkarni SS, Wang Z, Taha M, Hamada H, Tsuruo T, Dalton WS, Aiken A, Dicke KA, Spitzer G. Complement-dependent lysis of a drug-resistant human myeloma tumor cell line by a monoclonal antibody to surface determinant of P-glycoprotein [abstract]. *Exp Hematol* 1988;16(6):521.
- Kulkarni SS, Wang ZM, Spitzer G, Taha M, Hamada H, Tsuruo T, Dicke KA. Elimination of drug-resistant myeloma tumor cell lines by monoclonal anti-P-glycoprotein antibody and rabbit complement. *Blood* 1989 Nov 1;74(6):2244-51.

- Kuo MT, Hung M, Chen XS. Loss of tumorigenicity of multidrug resistant NIH3T3 cells transformed with C-ERB2-NEU oncogene [abstract]. Proc Annu Meet Am Assoc Cancer Res 1988;29:292.
- Kurelec B, Krca S, Pivcevic B, Ugarkovic D, Bachmann M, Imsiecke G, Muller WE. Expression of P-glycoprotein gene in marine sponges. Identification and characterization of the 125 kDa drug-binding glycoprotein. Carcinogenesis 1992 Jan;13(1):69-76.
- Kuwazuru Y, Hanada S, Furukawa T, Yoshimura A, Sumizawa T, Utsunomiya A, Ishibashi K, Saito T, Uozumi K, Maruyama M, et al. Expression of P-glycoprotein in adult T-cell leukemia cells. Blood 1990 Nov 15;76(10):2065-71.
- Lai GM, Currier SJ, Mickley LA, Herzog CE, Tsokos M, Bates SE, Fojo AT. Modulation of P-glycoprotein (Pgp) phosphorylation and multidrug resistance (MDR) by sodium butyrate (NaB) [abstract]. Proc Annu Meet Am Assoc Cancer Res 1991;32:A2242.
- LaQuaglia MP, Kopp EB, Spengler BA, Meyers MB, Biedler JL. Altered state of transformation and/or differentiation in multidrug-resistant human neuroblastoma cells [abstract]. Proc Annu Meet Am Assoc Cancer Res 1989;30:A1704.
- LaQuaglia MP, Kopp EB, Spengler BA, Meyers MB, Biedler JL. Multidrug resistance in human neuroblastoma cells. J Pediatr Surg 1991 Sep; 26(9):1107-12.
- Larsen AK, Jacquemin-Sablon A. Multiple resistance mechanisms in Chinese hamster cells resistant to 9-hydroxyellipticine. Cancer Res 1989 Dec 15; 49(24 Pt 1):7115-9.
- Lee FYF, Sciandra J, Siemann DW. A study of the mechanism of resistance to adriamycin in-vivo glutathione metabolism P-glycoprotein expression and drug transport. Biochem Pharmacol 1989; 38(21):3697-706.
- Lee KY, Park JG, Gazdar AF, Goldstein LJ, Hwang ES, Kim JP. Correlation between MDR1 gene expression and in vitro drug sensitivity testing (DST) of human cancer cell lines [abstract]. Proc Annu Meet Am Soc Clin Oncol 1990;9:A219.
- Lelong IH, Guzikowski AP, Haugland RP, Pastan I, Gottesman MM, Willingham MC. Fluorescent verapamil derivative for monitoring activity of the multidrug transporter. Mol Pharmacol 1991 Oct; 40(4):490-4.
- Lelong IH, Padmanabhan R, Lovelace E, Pastan I, Gottesman MM. ATP and GTP as alternative energy sources for vinblastine transport by P-170 in KB-V1 plasma membrane vesicles. FEBS Lett 1992 Jun 15;304(2-3):256-60.
- Lemontt JF, Azzaria M, Gros P. Increased mdr gene expression and decreased drug accumulation in multidrug-resistant human melanoma cells. Cancer Res 1988;48(22):6348-53.
- Licht T, Fiebig HH, Bross KJ, Herrmann F, Berger DP, Shoemaker R, Mertelsmann R. Induction of multiple-drug resistance during anti-neoplastic chemotherapy in vitro. Int J Cancer 1991 Oct 21; 49(4):630-7.
- Licht T, Fiebig HH, Dreher C, Bross KJ, Herrmann F. Modulation of multidrug resistance by tumor necrosis factor-alpha and verapamil [abstract]. Proc Annu Meet Am Assoc Cancer Res 1992;33:A2852.
- Liley DTJ, Wiggins PM, Baguley BC. Localization of a nonintercalative DNA binding antitumor drug in mitochondria relationship to multidrug resistance. Eur J Cancer Clin Oncol 1989;25(9):1287-94.
- Lincke CR, van der Blik AM, Schuurhuis GJ, van der Velde-Koerts T, Smit JJ, Borst P. Multidrug resistance phenotype of human BRO melanoma cells transfected with a wild-type human mdr1 complementary DNA. Cancer Res 1990 Mar 15; 50(6):1779-85.
- Lincke CR, van der Blik AM, van der Velde-Koerts T, Borst P. The multidrug resistant phenotype of the wild-type human MDR1 gene [abstract]. J Chemother Infect Dis Malig 1989;Suppl 1: A309.
- Lock RB, Hill BT. Differential patterns of anti-tumour drug responses and mechanisms of resistance in a series of independently derived VP 16 resistant human tumour cell lines. Int J Cancer 1988;42(3): 373-81.
- Loor F, Boesch D, Gaveriaux C, Jachez B, Pourtier-Manzanedo A, Emmer G. SDZ 280-446, a novel semi-synthetic cyclopeptide: in vitro and in vivo circumvention of the P-glycoprotein-mediated tumour cell multidrug resistance. Br J Cancer 1992 Jan;65(1):11-8.
- Lothstein L, Hsu SIH, Horwitz SB, Greenberger LM. Alternate overexpression of two phosphoglycoprotein genes is associated with changes in multidrug resistance in a J774.2 cell line. J Biol Chem 1989;264(27):16054-8.
- Lothstein L, Sweatman TW, Dockter ME, Israel M. Resistance to N-benzyladriamycin-14-valerate in mouse J774.2 cells: P-glycoprotein expression without reduced N-benzyladriamycin-14-valerate accumulation. Cancer Res 1992 Jun 15;52(12): 3409-17.
- Lum BL, Kaubisch S, Gosland MP, Jew LL, Ehsan MN, Schnur DP, Yahanda AM, Adler KM, Hardy R, Brophy NA, et al. The effect of cyclosporin (CSA) on etoposide (E) pharmacokinetics in a phase I trial of E with CSA as a modulator of multidrug

- resistance [abstract]. Proc Annu Meet Am Soc Clin Oncol 1991;10:A277.
- Lutzky J, Canada AL, Yamanishi DT, Bhalla K, Hindenburg AA. Effect of verapamil and buthionine sulfoximine (BSO) on daunorubicin (DNR) cytotoxicity of multidrug-resistant human melanoma cell lines overexpressing P-glycoprotein and glutathione-S-transferases [abstract]. Proc Annu Meet Am Assoc Cancer Res 1992;33:A3315.
- Ma L, Marquardt D, Takemoto L, Center MS. Analysis of P-glycoprotein phosphorylation in HL60 cells isolated for resistance to vincristine. J Biol Chem 1991;266(9):5593-9.
- Marino PA, Gottesman MM, Pastan I. Regulation of the multidrug resistance gene in regenerating rat liver. Cell Growth Differ 1990 Feb;1(2):57-62.
- Marquardt D, McCrone S, Center MS. Mechanisms of multidrug resistance in HL60 cells: detection of resistance-associated proteins with antibodies against synthetic peptides that correspond to the deduced sequence of P-glycoprotein. Cancer Res 1990 Mar 1;50(5):1426-30.
- Masurovsky EB, Horwitz SB. Ultrastructural effects of colchicine vinblastine and taxol in drug-sensitive and multidrug-resistant j774.2 cells. Protoplasma 1989;148(2-3):138-49.
- Matsumoto T, Tani E, Kaba K, Kochi N, Shindo H, Yamamoto Y, Sakamoto H, Furuyama J. Amplification and expression of a multidrug resistance gene in human glioma cell lines. J Neurosurg 1990 Jan;72(1):96-101.
- Mattern J, Bak M, Efferth T, Volm M. Inherent and induced multidrug resistance in human lung carcinoma xenograft [abstract]. Invest New Drugs 1989;7(4):444.
- Mattern J, Bak M, Volm M. Intrinsic and acquired multidrug resistance in human lung carcinomas grown in nude mice. Anticancer Res 1990 Jan-Feb; 10(1):177-80.
- Mattern J, Bak M, Volm M. Occurrence of a multidrug resistant phenotype in human lung xenografts. Br J Cancer 1987;56(4):407-11.
- Mazzoni A, Trave F, Canti G, Franco P. Effect of the tiapamil analog RO-11-2933 on cellular sensitivity to antitumor drugs in sensitive and multidrug resistant human ovarian cancer cells. Anticancer Res 1989;9(2):367-72.
- McClellan S, Dempke WC, Whelan RD, Hosking LK, Hill BT. Overexpression of P-glycoprotein in human ovarian carcinoma cells following exposure to fractionated x-irradiation in vitro [abstract]. Proc Annu Meet Am Assoc Cancer Res 1992;33:A2811.
- McEwan GT, Hunter J, Hirst BH, Simmons NL. Volume-activated Cl⁻ secretion and transepithelial vinblastine secretion mediated by P-glycoprotein are not correlated in cultured human T84 intestinal epithelial layers. FEBS Lett 1992 Jun 15;304(2-3): 233-6.
- McGrath T, Latoud C, Arnold ST, Safa AR, Felsted RL, Center MS. Mechanisms of multidrug resistance in HL60 cells. Analysis of resistance associated membrane proteins and levels of *mdr* gene expression. Biochem Pharmacol 1989 Oct 15; 38(20):3611-9.
- McGrath T, Marquardt D, Center MS. Multiple mechanisms of adriamycin resistance in the human leukemia cell line ccrf-cem. Biochem Pharmacol 1989;38(3):497-502.
- McLachlin JR, Eglitis MA, Ueda K, Kantoff PW, Pastan IH, Anderson WF, Gottesman MM. Expression of a human complementary DNA for the multidrug resistance gene in murine hematopoietic precursor cells with the use of retroviral gene transfer. J Natl Cancer Inst 1990 Aug 1;82(15): 1260-3.
- Mechetner EB, Roninson IB. Efficient inhibition of P-glycoprotein-mediated multidrug resistance with a monoclonal antibody. Proc Natl Acad Sci U S A 1992 Jul 1;89(13):5824-8.
- Merkel DE, Fuqua SAW, Tandon AK, Hill SM, Buzdar AU, Mcguire WL. Electrophoretic analysis of 248 clinical breast cancer specimens for p-glycoprotein overexpression of gene amplification. J Clin Oncol 1989;7(8):1129-36.
- Merriman RL, Dantzig AH, Engelhardt J, Minor PL, Poore GA, Shackelford KA, Tanzer LR, VanPelt C, Winter MA, Beck WT, et al. Increased toxicity of vincristine (VCR) when combined with the multidrug-resistance (MDR) modulator, trimethoxybenzoylyohimbine (TMBY) [abstract]. Proc Annu Meet Am Assoc Cancer Res 1990;31: A2142.
- Meyers MB, Biedler JL, Scotto K, Sirotnak FM. Antibodies to P-glycoprotein (PGP) cross-react with a 50- to 55-KD protein in multidrug-resistant mouse tumor cells and in luminal intestinal epithelium of the mouse [abstract]. Proc Annu Meet Am Assoc Cancer Res 1990;31:A2099.
- Meyers MB, Center M, Druskin H, Spengler BA, Biedler JL. P-glycoprotein isoforms in vincristine-resistant murine erythroleukemia cells [abstract]. Proc Annu Meet Am Assoc Cancer Res 1992;33: A2808.
- Meyers MB, Rittmann-Grauer L, O'Brien JP, Safa AR. Characterization of monoclonal antibodies recognizing a m-r 180000 p-glycoprotein differential expression of the m-r 180000 and m-r 170000 p-

- glycoproteins in multidrug-resistant human tumor cells. *Cancer Res* 1989;49(12):3209-14.
- Meyers MB, Rittmann-Grauer L, O'Brien JP, Safa AR, Cordon-Cardo C, Biedler JL. The 180-kD resistance-related membrane protein recognized by monoclonal antibodies raised against vincristine-resistant human neuroblastoma cells is a P-glycoprotein [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2008.
- Meyers MB, Scotto KW, Sirotnak FM. P-glycoprotein content and mediation of vincristine efflux correlation with the level of differentiation in luminal epithelium of mouse small intestine. *Cancer Commun* 1991;3(5):159-66.
- Meyers MB, Shen WPV, Spengler BA, Ciccarone V, O'Brien JP, Donner DB, Furth ME, Biedler JL. Increased epidermal growth factor receptor in multidrug-resistant human neuroblastoma cells. *J Cell Biochem* 1988;38(2):87-98.
- Michaeli J, Lebedev YB, Leng L, Tong WP, Richon VM, Marks PA, Rifkind RA. A multidrug resistance (MDR) phenotype in response to phorbol ester: role of P-glycoprotein and protein kinase C beta (PKC-beta) [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1990;31:A2224.
- Michaeli J, Richon VM, Marks PA, Rifkind RA. Vincristine resistant murine erythroleukemia and HL-60 cells have marked sensitivity to induction of differentiation by hexamethylene bisacetamide [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A1703.
- Michel AD, Kunysz EA, Whiting RL. Interaction of cytotoxic agents with tritiated PN-200-110 binding sites of rat cerebrocortical and skeletal muscle membranes [abstract]. *Br J Pharmacol* 1989; 96 Suppl:240P.
- Michieli M, Damiani D, Geromin A, Michelutti A, Fanin R, Raspadori D, Russo D, Visani G, Dinota A, Pileri S, et al. Overexpression of multidrug resistance-associated p170-glycoprotein in acute non-lymphocytic leukemia. *Eur J Haematol* 1992 Feb;48(2):87-92.
- Michieli M, Giacca M, Fanin R, Damiani D, Geromin A, Baccharani M. MDR-1 gene amplification in acute lymphoblastic leukemia prior to antileukemic treatment. *Br J Haematol* 1991;78(2):288-9.
- Mickisch G, Keilhauer G, Schlick E, Tschada R, Alken P. Calcium antagonists reverse multidrug resistance (MDR) of primary human renal cell carcinomas (RCC) [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2116.
- Mickisch G, Keilhauer G, Schlick E, Tschada R, Alken P. Effects of R-verapamil (R-vpm) on P-170-mediated multidrug resistance (mdr) of human renal cell carcinoma (rcc) [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1990;31:A2423.
- Mickisch GH, Aksentjevich I, Schoenlein PV, Goldstein LJ, Galski H, Stahle C, Sachs DH, Pastan I, Gottesman MM. Transplantation of bone marrow cells from transgenic mice expressing the human MDR1 gene results in long-term protection against the myelosuppressive effect of chemotherapy in mice. *Blood* 1992 Feb 15;79(4):1087-93.
- Mickisch GH, Aksentjevich Y, Gottesman MM, Pastan I. Transplantation of bone marrow cells expressing the human MDR1 gene results in long-term protection against the myelosuppressive effect of chemotherapy in mice [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2803.
- Mickisch GH, Gottesman MM, Pastan I, Alken PM. New potent verapamil derivatives that reverse multidrug resistance in human renal carcinoma cells and in transgenic mice expressing the human MDR1 gene [abstract]. *J Urol* 1991;145(4 Suppl): 379a.
- Mickisch GH, Kossig J, Keilhauer G, Schlick E, Tschada RK, Alken PM. Effects of calcium antagonists in multidrug resistant primary human renal cell carcinomas. *Cancer Res* 1990 Jun 15; 50(12):3670-4.
- Mickisch GH, Kossig J, Tschada RK, Keilhauer G, Schlick E, Alken PM. Circumvention of multidrug resistance mediated by P-170 glycoprotein using calcium antagonists in primary human renal cell carcinoma. *Urol Int* 1991;47(3):118-25.
- Mickisch GH, Licht T, Merlino GT, Gottesman MM, Pastan I. Chemotherapy and chemosensitization of transgenic mice which express the human multidrug resistance gene in bone marrow: efficacy, potency, and toxicity. *Cancer Res* 1991 Oct 1;51(19): 5417-24.
- Mickisch GH, Merlino GT, Galski H, Gottesman MM, Pastan I. Transgenic mice that express the human multidrug-resistance gene in bone marrow enable a rapid identification of agents that reverse drug resistance. *Proc Natl Acad Sci U S A* 1991 Jan 15; 88(2):547-51.
- Mickisch GH, Roehrich K, Koessig J, Forster S, Tschada RK, Alken PM. Mechanisms and modulation of multidrug resistance in primary human renal cell carcinoma. *J Urol* 1990 Sep; 144(3):755-9.
- Mickley L, Spengler B, Biedler JL, Fojo AT. Genetic polymorphism as a tool for examining the evolution of mdr-1/P-glycoprotein (PGP) expression in multidrug-resistant cell lines [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2832.

- Mickley LA, Bates SE, Richert ND, Currier S, Tanaka S, Foss F, Rosen N, Fojo AT. Modulation of the expression of a multidrug resistance gene *mdr-1*-P-glycoprotein by differentiating agents. *J Biol Chem* 1989;264(30):18031-40.
- Millar BC, Bell JBG, Maitland JA, Zuiable A, Gore ME, Selby PJ, McElwain TJ. In vitro studies of ways to overcome resistance to VAMP high dose melphalan in the treatment of multiple myeloma. *Br J Haematol* 1989;71(2):213-22.
- Miller TP, Grogan TM, Dalton WS, Spier CM, Scheper RJ, Salmon SE. P-glycoprotein expression in malignant lymphoma and reversal of clinical drug resistance with chemotherapy plus high-dose verapamil. *J Clin Oncol* 1991 Jan; 9(1):17-24.
- Miller TP, Grogan TM, Spier CM, Salmon SE, Dalton WS. High-dose verapamil infusion added to chemotherapy reverses drug resistance in lymphoma patients in relapse [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1989;8:A984.
- Millot JM, Debal V, Morjani H, Merle S, Kiss R, Manfait M. Characterization of a vinca-alkaloid resistance phenotype in J82 cells following selection with navelbine [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2201.
- Minato K, Kanzawa F, Nishio K, Nakagawa K, Fujiwara Y, Saijo N. Characterization of an etoposide-resistant human small-cell lung cancer cell line. *Cancer Chemother Pharmacol* 1990;26(5): 313-7.
- Mirski SE, Dicke FP, Cole SP. Non-P-glycoprotein-mediated multidrug resistance in the small-cell lung cancer (SCLC) cell line, H69AR [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2196.
- Miyamoto K, Wakusawa S, Inoko K, Takagi K, Koyama M. Reversal of vinblastine resistance by a new staurosporine derivative, NA-382, in P388/ADR cells. *Cancer Lett* 1992 Jun 15;64(2): 177-83.
- Miyamoto K, Wakusawa S, Nakamura S, Tajima K, Hidaka H. Multidrug resistance in Yoshida rat ascites hepatoma cell lines. *Anticancer Res* 1992 May-Jun;12(3):649-53.
- Miyamoto Y, Oda T, Maeda H. Comparison of the cytotoxic effects of the high- and low-molecular-weight anticancer agents on multidrug-resistant Chinese hamster ovary cells in vitro. *Cancer Res* 1990 Mar 1;50(5):1571-5.
- Mizuno K, Furuhashi Y, Maeda O, Iwata M, Misawa T, Kawai M, Kano T, Tomoda Y. Mitomycin C cross-resistance induced by adriamycin in human ovarian cancer cells in vitro. *Cancer Chemother Pharmacol* 1990;26(5):333-9.
- Morgan PF, Fine RL, Montgomery P, Marangos PJ. Multidrug resistance in MCF-7 human breast cancer cells is associated with increased expression of nucleoside transporters and altered uptake of adenosine. *Cancer Chemother Pharmacol* 1991; 29(2):127-32.
- Mukaiyama T, Minowa S, Ogawa M. Analysis of MDR1 mRNA expression in breast cancer specimens by reverse-transcription polymerase chain reaction (RT-PCR) [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2786.
- Mukaiyama T, Mitsui I, Shibata H, Inoue K, Ogawa M. Analysis of multidrug-resistance gene expression in human cancers: correlation between expression level and chemosensitivity [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29: A1218.
- Mukhopadhyay T, Kuo MT. Expression of the P-glycoprotein gene in multidrug-resistant Chinese hamster ovary cells. *Anticancer Res* 1989;9(3): 575-8.
- Muller C, Laval F, Soues S, Birck C, Charcosset JY. High cell density-dependent resistance and P-glycoprotein-mediated multidrug resistance in mitoxantrone-selected Chinese hamster cells. *Biochem Pharmacol* 1992 May 28;43(10):2091-102.
- Muller C, Laval F, Soues S, Charcosset JY. Inducible amplification and increased expression of MDR genes in mitoxantrone-resistant hamster cells selected in one step [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1990;31:A2197.
- Naito M, Hamada H, Tsuruo T. ATP-magnesium-dependent binding of vincristine to the plasma membrane of multidrug-resistant K562 cells. *J Biol Chem* 1988;263(24):11887-91.
- Naito M, Oh-hara T, Yamazaki A, Danki T, Tsuruo T. Reversal of multidrug resistance by an immunosuppressive agent FK-506. *Cancer Chemother Pharmacol* 1992;29(3):195-200.
- Naito M, Tsuruo T. Competitive inhibition by verapamil of ATP-dependent high affinity vincristine binding to the plasma membrane of multidrug-resistant K562 cells without calcium ion involvement. *Cancer Res* 1989;49(6):1452-5.
- Naito M, Tsuruo T. Functionally active homodimer of P-glycoprotein in multidrug-resistant tumor cells. *Biochem Biophys Res Commun* 1992 May 29; 185(1):284-90.
- Naito M, Yusa K, Tsuruo T. Steroid hormones inhibit binding of Vinca alkaloid to multidrug resistance related P-glycoprotein. *Biochem Biophys Res Commun* 1989 Feb 15;158(3):1066-71.
- Nakagawa M, Dixon KH, Gilbert L, Goldsmith ME, Cowan KH. Characterization of mitoxantrone resistant human breast cancer cell line [abstract].

- Proc Annu Meet Am Assoc Cancer Res 1991;32:A2204.
- Nasioulas G, Granzow C, Stohr M, Ponstingl H. Sensitization of multidrug-resistant mouse ascites HD33 and Chinese hamster ovary CHRC5S3 cells by a photoreactive vinblastine derivative, NAPAVIN. *Cancer Res* 1990 Jan 15;50(2):403-8.
- Nelson EJ, Hinkle PM. Characterization of multidrug-resistant pituitary tumor cells. *Endocrinology* 1992 Jun;130(6):3246-56.
- Neyfakh AA, Serpinskaya AS, Chervonsky AV, Apasov SG, Kazarov AR. Multidrug-resistance phenotype of a subpopulation of T-lymphocytes without drug selection. *Exp Cell Res* 1989 Dec; 185(2):496-505.
- Nielsen D, Skovsgaard T. P-glycoprotein as multidrug transporter: a critical review of current multidrug resistant cell lines. *Biochim Biophys Acta* 1992 Jul 7;1139(3):169-83.
- Nogae I, Kohno K, Kikuchi J, Kuwano M, Akiyama SI, Kiue A, Suzuki KI, Yoshida Y, Cornwell MM, et al. Analysis of structural features of dihydropyridine analogs needed to reverse multidrug resistance and to inhibit photoaffinity labeling of p-glycoprotein. *Biochem Pharmacol* 1989;38(3):519-28.
- Norris MD, Haber M, Gilbert J, Madafiglio J, Kavallaris M, Stewart BW, Mechetner EB, Gudkov AV, Roninson IB. Selection for MDR1 gene expression by high concentration methotrexate [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2840.
- Nuessler V, Hasmann M, Pelka-Fleischer R, Loeser R, Wilmanns W. Droloxifene--a new modulator of the multidrug-resistance (MDR) phenotype in a human leukemia cell line [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A1544.
- Nygren P, Larsson R. Verapamil and cyclosporin A sensitize human kidney tumor cells to vincristine in absence of membrane P-glycoprotein and without apparent changes in the cytoplasmic free Ca²⁺ concentration. *Biosci Rep* 1990 Apr;10(2):231-7.
- Nygren P, Larsson R, Gruber A, Peterson C, Bergh J. Doxorubicin selected multidrug-resistant small cell lung cancer cell lines characterised by elevated cytoplasmic Ca²⁺ and resistance modulation by verapamil in absence of P-glycoprotein overexpression. *Br J Cancer* 1991 Dec;64(6):1011-8.
- O'Brien CA, Fan D, Ward NE, Dong Z, Iwamoto L, Gupta KP, Earnest LE, Fidler IJ. Transient enhancement of multidrug resistance by the bile acid deoxycholate in murine fibrosarcoma cells in vitro. *Biochem Pharmacol* 1991 Mar 1;41(5): 797-806.
- O'Brien JP, Spengler BA, Rittmann-Grauer L, Bertino JR, Biedler JL. Collateral sensitivity of human multidrug-resistant cells to verapamil is potentiated by monoclonal antibody HYB-241 recognizing P-glycoprotein [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2114.
- O'Donnell MA, Bublely G, Dewolf WC. Multidrug resistance gene activity in renal cell carcinoma [abstract]. *J Urol* 1989;141(4 Pt 2):298a.
- Ohkouchi E, Takamori R, Kawabata H, Sugimoto Y, Hamada H, Tsuruo T. Expression of P-glycoprotein and its mRNA in human renal and colon tumor cell lines, as a determinant for natural drug resistance [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1217.
- Onishi Y, Handel LM, Hall L, Fojo AT, Young RC, Ozols RF, Hamilton TC. Multidrug resistance (mdr-1) gene amplification and overexpression (OE) in human ovarian cancer (HOC) cell lines from untreated patients (pts) and pts refractory to combination chemotherapy (CC) [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2280.
- Osann K, Sweet P, Slater LM. Synergistic interaction of cyclosporin A and verapamil on vincristine and daunorubicin resistance in multidrug-resistant human leukemia cells in vitro. *Cancer Chemother Pharmacol* 1992;30(2):152-4.
- Ozols RF. Reversal of drug resistance: laboratory data and clinical trials. Paper presented at: Biology and therapy of breast cancer. Joint NCI-IST Symposium/3rd IST International Symposium; 1989 Sep 25-27; Genoa, Italy.
- Ozols RF, Hamilton TC, Fojo AT, Lai GM, Rothenberg M, Young RC. Reversal of alkylating agent and platinum resistance in ovarian cancer [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:526-7.
- Pastan I, Gottesman MM, Ueda K, Lovelace E, Rutherford AV, Willingham MC. A retrovirus carrying an mdr1 complementary DNA confers multidrug resistance and polarized expression of P-glycoprotein in MDCK cells. *Proc Natl Acad Sci U S A* 1988;85(12):4486-90.
- Pastan I, Willingham MC, Gottesman MM. Multidrug resistance. Paper presented at: 6th NCI-EORTC Symposium on New Drugs in Cancer Therapy; 1989 Mar 7-10; Amsterdam.
- Patel M, Lee I, Kaplan R, Roninson IB. Analysis of MDR1 (P-glycoprotein) expression in multidrug-resistant cell lines and tumors by in situ RNA hybridization [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1161.
- Pearce HL, Safa AR, Bach NJ, Winter MA, Cirtain MC, Beck WT. Essential features of the p-glycoprotein pharmacophore as defined by a series of reserpine

- analogs that modulate multidrug resistance. *Proc Natl Acad Sci U S A* 1989; 86(13):5128-32.
- Pearce HL, Winter MA, Beck WT. Structural characteristics of compounds that modulate P-glycoprotein-associated multidrug resistance. *Adv Enzyme Regul* 1990;30:357-73.
- Pearson JW, Fogler WE, Volker K, Usui N, Goldenberg SK, Gruys E, Riggs CW, Komschlies K, Wiltrott RH, Tsuruo T, et al. Reversal of drug resistance in a human colon cancer xenograft expressing MDR1 complementary DNA by in vivo administration of MRK-16 monoclonal antibody. *J Natl Cancer Inst* 1991 Oct 2;83(19):1386-91.
- Pennock GD, Dalton WS, Roeske WR, Appleton CP, Mosley K, Plezia P, Miller TP, Salmon SE. Systemic toxic effects associated with high-dose verapamil infusion and chemotherapy administration. *J Natl Cancer Inst* 1991 Jan 16; 83(2):105-10.
- Philip PA, Joel S, Monkman SC, Dolega-Ossowski E, Tonkin K, Carmichael J, Idle JR, Harris AL. A phase I study on the reversal of multidrug resistance (MDR) in vivo: nifedipine plus etoposide. *Br J Cancer* 1992 Feb;65(2):267-70.
- Pierre A, Leonce S, Kraus-Berthier L, Guilbaud N, Saint-Dizier D, Atassi G. Characterization of the reversal of multidrug resistance by S 9788, a new triazinoaminopiperidine derivative [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2879.
- Pierre A, Perez V, Leonce S, Anstett M, Atassi G. In vitro circumvention of multidrug resistance by cyclosporin A, cremophor EL, reserpine or verapamil [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2241.
- Pincus R, Goldman ID. Decreased tight binding of mitoxantrone in P388 leukemia cells with multiple drug resistance [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1185.
- Pincus R, Goldman ID. Evidence for impaired mitoxantrone and vinblastine binding in P388 murine leukemia cells with multidrug resistance. *Biochem Pharmacol* 1990 Dec 15;40(12):2625-35.
- Plumb JA, Milroy R, Kaye SB. Sequential induction of drug resistance in an adherent small-cell lung cancer (SCLC) cell line [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2141.
- Politi PM, Sinha BK. Role of differential drug uptake efflux and binding of etoposide in sensitive and resistant human tumor cell lines implications for the mechanisms of drug resistance. *Mol Pharmacol* 1989;35(3):271-8.
- Pourtier-Manzanedo A, Boesch D, Loor F. FK-506 (fujimycin) reverses the multidrug resistance of tumor cells in vitro. *Anticancer Drugs* 1991 Jun; 2(3):279-83.
- Preisler HD, Gottesman M, Raza A, Pastan I, Day R. The clinical significance of expression of the multidrug resistance (MDR) gene in acute nonlymphocytic leukemia (ANLL) [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1989;8:A782.
- Qian XD, Beck WT. Binding characteristics of LU-49888, an optically pure photoaffinity analog of verapamil, to P-glycoprotein (Pgp) from a multidrug-resistant (MDR) human leukemic cell line [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A1989.
- Qian XD, Beck WT. Binding of an optically pure photoaffinity analogue of verapamil, LU-49888, to P-glycoprotein from multidrug-resistant human leukemic cell lines. *Cancer Res* 1990 Feb 15; 50(4):1132-7.
- Qian XD, Beck WT. Interaction of a photoactive anthracycline analog, [3H]-N-azido-benzoyldaunomycin (AB-DNR) with P-glycoprotein (Pgp) from multidrug-resistant human leukemic lymphoblasts (CEM/VLB5K) [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2160.
- Qian XD, Beck WT. Progesterone photoaffinity labels P-glycoprotein in multidrug-resistant human leukemic lymphoblasts. *J Biol Chem* 1990 Nov 5; 265(31):18753-6.
- Rabier MJ, Bruno NA, Slate DL. Multifactorial resistance in LS174T human colon carcinoma cells selected with doxorubicin. *Int J Cancer* 1991 Oct 21;49(4):601-7.
- Rahman A, Madhu M, Siddiqui J, Yokozaki H, Clair T, Tortora G, Cho-Chung YS, Center M, Glazer RL. Potentiation of the cytotoxicity of adriamycin by 8-Cl-cAMP in multidrug resistant HL-60 leukemia cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2217.
- Ramu A, Ramu N, Gorodetsky R. Reduced ouabain-sensitive potassium entry as a possible mechanism of multidrug-resistance in P388 cells. *Biochem Pharmacol* 1991 Oct 9;42(9):1699-704.
- Rao S, Horwitz SB. A multidrug resistance murine cell line is partially dependent on taxol for growth and has an increased tubulin content [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33: A2754.
- Rauscher FJ 3d, Beerman TA, Baker RM. Characterization of auromomycin-resistant hamster cell mutants that display a multidrug resistance phenotype. *Mol Pharmacol* 1990 Aug;38(2): 198-206.
- Reddy PG, Graham GM, Datta S, Guarini L, Moulton TA, Jiang HP, Gottesman MM, Ferrone S, Fisher PB. Effect of recombinant fibroblast interferon and

- recombinant immune interferon on growth and the antigenic phenotype of multidrug-resistant human glioblastoma multiforme cells. *J Natl Cancer Inst* 1991 Sep 18;83(18):1307-15.
- Reizenstein P, Gruber A, Luthman H, Kaczorowska M, Norgren S, Peterson C, Porvit A, Vitols S. Multiple drug resistance: expression of the MDR1 gene in leukemic blasts in relation to treatment and effect of verapamil isomers on cellular vincristine accumulation [abstract]. *Anticancer Res* 1990; 10(5B):1400-1.
- Rhodes T, Twentyman PR. Effects of cyclosporin A and verapamil on cellular pharmacokinetics and chemosensitivity in an MDR cell line which does not express P-glycoprotein [abstract]. *Br J Cancer* 1991;63 Suppl 13:12.
- Riccardi A, Invernizzi R, Ucci G, Luoni R, Danova M, Giordano M, Zambelli ML, Rastaldi MP, Ascari E. [p170 in multiple myeloma and acute leukemia]. *Haematologica* 1991 Jun;76 Suppl 3:177-80. (Ita).
- Richon VM, Weich N, Leng L, Kiyokawa H, Ngo L, Rifkind RA, Marks PA. Characteristics of erythroleukemia cells selected for vincristine resistance that have accelerated inducer-mediated differentiation. *Proc Natl Acad Sci U S A* 1991 Mar 1;88(5):1666-70.
- Ries F, Dicato M. Treatment of advanced and refractory breast cancer with doxorubicin, vincristine and continuous infusion of verapamil. A phase I-II clinical trial. *Med Oncol Tumor Pharmacother* 1991;8(1):39-43.
- Riou GF, Zhou D, Ahomadegbe JC, Gabillot M, Duvillard P, Lhomme C. Expression of multidrug-resistance (MDR1) gene in normal epithelia and in invasive carcinomas of the uterine cervix. *J Natl Cancer Inst* 1990 Sep 19; 82(18):1493-6. Published erratum appears in *J Natl Cancer Inst* 1990 Nov 7; 82(21):1724.
- Rittmann-Grauer LS, Yong MA, Sanders V, Mackensen DG. Reversal of Vinca alkaloid resistance by anti-P-glycoprotein monoclonal antibody HYB-241 in a human tumor xenograft. *Cancer Res* 1992 Apr 1; 52(7):1810-6.
- Ro J, Sahin A, Ro JY, Fritsche H, Hortobagyi G, Blick M. Immunohistochemical analysis of P-glycoprotein expression correlated with chemotherapy resistance in locally advanced breast cancer. *Hum Pathol* 1990 Aug;21(8):787-91.
- Roller E, Klumpp B, Krause J, Gekeker V, Eichelbaum M, Schumacher K. Modulation of multidrug resistance in a human leukemic cell line by different calcium antagonists [abstract]. *Onkologie* 1991;14 Suppl 2:133.
- Romerdaal C, Traugott U, Jung S, Keilhauer G. Modulation of multidrug resistance in vitro and in vivo by structural analogs of verapamil [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32: A2535.
- Roninson IB, Choi K, Morse BS, Noonan KE, Kaplan R, Safa AS, Tsuruo T, Perez CF, Kriegler M. Molecular biology and diagnosis of multidrug resistance [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1990;31:518-9.
- Ross DD, Ordenez JV, Joneckis CC, Testa JR, Thompson BW. Isolation of highly multidrug-resistant P388 cells from drug-sensitive P388-S cells by flow cytometric cell sorting. *Cytometry* 1988; 9(4):359-67.
- Ross KL, Sikic BI, Kercso KM, Owicki JC, Hafeman DG, Muir VC, Parce JW. Potentiometric monitoring of tumor cell chemosensitivity with a silicon based biosensor [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2410.
- Rowinsky EK. Current developments in antitumor antibiotics epipodophyllotoxins and vinca alkaloids. *Curr Opin Oncol* 1991;3(6):1060-9.
- Ruiz JC, Choi KH, von Hoff DD, Roninson IB, Wahl GM. Autonomously replicating episomes contain mdr1 genes in a multidrug-resistant human cell line. *Mol Cell Biol* 1989 Jan;9(1):109-15.
- Ruszala-Mallon V, Silva J, Raventos-Suarez C, Durr FE. P-glycoprotein-mediated multidrug resistance in ovarian carcinoma cells selected for resistance to bisantrene, a synthetic anticancer drug [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1990;31: A2110.
- Sachs C, Ballas L, Hannun Y, Loomis C, Carroll I, Bell R, Fine RL. Protein kinase C inhibitors increase drug accumulation and decrease resistance of multidrug resistant cell lines [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2218.
- Sachs C, Schnur D, Ballas L, Hannun Y, Loomis C, Carroll I, Bell R, Fine RL. Protein kinase C (PKC) inhibitors increase drug accumulation and are cytotoxic to a human multidrug-resistant (MDR) breast cancer line [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1990;31:A2128.
- Saeki T, Shimabuku AM, Ueda K, Komano T. Specific drug binding by purified lipid-reconstituted P-glycoprotein: dependence on the lipid composition. *Biochim Biophys Acta* 1992 Jun 11; 1107(1):105-10.
- Safa AR. P-glycoprotein as a target for chemosensitizing agents. Paper presented at: 1st International Interface of Clinical and Laboratory

- Responses to Anticancer Drugs; 1989 Mar 13-15; Villejuif, France.
- Safa AR. Photoaffinity labeling of P-glycoprotein in multidrug-resistant cells. *Cancer Invest* 1992; 10(4):295-305.
- Safa AR. Photoaffinity labeling of the multidrug-resistance-related P-glycoprotein with photoactive analogs of verapamil. *Proc Natl Acad Sci U S A* 1988;85(19):7187-91.
- Safa AR, Agresti M, Tamai I, Mehta ND, Vahabi S. The alpha 1-adrenergic photoaffinity probe [125I]arylazidoprazosin binds to a specific peptide of P-glycoprotein in multidrug-resistant cells. *Biochem Biophys Res Commun* 1990 Jan 15; 166(1):259-66.
- Safa AR, Mehta ND, Agresti M. Photoaffinity labeling of p-glycoprotein in multidrug resistant cells with photoactive analogs of colchicine. *Biochem Biophys Res Commun* 1989;162(3): 1402-8.
- Safa AR, Stern RK, Choi K, Agresti M, Tamai I, Mehta ND, Roninson IB. Molecular basis of preferential resistance to colchicine in multidrug-resistant human cells conferred by Gly-185----Val-185 substitution in P-glycoprotein. *Proc Natl Acad Sci U S A* 1990 Sep;87(18):7225-9.
- Sahlinsky DR, Slovak ML, Howell SB. Modulation of vinblastine sensitivity by dipyrindamole in multidrug resistant fibrosarcoma cells lacking MDR1 expression. *Br J Cancer* 1991;64(4):705-9.
- Sakata K, Kwok TT, Murphy BJ, Laderoute KR, Gordon GR, Sutherland RM. Hypoxia-induced drug resistance: comparison to P-glycoprotein-associated drug resistance. *Br J Cancer* 1991 Nov;64(5):809-14.
- Salmon SE, Dalton WS, Grogan TM, Plezia P, Lehnert M, Roe DJ, Miller TP. Multidrug-resistant myeloma: laboratory and clinical effects of verapamil as a chemosensitizer. *Blood* 1991 Jul 1; 78(1):44-50.
- Salmon SE, Grogan T, Meltzer PS, Dalton WS. Relevance of multidrug resistance to neoadjuvant therapy of cancer. Paper presented at: 2nd International Congress on Neo-Adjuvant Chemotherapy; 1988 Feb 19-21; Paris [France].
- Salmon SE, Miller T, Grogan T, Dalton WS. Reversal of multidrug resistance (MDR) with chemosensitizers: an emerging clinical reality. Paper presented at: Drug resistance as a biochemical target in cancer chemotherapy. 13th Bristol-Myers Squibb Symposium on Cancer Research; 1990 May 10-11; Tokyo, Japan.
- Salmon SE, Soehnlen B, Dalton WS, Meltzer P, Scuderi P. Effects of tumor necrosis factor on sensitive and multidrug resistant human leukemia and myeloma cell lines. *Blood* 1989;74(5):1723-7.
- Samuels B, Murray J, Sherman J, Agresti M, Safa A. Combination multidrug resistance modulation: synergism and additivity [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2236.
- Samuels B, Ratain M, Mick R, Vogelzang NJ, Schilsky R, O'Brien S, Harrison H. Phase I trial of multidrug resistance modulation with cyclosporine A [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A1163.
- Samuels BL, Murray JL, Safa AR. Additive reversal of multidrug resistance by combinations of non-cross-toxic modulating agents [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1990;31:A2138.
- Sanfilippo O, Di Fronzo G, Ronchi E. Natural or acquired drug resistance and GP170 (GP) expression in human breast cancers [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1990;31:A2209.
- Sanfilippo O, Ronchi E, De Marco C, Di Fronzo G, Silvestrini R. Expression of P-glycoprotein in breast cancer tissue and in vitro resistance to doxorubicin and vincristine. *Eur J Cancer* 1991; 27(2):155-8.
- Sanfilippo O, Silvestrini R, Ronchi E, Di Fronzo G. P-glycoprotein (PGP) expression and resistance to doxorubicin (DX) in human tumors [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1989;8:A217.
- Sarkadi B, Price EM, Boucher RC, Germann UA, Scarborough GA. Expression of the human multidrug resistance cDNA in insect cells generates a high activity drug-stimulated membrane ATPase. *J Biol Chem* 1992 Mar 5;267(7):4854-8.
- Sato H, Gottesman MM, Goldstein LJ, Pastan I, Block AM, Sandberg AA, Preisler HD. Expression of the multidrug resistance gene in myeloid leukemias. *Leuk Res* 1990;14(1):11-21.
- Sato SI, Watanabe Y, Okamura K, Hamanaka R, Mori T, Kohno K, Kuwano M. Potentiation of vincristine and actinomycin D by a new synthetic imidazole anti-tumor agent YM-534 active against human cancer cells and multidrug-resistant cells. *Anticancer Drug Des* 1989;4(2):125-36.
- Sato W, Fukazawa N, Suzuki T, Yusa K, Tsuruo T. Circumvention of multidrug resistance by a newly synthesized quinoline derivative, MS-073. *Cancer Res* 1991 May 1;51(9):2420-4.
- Sato W, Yusa K, Naito M, Tsuruo T. Staurosporine, a potent inhibitor of C-kinase, enhances drug accumulation in multidrug-resistant cells. *Biochem Biophys Res Commun* 1990 Dec 31;173(3):1252-7.

- Savaraj N, Teeter L, Kuo MT, Wu CJ, Tapiero H, Lampidis T. Characteristics of rhodamine and adriamycin-induced multidrug-resistant cells [abstract]. Proc Annu Meet Am Assoc Cancer Res 1991;32:A2187.
- Schinkel AH, Roelofs EM, Borst P. Characterization of the human MDR3 P-glycoprotein and its recognition by P-glycoprotein-specific monoclonal antibodies. Cancer Res 1991 May 15;51(10):2628-35.
- Schluesener HJ. Transforming growth factors type beta inhibit multidrug transport in rat astrocyte cell lines. Autoimmunity 1991;9(3):269-75.
- Schluesener HJ, Meyermann R. Spontaneous multidrug transport in human glioma cells is regulated by transforming growth factors type beta. Acta Neuropathol (Berl) 1991;81(6):641-8.
- Schoenlein PV, Shen DW, Johnson BP, Pastan I, Gottesman MM. The amplification of the human MDR1 gene occurs via episome formation in KB carcinoma cells [abstract]. Proc Annu Meet Am Assoc Cancer Res 1990;31:A2107.
- Schrenk D, Gant TW, Silverman JA, Marino PA, Thorgeirsson SS. Induction of mdr expression by cholestasis: P-glycoprotein functions as a biliary excretion pump [abstract]. Proc Annu Meet Am Assoc Cancer Res 1992;33:A181.
- Schuetz J, Schuetz E, Stromm S, Schroeder V. Regulation of P-glycoprotein in human hepatocytes [abstract]. Proc Annu Meet Am Assoc Cancer Res 1991;32:A2155.
- Schurr E, Raymond M, Bell JC, Gros P. Characterization of the multidrug resistance protein expressed in cell clones stably transfected with the mouse mdr1 complementary DNA. Cancer Res 1989;49(10):2729-34.
- Schwartzmann G, Cerski CT, Sander E, Sprinz E, Zampese M, Cartel A, Kronfeld M, Brunetto AL. Multidrug resistance (MDR) in patients (pts) with AIDS-related Kaposi's sarcoma [abstract]. Proc Annu Meet Am Assoc Cancer Res 1990;31:A1248.
- Schwartz GK, Arkin H, Holland JF, Ohnuma T. Protein kinase C activity and multidrug resistance in MOLT-3 human lymphoblastic leukemia cells resistant to trimetrexate. Cancer Res 1991 Jan 1; 51(1):55-61.
- Scudder SA, Saunders KA, Andreotti VA, White RWD. Rhodamine 123 efflux as a measure of drug resistance [abstract]. Clin Res 1991;39(1):68a.
- Sehested M, Bindslev N, Demant E, Skovsgaard T, Jensen PB. Daunorubicin and vincristine binding to plasma membrane vesicles from daunorubicin-resistant and wild type Ehrlich ascites tumor cells. Biochem Pharmacol 1989;38(18):3017-28.
- Sehested M, Friche E, Jensen PB, Demant EJ. Relationship of VP-16 to the classical multidrug resistance phenotype. Cancer Res 1992 May 15; 52(10):2874-9.
- Sehested M, Jensen PB, Skovsgaard T, Bindslev N, Demant EJ, Friche E, Vindelov L. Inhibition of vincristine binding to plasma membrane vesicles from daunorubicin-resistant Ehrlich ascites cells by multidrug resistance modulators. Br J Cancer 1989 Dec;60(6):809-14.
- Sehested M, Skovsgaard T, Jensen PB, Demant EJ, Friche E, Bindslev N. Transport of the multidrug resistance modulators verapamil and azidopine in wild type and daunorubicin resistant Ehrlich ascites tumour cells. Br J Cancer 1990 Jul;62(1):37-41.
- Seid CA, Fidler IJ, Clyne RK, Earnest LE, Fan D. Overcoming murine tumor cell resistance to vinblastine by presentation of the drug in multilamellar liposomes consisting of phosphatidylcholine and phosphatidylserine. Sel Cancer Ther 1991 Fall;7(3):103-12.
- Seidman AD, Scher HI. The evolving role of chemotherapy for muscle infiltrating bladder cancer. Semin Oncol 1991 Dec;18(6):585-95.
- Sekiya S, Nunoyama T, Shirasawa H, Kimura H, Kawata M, Iijima N, Sugimoto Y, Tsuruo T, Takamizawa H. Expression of a human multidrug resistance gene in human ovarian carcinoma cell lines. Arch Gynecol Obstet 1992;251(2):79-86.
- Sen S, Hittelman WN, Teeter LD, Kuo MT. Model for the formation of double minutes from prematurely condensed chromosomes of replicating micronuclei in drug-treated Chinese hamster ovary cells undergoing DNA amplification. Cancer Res 1989 Dec 1;49(23):6731-7.
- Seneviratne C, Goldenberg GJ. Further characterization of drug-sensitivity and cross-resistance profiles of cloned cell lines of Adriamycin-sensitive and -resistant P388 leukemia. Cancer Commun 1989;1(1):21-7.
- Shalinsky DR, Andreeff M, Howell SB. Modulation of drug sensitivity by dipyridamole in multidrug resistant tumor cells in vitro. Cancer Res 1990 Dec 1;50(23):7537-43.
- Shalinsky DR, Howell SB. Synergistic enhancement of the cytotoxicity of vinblastine (VBL) and colchicine (COL) by dipyridamole (DPM) in drug-resistant kb carcinoma cells [abstract]. Proc Annu Meet Am Assoc Cancer Res 1989;30:A2097.
- Shalinsky DR, Slovak ML, Howell SB. Modulation of vinblastine sensitivity by dipyridamole in multidrug resistant fibrosarcoma cells lacking mdr1 expression. Br J Cancer 1991 Oct;64(4):705-9.

- Shen DW, Lu YG, Chin KV, Pastan I, Gottesman MM. Human hepatocellular carcinoma cell lines exhibit multidrug resistance unrelated to MRD1 gene expression. *J Cell Sci* 1991 Mar;98(Pt 3):317-22.
- Shibata H, Sato T, Gamoh M, Tshioka C, Kanamaru R, Wakui A. Expression of P-glycoprotein mRNA and erythroid differentiation in multidrug-resistant K562 cell lines treated with sodium butyrate [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A1159.
- Shieh CY, Fojo AT, Bates SE. Expression of a multidrug resistance gene (mdr-1/Pgp) in human breast carcinoma [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2073.
- Shimm DS, Olson S, Hill AB. Radiation resistance in a multidrug resistant human T-cell leukemia line. *Int J Radiat Oncol Biol Phys* 1988;15(4):931-6.
- Shimoyama M. Detection of multidrug resistant (MDR) cancer cells by monoclonal antibodies. Paper presented at: Drug resistance as a biochemical target in cancer chemotherapy. 13th Bristol-Myers Squibb Symposium on Cancer Research; 1990 May 10-11; Tokyo, Japan.
- Shinoda H, Inaba M, Tsuruo T. In vivo circumvention of vincristine resistance in mice with P388 leukemia using a novel compound, AHC 52. *Cancer Res* 1989;49(7):1722-6.
- Shudo N, Mizoguchi T, Kiyosue T, Arita M, Yoshimura A, Seto K, Sakoda R, Akiyama S. Two pyridine analogues with more effective ability to reverse multidrug resistance and with lower calcium channel blocking activity than their dihydropyridine counterparts. *Cancer Res* 1990 May 15;50(10):3055-61.
- Shuin T, Masuda M, Yao M, Kubota Y, Sugimoto Y, Tsuruo T. Chemosensitivity and expression of multidrug resistant gene (MDR1 gene) in human kidney cancer cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1222.
- Siddiqui J, Madhu M, Center M, Glazer R, Dritschilo A, Rahman A. Modulation of multidrug resistance in HL-60 leukemia cells by adriamycin encapsulated in liposomes [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2230.
- Sikic BI, Brophy NA, Berry JM, Marie JP, Ehsan MN, Tsuruo T, Roninson IB, Smith SD. Multidrug resistance gene expression in ovarian and breast cancers, leukemias, and lymphomas. Paper presented at: 6th NCI-EORTC Symposium on New Drugs in Cancer Therapy; 1989 Mar 7-10; Amsterdam.
- Skovsgaard T. Transport and multidrug resistance: indications of a changed pH-gradient across the membrane. *Pezcoller Found Symp* 1990;1:209-31.
- Skovsgaard T. Drug transport in multidrug-resistant tumor cells a revision of the pump hypothesis. In: Tapiero H, Robert J, Lampidis TJ, editors. 1st International Interface of Clinical and Laboratory Responses to Anticancer Drugs; 1989 Mar 13-15; Villejuif, France. Paris: Les Editions Inserm; 1989. p. 233-44. (Colloque INSERM; 191).
- Slapak CA, Daniel JC, Levy SB. Sequential emergence of distinct resistance phenotypes in murine erythroleukemia cells under adriamycin selection: decreased anthracycline uptake precedes increased P-glycoprotein expression. *Cancer Res* 1990 Dec 15;50(24):7895-901.
- Slapak CA, Levy SB. Frequency and phenotype of early adriamycin-resistant mammalian leukemia cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2019.
- Slate DL, Bruno N, Carver LA, Rabier M. Isolation and characterization of multiple drug resistant carcinoma cell lines [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A1975.
- Slater LM, Sweet P, Hsu TC, Chan PK. Novel nucleolar and nuclear morphology in a vincristine-dependent human leukemia cell line (L100). *Exp Cell Res* 1992 Jan;198(1):170-4.
- Slovak ML, Hoeltge GA, Dalton WS, Trent JM. Pharmacological and biological evidence for differing mechanisms of doxorubicin resistance in two human tumor cell lines. *Cancer Res* 1988; 48(10):2793-7.
- Sonneveld P, Durie BG, Lokhorst HM, Marie JP, Solbu G, Suci S, Zittoun R, Lowenberg B, Nooter K. Modulation of multidrug-resistant multiple myeloma by cyclosporin. The Leukaemia Group of the EORTC and the HOVON. *Lancet* 1992 Aug 1; 340(8814):255-9.
- Sonneveld P, Nooter K, Burghouts JTM, Herweijer H, Adriaansen HJ, Van Dongen JJM. High expression of the mdr3 multidrug-resistance gene in advanced-stage chronic lymphocytic leukemia. *Blood* 1992;79(6):1496-500.
- Staats J, Marquardt D, Center MS. Characterization of a membrane-associated protein kinase of multidrug-resistant HL60 cells which phosphorylates P-glycoprotein. *J Biol Chem* 1990 Mar 5;265(7):4084-90.
- Stahl F, Martinsson T, Dahllof B, Levan G. Amplification and overexpression of the P-glycoprotein genes and differential amplification of three other genes in SEWA murine multidrug-resistant cells. *Hereditas* 1988;108(2):251-8.

- Stow MW, Warr JR. Amplification and expression of MDR genes and flanking sequences in verapamil hypersensitive hamster cell lines. *Biochim Biophys Acta* 1991;1092(1):7-14.
- Sugawara I, Kodo H, Ohkochi E, Hamada H, Tsuruo T, Mori S. High-level expression of MRK 16 and MRK 20 murine monoclonal antibody-define proteins (170,000-180,000 P-glycoprotein and 85,000 protein) in leukaemias and malignant lymphomas. *Br J Cancer* 1989 Oct;60(4):538-41.
- Sunkara PS, Zwolshen JH, Stermerick DM, Edwards ML. 1-(2,5-dimethoxy phenyl)-3-[4(dimethylamino)phenyl]-2-methyl-2-propen-1-one (DDMP, MDL 27,048): novel antimetabolic agent with activity against vinca alkaloid resistant tumors [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A1954.
- Suzuki H, Tomida A, Nishimura T. Cytocidal activity of a synthetic isoprenoid, N-solaneyl-N,N'-bis(3,4-dimethoxybenzyl)ethylenediamine, and its potentiation of antitumor drugs against multidrug-resistant and sensitive cells in vitro. *Jpn J Cancer Res* 1990 Mar;81(3):298-303.
- Takeda Y, Nishio K, Sugimoto Y, Kasahara K, Kubo S, Fujiwara Y, Niitani H, Saijo N. Establishment of a human leukemia subline resistant to the growth-inhibitory effect of 12-O-tetradecanoylphorbol 13-acetate (TPA) and showing non-P-glycoprotein-mediated multi-drug resistance. *Int J Cancer* 1991 Jul 30;48(6):931-7.
- Takemura Y, Ohnuma T, Miyachi H, Sekiguchi S. A human leukemia cell line made resistant to two folate analogues, trimetrexate and N10-propargyl-5,8-dideazafolic acid (CB3717). *J Cancer Res Clin Oncol* 1991;117(6):519-25.
- Tamai I, Safa AR. Azidopine noncompetitively interacts with vinblastine and cyclosporin A binding to P-glycoprotein in multidrug resistant cells. *J Biol Chem* 1991 Sep 5;266(25):16796-800.
- Tamai I, Safa AR. Competitive interaction of cyclosporins with the Vinca alkaloid-binding site of P-glycoprotein in multidrug-resistant cells. *J Biol Chem* 1990 Sep 25;265(27):16509-13.
- Tatsuta T, Naito M, Oh-hara T, Tsuruo T. Physiological function of P-glycoprotein in brain capillary endothelial cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2789.
- Tatsuta T, Shimizu K, Nishimura T, Suzuki H. Enhancement of activities of anti-tumor drugs by dipyrindamole against multidrug-resistant human hepatoma PLC/PRF/5 cells. *Anticancer Drug Des* 1991 Jul;6(3):179-88.
- Taylor CW, Dalton WS. Multiple mechanisms of drug resistance in MCF-7 human breast cancer cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2109.
- Taylor CW, Dalton WS, Parrish PR, Gleason MC, Bellamy WT, Thompson FH, Roe DJ, Trent JM. Different mechanisms of decreased drug accumulation in doxorubicin and mitoxantrone resistant variants of the MCF7 human breast cancer cell line. *Br J Cancer* 1991 Jun;63(6):923-9.
- Tebbi CK, Chervinsky D, Baker RM. Modulation of drug resistance in homoharringtonine-resistant C-1300 neuroblastoma cells with cyclosporine A and dipyrindamole. *J Cell Physiol* 1991 Sep;148(3):464-71.
- Tebbi CK, Yaeger E, Chervinsky D, Chen Y, Baker R. Dipyrindamole (DPM) is highly effective in reversing multidrug resistance of C1300 neuroblastoma [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1990;31:A2096.
- Thiebaut F, Currier SJ, Whitaker J, Haugland RP, Gottesman MM, Pastan I, Willingham MC. Activity of the multidrug transporter results in alkalinization of the cytosol: measurement of cytosolic pH by microinjection of a pH-sensitive dye. *J Histochem Cytochem* 1990 May;38(5):685-90.
- Tickman RJ, Holoye P, Robey-Cafferty S, Bruner J. P-glycoprotein (PGP) in small cell carcinoma of lung expression before and after chemotherapy and its influence upon responsiveness to a preoperative chemotherapy regimen [abstract]. *Lab Invest* 1990;62(1):99a.
- Toffoli G, Viel A, Tumioto L, Biscontin G, Boiocchi M. Multidrug-resistance in human colon carcinoma cell lines [abstract]. *Anticancer Res* 1990;10(5B):1406-7.
- Toffoli G, Viel A, Tumioto L, Biscontin G, Rossi C, Boiocchi M. Pleiotropic-resistant phenotype is a multifactorial phenomenon in human colon carcinoma cell lines. *Br J Cancer* 1991 Jan;63(1):51-6.
- Toffoli G, Viel A, Tumioto L, Maestro R, Biscontin G, Boiocchi M. Expression of the *mdr1* gene in human colorectal carcinomas: relationship with multidrug resistance inferred from analysis of human colorectal carcinoma cell lines. *Cancer Chemother Pharmacol* 1992;29(4):283-9.
- Tong AW, Lee J, Wang RM, Dalton WS, Tsuruo T, Fay JW, Stone MJ. Elimination of chemoresistant multiple myeloma clonogenic colony-forming cells by combined treatment with a plasma cell-reactive monoclonal antibody and a p-glycoprotein-reactive monoclonal antibody. *Cancer Res* 1989;49(17):4829-34.

- Treichel RS, Olken S. The relationship between multidrug resistance and resistance to natural-killer-cell and lymphokine-activated killer-cell lysis in human leukemic cell lines. *Int J Cancer* 1992 Jan 21; 50(2):305-10.
- Trumper LH, Ho AD, Hunstein W. Addition of verapamil to overcome drug resistance in multiple myeloma: preliminary clinical observations in 10 patients [abstract]. *J Chemother Infect Dis Malig* 1989;Suppl 1:A273.
- Tsuruo T. Multidrug resistance: a transport system of antitumor agents and xenobiotics. *Int Symp Princess Takamatsu Cancer Res Fund* 1990;21: 241-51.
- Tsuruo T. Proteins involved in multidrug resistance and their implication for therapy. *Pezcoller Found Symp* 1990;1:131-43.
- Tsuruo T, Naito M, Takamori R, Tsukahara S, Yamabe-Mitsuhashi J, Yamazaki A, Oh-hara T, Sudo Y, Nakaike S, Yamagishi T. A benzophenazine derivative, N-beta-dimethylaminoethyl 9-carboxy-5-hydroxy-10-methoxy-benzo[a]phenazine-6-carboxamide, as a new antitumor agent against multidrug-resistant and sensitive tumors. *Cancer Chemother Pharmacol* 1990;26(2):83-7.
- Tsuruo T, Sugimoto Y, Hamada H, Roninson I, Okumura M, Adachi K, Morishima Y, Ohno R. Detection of multidrug resistance markers, P-glycoprotein and *mdr1* and mRNA, in human leukemia cells. *Jpn J Cancer Res* 1987; 78(12):1415-9.
- Tsuruo T, Yusa K, Sudo Y, Takamori R, Sugimoto Y. A fluorine-containing anthracycline me-2303 as a new antitumor agent against murine and human tumors and their multidrug-resistant sublines. *Cancer Res* 1989;49(20):5537-42.
- Twentyman PR. Modification of cytotoxic drug resistance by non-immunosuppressive cyclosporins. *Br J Cancer* 1988;57(3):254-8.
- Twentyman PR, Bleehen NM. Resistance modification by PSC-833, a novel non-immunosuppressive cyclosporin [corrected] [published erratum appears in *Eur J Cancer* 1992;28(2-3):616]. *Eur J Cancer* 1991;27(12):1639-42.
- Twentyman PR, Wright KA. Derivation and characterization of a cell line with acquired resistance to cyclosporin A [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2250.
- Twentyman PR, Wright KA, Fox NE. Characterisation of a mouse tumour cell line with in vitro derived resistance to verapamil. *Br J Cancer* 1990 Feb;61(2):279-84.
- Ueda K, Pastan I, Gottesman MM. Isolation and sequence of the promoter region of the human multidrug resistance (P-glycoprotein) gene. *J Biol Chem* 1987;262(36):17432-6.
- Ujhazy P, Chen Y, Fredericks W, Ehrke MJ. Collateral sensitivity to tumor necrosis factor in an adriamycin resistant EL4 cell line [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A1625.
- Umezawa K, Kawada M. Suppression of multidrug resistance by polyether antibiotics in human carcinoma KB cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2856.
- Van Belle S, Stockman D, De Smet M, Storme G. Influence of verapamil on the uptake of vinblastine by MO4 cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2253.
- Van Der Blik AM, Baas F, Van Der Velde Koerts T, Biedler JL, Meyers MB, OzoLs RF, Hamilton TC, Joenje H, Borst P. Genes amplified and overexpressed in human multidrug resistant cell lines. *Cancer Res* 1988;48(21):5927-32.
- van der Graaf WT, de Vries EG, Uges DR, Nanninga AG, Meijer C, Timmer-Bosscha H, Mulder NH. Multidrug resistance (MDR) modulation with amiodarone (AM) in human tumor cell lines and patients [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1990;31:A2076.
- van der Graaf WT, de Vries EG, Uges DR, Nanninga AG, Meijer C, Vellenga E, Mulder PO, Mulder NH. In vitro and in vivo modulation of multi-drug resistance with amiodarone. *Int J Cancer* 1991 Jun 19;48(4):616-22.
- van der Valk P, van Kalken CK, Ketelaars H, Broxterman HJ, Scheffer G, Kuiper CM, Tsuruo T, Lankelma J, Meijer CJ, Pinedo HM, et al. Distribution of multi-drug resistance-associated P-glycoprotein in normal and neoplastic human tissues. Analysis with 3 monoclonal antibodies recognizing different epitopes of the P-glycoprotein molecule. *Ann Oncol* 1990;1(1):56-64.
- Vasanthakumar G, Ahmed NK. Modulation of drug resistance in a daunorubicin resistant subline with oligonucleoside methylphosphonates. *Cancer Commun* 1989;1(4):225-32. Published erratum appears in *Cancer Commun* 1990;2(8):295.
- Vera JC, Castillo GR, Rosen OM. A possible role for a mammalian facilitative hexose transporter in the development of resistance to drugs. *Mol Cell Biol* 1991;11(7):3407-18.
- Versantvoort CH, Broxterman HJ, Pinedo HM, de Vries EG, Feller N, Kuiper CM, Lankelma J. Energy-dependent processes involved in reduced drug accumulation in multidrug-resistant human lung

- cancer cell lines without P-glycoprotein expression. *Cancer Res* 1992 Jan 1;52(1):17-23.
- Volm M, Bak M Jr, Efferth T, Lathan B, Mattern J. Immunocytochemical detection of a resistance-associated glycoprotein in tissue culture cells ascites tumors and human tumor xenografts by MAB-265-F4. *Anticancer Res* 1988;8(4):531-6.
- Volm M, Bak M, Efferth T, Mattern J. Inherent and induced multidrug-resistance in human lung carcinoma xenograft lines [abstract]. *J Chemother Infect Dis Malig* 1989;Suppl 1:A473.
- Von Hoff D, VanDevanter D, Forseth B, Davidson K, Waddelow T, Wahl G. Hydroxyurea can decrease drug resistance gene copy numbers in tumor cell lines [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1990;31:A2243.
- Wakusawa S, Nakamura S, Aritsuka K, Miyamoto KI, Koshiura R, Hagiwara M, Hidaka H. Effect of protein kinase inhibitors on the drug-efflux system in multidrug-resistant tumor cells [abstract]. *Jpn J Pharmacol* 1990;52 Suppl 1:86P.
- Wakusawa S, Nakamura S, Miyamoto KI, Koshiura R, Hidaka H. Effect of calmodulin inhibitors on membrane transport of vinblastine in multidrug-resistant rat ascites hepatoma (AH66) cells [abstract]. *Jpn J Pharmacol* 1991;55 Suppl 1:96P.
- Wakusawa S, Nakamura S, Tajima K, Miyamoto K, Hagiwara M, Hidaka H. Overcoming of vinblastine resistance by isoquinolinesulfonamide compounds in adriamycin-resistant leukemia cells. *Mol Pharmacol* 1992 Jun;41(6):1034-8.
- Wallace RE, Lindh D, Greenberger L, Raventos-Suarez C, Durr FE. Development of a human breast carcinoma (MX-1E) cell line resistant to calicheamicin [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2163.
- Wang L, Yang CP, Trail P, Horwitz SB, Casazza AM. Reversal of the multidrug resistance (MDR) phenotype with megestrol acetate (MA) [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2239.
- Warr JR, Anderson M, Fergusson J. Properties of verapamil-hypersensitive multidrug-resistant Chinese hamster ovary cells. *Cancer Res* 1988; 48(16):4477-83.
- Warren L, Jardillier JC, Malarska A, Akeli MG. Increased accumulation of drugs in multidrug-resistant cells induced by liposomes. *Cancer Res* 1992 Jun 1;52(11):3241-5.
- Warren L, Jardillier JC, Ordentlich P. Secretion of lysosomal enzymes by drug-sensitive and multiple drug-resistant cells. *Cancer Res* 1991 Apr 15; 51(8):1996-2001.
- Warrington RC, Fang WD. Reversal of the multidrug-resistant phenotype of Chinese hamster ovary cells by 1-histidinol. *J Natl Cancer Inst* 1989;81(10): 798-803.
- Watanabe M, Komeshima N, Naito M, Isoe T, Otake N, Tsuruo T. Cellular pharmacology of MX2, a new morpholino anthracycline, in human pleiotropic drug-resistant cells. *Cancer Res* 1991 Jan 1;51(1): 157-61.
- Watanabe T, Inaba M, Sugiyama Y. Saturable process involved in active efflux of vincristine as a mechanism of multidrug resistance in P388 leukemia cells. *Pharm Res* 1989 Aug;6(8):690-6.
- Watanabe Y, Takano H, Kiue A, Kohno K, Kuwano M. Potentiation of etoposide and vincristine by two synthetic 1,4-dihydropyridine derivatives in multidrug-resistant and atypical multidrug-resistant human cancer cells. *Anticancer Drug Des* 1991 Feb;6(1):47-57.
- Waud WR, Harrison SD Jr, Temple CG Jr, Griswold DP Jr. Antitumor drug cross-resistance in vivo in a murine P388 leukemia resistant to ethyl 5-amino-1,2-dihydro-2-methyl-3-phenylpyrido[3,4-b]pyrazin-7-ylcarbamate 2-hydroxyethanesulfonate hydrate (NSC 370,147) 370147. *Cancer Chemother Pharmacol* 1992;29(3):190-4.
- Weber JM, Sircar S, Horvath J, Dion P. Non P-glycoprotein mediated multidrug resistance in detransformed rat cells selected for resistance to methylglyoxal bis(guanylhydrazone). *Cancer Res* 1989;49(21):5779-83.
- Whang-Peng J. Double minutes (DMs) and homogeneously staining regions (HSRs). *Int Congr Ser* 1989;807:63-74.
- Whelan RD, Deuchars K, Hosking LK, Ling V, Hill BT. Overexpression of P-glycoprotein in Chinese hamster ovary cells following fractionated X-irradiation in vitro [abstract]. *Br J Cancer* 1990; 62(3):491.
- Whelan RD, Hosking LK, Hill BT. A lack of adriamycin (ADR) resistance in Chinese hamster ovary (CHO) cells overexpressing P-glycoprotein (Pgp) following in vitro exposure to fractionated X-irradiation. *Biochem Soc Trans* 1991 Apr;19(2): 125S.
- Wilson WH, Bryant G, Bates S, Fojo T, Stevenson MA, Kohler D, Chabner BA. Infusional etoposide (E), vincristine (O) and adriamycin (H) with cyclophosphamide (C), prednisone (P) (EPOCH) and

- R-verapamil (RV) in relapsed lymphoma [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1991;10:A956.
- Yang CP, Cohen D, Greenberger LM, Hsu SI, Horwitz SB. Differential transport properties of two mdr gene products are distinguished by progesterone. *J Biol Chem* 1990 Jun 25;265(18):10282-8.
- Yang CPH, Depinho SG, Greenberger LM, Arceci RJ, Horwitz SB. Progesterone interacts with p-glycoprotein in multidrug-resistant cells and in the endometrium of gravid uterus. *J Biol Chem* 1989; 264(2):782-8.
- Yang JM, Hait WN. Use of multidrug resistant L1210 cell line for in vitro and in vivo drug screening [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2161.
- Yang LY, Su YZ, Trujillo JM, Hai S. Distinct P-glycoprotein (P-GP) expressions in two different multidrug resistant (MDR) subclones simultaneously selected from a human colon carcinoma cell line by cisplatin (CDDP) [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2199.
- Yang LY, Trujillo JM. Biological characterization of multidrug-resistant human colon carcinoma sublines induced/selected by two methods. *Cancer Res* 1990 Jun 1;50(11):3218-25.
- Yang LY, Trujillo JM. Different mechanisms for multidrug resistance in two models of adriamycin-resistant subclones derived from a human colon carcinoma cell line [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2053.
- Yanovich S, Gewirtz DA, Hall RE, Pickard P, Boise L, Westin E. Reactivity and functional properties of a monoclonal antibody developed against an MDR K562 subline [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A1998.
- Yanovich S, Hall RE, Gewirtz DA. Characterization of a K562 multidrug-resistant cell line. *Cancer Res* 1989;49(16):4499-503.
- Yanovich S, Hall RE, Gewirtz DA. Resistance to natural killer (NK) cell lysis is associated with multiple drug resistance (MDR) [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1082.
- Yasuo K, Shuichi H, Tatsuhiko F, Akihiko Y, Tomoyuki S, Atae U, Kazuaki I, Takeshi S, Kimiharu U, Masao M, Minoru I, Terukatsu A, Shin Ichi A. Expression of P-glycoprotein in adult T-cell leukemia cells. *Blood* 1990;76(10):2065-71.
- Yu G, Ahmad S, Aquino A, Fairchild CR, Trepel JB, Ohno S, Suzuki K, Tsuruo T, Cowan KH, Glazer RI. Transfection with protein kinase C alpha confers increased multidrug resistance to MCF-7 cells expressing P-glycoprotein. *Cancer Commun* 1991 Jun;3(6):181-9.
- Yusa K, Sato W, Yamazaki A, Tsukahara S, Tsuruo T. Cross-resistance of human multidrug-resistant cells to mitomycin C. *Anticancer Res* 1991 May-Jun; 11(3):1301-4.
- Yusa K, Tsuruo T. Reversal mechanism of multidrug resistance by verapamil: verapamil binds to P-glycoprotein on specific sites and is transported outward across the plasma membrane [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30: A2058.
- Zamora JM, Pearce HL, Beck WT. Physical-chemical properties shared by compounds that modulate multidrug resistance in human leukemic cells. *Mol Pharmacol* 1988;33(4):454-62.
- Zamora JM, Wells MR, Wolverson JS, Cirtain MC, Edwards H, Beck WT. Hypersensitivity of human leukemic multidrug resistant (MDR) cells to intracellular (IC) alkalization by ouabain [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1166.

-Other antineoplastic agents

- Agarwala S, Bahnson R, Wilson J, Szumowski J, Downs M, Ernstoff M. Evaluation of the combination of vinblastine and quinidine in patients with metastatic renal cell carcinoma - a phase I study [abstract]. Proc Annu Meet Am Assoc Cancer Res 1991;32:A1161.
- Alexanian R, Barlogie B. New treatment strategies for multiple myeloma. Am J Hematol 1990 Nov;35(3):194-8.
- Arkin H, Ohnuma T, Kamen BA, Holland JF, Vallabhajosula S. Multidrug resistance in a human leukemic cell line selected for resistance to trimetrexate. Cancer Res 1989 Dec 1;49(23):6556-61.
- Barrand MA, Twentyman PR. Variations in P-glycoprotein expression in response to drug treatment in mouse tumor cell lines [abstract]. Br J Cancer 1991;63 Suppl 13:12.
- Bhushan A, Abramson R, Chiu JF, Tritton TR. Expression of c-fos in human and murine multidrug-resistant cells. Mol Pharmacol 1992 Jul;42(1):69-74.
- Bhuyan BK, Smith KS, Sampson KE, Abraham I. V79 cells resistant to the alkylating agent U-73975 are multidrug resistant [abstract]. Proc Annu Meet Am Assoc Cancer Res 1991;32:A2179.
- Capranico G, De Isabella P, Castelli C, Supino R, Parmiani G, Zunino F. P-glycoprotein gene amplification and expression in multidrug-resistant murine p388 and b16 cell lines. Br J Cancer 1989;59(5):682-5.
- Carulli G, Marini A, Caracciolo F. [P-glycoprotein and treatment with plicamycin + hydroxyurea in myeloid blastic crisis of chronic myeloid leukemia]. Medicina (Firenze) 1989 Oct-Dec;9(4):409-10. (Ita).
- Casazza AM, Catino JJ. Mechanisms and strategies related to drug resistance. Paper presented at: Strategies in Cancer Medical Therapy: Biological Bases and Clinical Implications; 1989 Apr 12-15; Forli, Italy.
- Chapekar MS, Huggett AC, Cheng C. Dexamethasone prevents the growth inhibitory effects of recombinant tumor necrosis factor in a rat hepatoma cell line Reuber-RC-3: an association with the changes in the messenger RNA levels for multidrug resistance gene. Biochem Biophys Res Commun 1991 Dec 31;181(3):1524-31.
- Christen RD, Shalinsky DR, Howell SB. Enhancement of the loss of multiple drug resistance by hydroxyurea [abstract]. Proc Annu Meet Am Soc Clin Oncol 1991;10:A209.
- Christen RD, Shalinsky DR, Howell SB. Enhancement of the loss of multiple drug resistance by hydroxyurea. Semin Oncol 1992 Jun;19(3 Suppl 9):94-100.
- Durie BGM, Dalton WS. Reversal of drug resistance in multiple myeloma with verapamil. Br J Haematol 1988;68(2):203-6.
- Dutt A, Heath LA, Pan BF, Nelson JA. Role of P-glycoprotein in organic cation secretion in the mammalian kidney [abstract]. Proc Annu Meet Am Assoc Cancer Res 1992;33:A113.
- Epstein J, Xiao H, Oba BK. P-glycoprotein expression in plasma cell myeloma is associated with resistance to VAD. Blood 1989;74(3):913-7.
- Evans SS, Rustum YM. The combined effects of alpha-interferon with doxorubicin (DOX) and vinblastine (VLB) on multidrug-resistant ovarian carcinoma and leukemic cells [abstract]. Proc Annu Meet Am Assoc Cancer Res 1989;30:A2101.
- Fuchs B, Ostmeier H, Suter L. P-glycoprotein expression in malignant melanoma. J Cancer Res Clin Oncol 1991;117(2):168-71.
- Gupta RS, Murray W, Gupta R. Cross resistance pattern towards anticancer drugs of a human carcinoma multidrug-resistant cell line. Br J Cancer 1988;58(4):441-7.
- Hill BT, Whelan RD, Hosking LK, Bedford P, Dempke WC, Shellard SA. Differential expression of drug resistance following in vitro exposure of human tumour cell lines to fractionated X-irradiation. Cancer Treat Rev 1990 Dec;17 Suppl A:21-6.
- Hoffmann D, Gerken M, Hermentin P, Sedlacek HH. B 880308 -- a new anthracycline derivative demonstrating maintained activity against multidrug resistant cell lines [abstract]. Proc Annu Meet Am Assoc Cancer Res 1991;32:A2410.
- Kimiya K, Naito S, Soejima T, Sakamoto N, Kotoh S, Kumazawa J, Tsuruo T. Establishment and characterization of doxorubicin-resistant human bladder cancer cell line, KK47/ADM. J Urol 1992 Aug;148(2 Pt 1):441-5.
- Knick VC, Miller CG. In vivo derivation of a murine P388 leukemia subline resistant to 5'-nor-anhydrovinblastine (navelbine) and its cross-resistance profile [abstract]. Proc Annu Meet Am Assoc Cancer Res 1992;33:A2759.
- Kuo-Pao PY, Samaan NA. Intrinsic drug resistance in a human medullary thyroid carcinoma cell line: association with a multidrug resistance gene expression and low proliferation fraction [abstract]. Anticancer Res 1990;10(5B):1404.

- Larsen AK, Markovits J, Jacquemin-Sablon A. Increased sensitivity of 9-hydroxyellipticine-resistant Chinese hamster cells to alkylating agents [abstract]. Proc Annu Meet Am Assoc Cancer Res 1991;32:A2071.
- Licht T, Fiebig HH, Bross KJ, Herrmann F, Berger DP, Shoemaker R, Mertelsmann R. Induction of multiple-drug resistance during anti-neoplastic chemotherapy in vitro. *Int J Cancer* 1991 Oct 21; 49(4):630-7.
- Licht T, Fiebig HH, Dreher C, Bross KJ, Herrmann F. Modulation of multidrug resistance by tumor necrosis factor-alpha and verapamil [abstract]. Proc Annu Meet Am Assoc Cancer Res 1992;33:A2852.
- Lock RB, Hill BT. Differential patterns of anti-tumour drug responses and mechanisms of resistance in a series of independently derived VP 16 resistant human tumour cell lines. *Int J Cancer* 1988; 42(3):373-81.
- Lutzky J, Canada AL, Yamanishi DT, Bhalla K, Hindenburg AA. Effect of verapamil and buthionine sulfoximine (BSO) on daunorubicin (DNR) cytotoxicity of multidrug-resistant human melanoma cell lines overexpressing P-glycoprotein and glutathione-s-transferases [abstract]. Proc Annu Meet Am Assoc Cancer Res 1992;33:A3315.
- Mattern J, Bak M, Volm M. Intrinsic and acquired multidrug resistance in human lung carcinomas grown in nude mice. *Anticancer Res* 1990 Jan-Feb; 10(1):177-80.
- Mattern J, Bak M, Volm M. Occurrence of a multidrug resistant phenotype in human lung xenografts. *Br J Cancer* 1987;56(4):407-11.
- Mazzoni A, Trave F, Canti G, Franco P. Effect of the tiapamil analog RO-11-2933 on cellular sensitivity to antitumor drugs in sensitive and multidrug resistant human ovarian cancer cells. *Anticancer Res* 1989;9(2):367-72.
- Mechetner EB, Roninson IB. Efficient inhibition of P-glycoprotein-mediated multidrug resistance with a monoclonal antibody [abstract]. Proc Annu Meet Am Assoc Cancer Res 1992;33:A2913.
- Michieli M, Giacca M, Fanin R, Damiani D, Geromin A, Baccarani M. MDR-1 gene amplification in acute lymphoblastic leukemia prior to antileukemic treatment. *Br J Haematol* 1991;78(2):288-9.
- Michieli M, Raspadori D, Damiani D, Geromin A, Gallizia C, Michelutti A, Fanin R, Fasola G, Russo D, Tazzari P, et al. The expression of the multidrug resistance-associated glycoprotein in B-cell chronic lymphocytic leukaemia. *Br J Haematol* 1991 Apr;77(4):460-5.
- Mickisch GH, Merlino GT, Galski H, Gottesman MM, Pastan I. Transgenic mice that express the human multidrug-resistance gene in bone marrow enable a rapid identification of agents that reverse drug resistance. *Proc Natl Acad Sci U S A* 1991 Jan 15; 88(2):547-51.
- Moulton TA, Jiang H, Guarini L, Fetell MR, Fisher PB. Induction of growth suppression and modification of gene expression in multi-drug-resistant human glioblastoma multiforme cells by recombinant human fibroblast and immune interferon. *Int J Cancer* 1992 May 28;51(3):373-8.
- Murren JR, Cooper DL, Honig J, Edelson RL, Hait WN, Flynn SD. The multidrug-resistant phenotype is prevalent in Sezary Syndrome (SS) [abstract]. Proc Annu Meet Am Soc Clin Oncol 1992;11: A1130.
- Ohe Y, Nakagawa K, Fujiwara Y, Sasaki Y, Minato K, Bungo M, Niimi S, Horichi N, Fukuda M, Saijo N. In vitro evaluation of the new anticancer agents KT6149, MX 2, SM5887, menogaril, and liblomycin using cisplatin or adriamycin resistant human cancer cell lines. *Cancer Res* 1989;49(15): 4098-102.
- Onishi Y, Handel LM, Hall L, Fojo AT, Young RC, Ozols RF, Hamilton TC. Multidrug resistance (mdr-1) gene amplification and overexpression (OE) in human ovarian cancer (HOC) cell lines from untreated patients (pts) and pts refractory to combination chemotherapy (CC) [abstract]. Proc Annu Meet Am Assoc Cancer Res 1989;30:A2280.
- Ozols RF. Reversal of drug resistance: clinical trials based on experimental studies in human tumor model systems. Paper presented at: Symposium on Mechanisms of Drug and Radiation Resistance of Tumor Cells; 1989 Jun 28-30; Villejuif, France.
- Ozols RF. Reversal of drug resistance: laboratory data and clinical trials. Paper presented at: Biology and therapy of breast cancer. Joint NCI-IST Symposium/3rd IST International Symposium; 1989 Sep 25-27; Genoa, Italy.
- Ozols RF, Hamilton TC, Fojo AT, Lai GM, Rothenberg M, Young RC. Reversal of alkylating agent and platinum resistance in ovarian cancer [abstract]. Proc Annu Meet Am Assoc Cancer Res 1988;29:526-7.
- Park JG, Kramer BS, Lai SL, Goldstein LJ, Gazdar AF. Chemosensitivity patterns and expression of human multidrug resistance-associated MDR1 gene by human gastric and colorectal carcinoma cell lines. *J Natl Cancer Inst* 1990 Feb 7;82(3):193-8.
- Park JG, Kramer BS, Henslee JG, Lai S, Goldstein L, Gottesman MM, Gazdar AF. Characteristics and drug sensitivity patterns of human gastric carcinoma

- cell lines--comparison with colorectal carcinoma lines [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A432.
- Pastan I, Gottesman MM, Ueda K, Lovelace E, Rutherford AV, Willingham MC. A retrovirus carrying an *mdr1* complementary DNA confers multidrug resistance and polarized expression of P-glycoprotein in MDCK cells. *Proc Natl Acad Sci U S A* 1988;85(12):4486-90.
- Plumb JA, Milroy R, Kaye SB. Sequential induction of drug resistance in an adherent small-cell lung cancer (SCLC) cell line [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2141.
- Reddy PG, Graham GM, Datta S, Guarini L, Moulton TA, Jiang HP, Gottesman MM, Ferrone S, Fisher PB. Effect of recombinant fibroblast interferon and recombinant immune interferon on growth and the antigenic phenotype of multidrug-resistant human glioblastoma multiforme cells. *J Natl Cancer Inst* 1991 Sep 18;83(18):1307-15.
- Ross KL, Sikic BI, Kercso KM, Owicki JC, Hafeman DG, Muir VC, Parce JW. Potentiometric monitoring of tumor cell chemosensitivity with a silicon based biosensor [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2410.
- Saijo N, Nakagawa K, Fujiwara Y, Bungo M, Horichi N, Sasaki Y, Yokota J, Terada M. Characteristics of clinical and experimental resistance to cisplatin. Paper presented at: 1st International Interface of Clinical and Laboratory Responses to Anticancer Drugs; 1989 Mar 13-15; Villejuif, France.
- Sakata K, Kwok TT, Murphy BJ, Laderoute KR, Gordon GR, Sutherland RM. Hypoxia-induced drug resistance: comparison to P-glycoprotein-associated drug resistance. *Br J Cancer* 1991 Nov; 64(5):809-14.
- Satta T, Isobe K, Yamauchi M, Nakashima I, Akiyama S, Itou K, Watanabe T, Takagi H. Establishment of drug resistance in human gastric and colon carcinoma xenograft lines. *Jpn J Cancer Res* 1991 May;82(5):593-8.
- Satta T, Isobe K, Yamauchi M, Nakashima I, Takagi H. Expression of MDR1 and glutathione S transferase-pi genes and chemosensitivities in human gastrointestinal cancer. *Cancer* 1992 Feb 15;69(4):941-6.
- Scala S, Murphy LD, Tortora G, Cho-Chung Y, Bates S. Effects of differentiating agents (DA) on P-glycoprotein (Pgp) expression in a multidrug resistant breast cancer cell line [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2240.
- Shinoda H, Inaba M, Tsuruo T. In vivo circumvention of vincristine resistance in mice with P388 leukemia using a novel compound, AHC 52. *Cancer Res* 1989;49(7):1722-6.
- Tagger AY, Wright JA. Molecular and cellular characterization of drug resistant hamster cell lines with alterations in ribonucleotide reductase. *Int J Cancer* 1988;42(5):760-6.
- Takeda Y, Nishio K, Sugimoto Y, Kasahara K, Kubo S, Fujiwara Y, Niitani H, Saijo N. Establishment of a human leukemia subline resistant to the growth-inhibitory effect of 12-O-tetradecanoylphorbol 13-acetate (TPA) and showing non-P-glycoprotein-mediated multi-drug resistance. *Int J Cancer* 1991 Jul 30;48(6):931-7.
- Tanimura H, Kohno K, Sato S, Uchiumi T, Miyazaki M, Kobayashi M, Kuwano M. The human multidrug resistance 1 promoter has an element that responds to serum starvation. *Biochem Biophys Res Commun* 1992 Mar 16;183(2):917-24.
- Toffoli G, Viel A, Tumioto L, Maestro R, Biscontin G, Boiocchi M. Expression of the *mdr1* gene in human colorectal carcinomas: relationship with multidrug resistance inferred from analysis of human colorectal carcinoma cell lines. *Cancer Chemother Pharmacol* 1992;29(4):283-9.
- Tonini GP, Corrias MV, Di Martino D, Lanino E, Cornaglia-Ferraris P. Amplification and expression of MDR1 and N-myc genes in neuroblastoma [abstract]. *J Cancer Res Clin Oncol* 1990;116 Suppl Pt 1:417.
- Treichel RS, Olken S. The relationship between multidrug resistance and resistance to natural-killer-cell and lymphokine-activated killer-cell lysis in human leukemic cell lines. *Int J Cancer* 1992 Jan 21; 50(2):305-10.
- Trujillo JM, Yang LY, Su YZ, Gercovich G, Hai S, Williams A. Cytotoxicity synergism of interferon (IFN) and adriamycin (AdR) on lovo human colon tumor cell line and its multidrug resistant (MDR) subclone [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2033.
- Tsai CM, Lai SL, Ihde DC, Goldstein LJ, Gottesman MM, Pastan I, Mulshine JL, Gazdar AF. Clinical response to combination chemotherapy in lung cancer is correlated with in vitro chemosensitivity but not with expression of the MDR1 gene [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1989;8:A965.
- Tsuruo T, Sugimoto Y, Hamada H, Roninson I, Okumura M, Adachi K, Morishima Y, Ohno R. Detection of multidrug resistance markers, P-glycoprotein and *mdr1* and mRNA, in human leukemia cells. *Jpn J Cancer Res* 1987;78(12): 1415-9.
- Ujhazy P, Chen Y, Fredericks W, Ehrke MJ. Collateral sensitivity to tumor necrosis factor in an adriamycin resistant EL4 cell line [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A1625.

- Van Der Zee AGJ, Hollema H, De Jong S, Boonstra H, Gouw A, Willemse PHB, Zijlstra JG, De Vries EGE. P-glycoprotein expression and DNA topoisomerase I and II activity in benign tumors of the ovary and in malignant tumors of the ovary before and after platinum cyclophosphamide chemotherapy. *Cancer Res* 1991;51(21):5915-20.
- Von Hoff D, VanDevanter D, Forseth B, Davidson K, Waddelow T, Wahl G. Hydroxyurea can decrease drug resistance gene copy numbers in tumor cell lines [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1990;31:A2243.
- Wallace RE, Lindh D, Greenberger L, Raventos-Suarez C, Durr FE. Development of a human breast carcinoma (MX-1E) cell line resistant to calicheamicin [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2163.
- Waud WR, Harrison SD Jr, Temple CG Jr, Griswold DP Jr. Antitumor drug cross-resistance in vivo in a murine P388 leukemia resistant to ethyl 5-amino-1,2-dihydro-2-methyl-3-phenylpyrido[3,4-b]pyrazin-7-ylcarbamate 2-hydroxyethanesulfonate hydrate (NSC 370,147) 370147. *Cancer Chemother Pharmacol* 1992;29(3):190-4.
- Weide R, Dowding C, Paulsen W, Goldman J. The role of the MDR-1/P-170 mechanism in the development of multidrug resistance in chronic myeloid leukemia. *Leukemia* 1990 Oct;4(10):695-9.
- Other**
- Abraham I, Chin KV, Gottesman MM, Mayo JK, Sampson KE. Transfection of a mutant regulatory subunit gene of cAMP-dependent protein kinase causes increased drug sensitivity and decreased expression of P-glycoprotein. *Exp Cell Res* 1990 Jul;189(1):133-41.
- Ames GFL, Mimura CS, Shyamala V. Bacterial periplasmic permeases belong to a family to transport proteins operating from escherichia-coli to human traffic atpases. *FEMS Microbiol Rev* 1990; 75(4):429-46.
- Arceci RJ, Baas F, Raponi R, Horwitz SB, Housman D, Croop JM. Multidrug resistance gene expression is controlled by steroid hormones in the secretory epithelium of the uterus. *Mol Reprod Dev* 1990 Feb;25(2):101-9.
- Arceci RJ, Croop JM, Horwitz SB, Housman D. The gene encoding multidrug resistance is induced and expressed at high levels during pregnancy in the secretory epithelium of the uterus. *Proc Natl Acad Sci U S A* 1988;85(12):4350-4.
- Arias IM. Multidrug resistance genes, P-glycoprotein and the liver. *Hepatology* 1990 Jul;12(1):159-65.
- Axiotis CA, Guarch R, Merino MJ, Laporte N, Neumann RD. P-glycoprotein expression is increased in human secretory and gestational endometrium. *Lab Invest* 1991;65(5):577-81.
- Baas F, Borst P. The tissue dependent expression of hamster P-glycoprotein genes. *FEBS Lett* 1988; 229(2):329-32.
- Baas F, van Groenigen M, Valentijn LJ. Identification of a functional initiator sequence in the human MDR1 promoter [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2151.
- Bhushan A, Tritton TR. Increased tyrosine phosphorylation of lipocortin I in multidrug-resistant sarcoma 180 cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2148.
- Blight MA, Holland IB. Structure and function of haemolysin B, P-glycoprotein and other members of a novel family of membrane translocators. *Mol Microbiol* 1990 Jun;4(6):873-80.
- Bosch I, Shoemaker CB. Localization studies on the *Schistosoma-mansoni* homologues of P-glycoprotein [abstract]. *Am J Trop Med Hyg* 1991; 45(3 Suppl):244-5.
- Bradley G, Georges E, Ling V. Sex-dependent and independent expression of the P-glycoprotein isoforms in Chinese hamster. *J Cell Physiol* 1990 Dec;145(3):398-408.

- Bradley G, Juranka PF, Ling V. Mechanism of multidrug resistance. *Biochim Biophys Acta* 1988;948(1):87-128.
- Bruggemann EP, Chaudhary V, Gottesman MM, Pastan I. Pseudomonas exotoxin fusion proteins are potent immunogens for raising antibodies against P-glycoprotein. *Biotechniques* 1991 Feb;10(2):202-4, 206, 208-9.
- Bruggemann EP, Germann UA, Gottesman MM, Pastan I. Two different regions of p-glycoprotein are photoaffinity-labeled by azidopine. *J Biol Chem* 1989 Sep 15;264(26): 15483-8. Published erratum appears in: *J Biol Chem* 1990 Mar 5; 265(7):4172.
- Budillon A, Clair T, Scala S, Bates S, Cho-Chung YS. Role of type I regulatory subunit (RI) of cAMP-dependent protein kinase (PKA) in multidrug resistance (MDR) of cancer cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2836.
- Buschman E, Gros P. Functional analysis of chimeric genes obtained by exchanging homologous domains of the mouse *mdr1* and *mdr2* genes. *Mol Cell Biol* 1991 Feb;11(2):595-603.
- Cadroy Y, Kelly A, Marzec U, Evatt B, Harker L, Hanson S, Ruggeri Z. Comparison of the antihemostatic and antithrombotic effects of monoclonal antibodies (MoA) against von Willebrand Factor (vWF) and platelet P-glycoprotein IIb-IIIa (GPIIb/IIIa) [abstract]. *Circulation* 1989;80(4 Suppl 2):II-24.
- Calvo F, de Cremoux P. [Multidrug resistant genes MDR1]. *Bull Cancer (Paris)* 1989;76(9):973-7. (Fre).
- Cenciarelli C, Currier SJ, Willingham MC, Thiebaut F, Germann UA, Rutherford AV, Gottesman MM, Barca S, Tombesi M, Morrone S, et al. Characterization by somatic cell genetics of a monoclonal antibody to the MDR1 gene product (P-glycoprotein): determination of P-glycoprotein expression in multi-drug-resistant KB and CEM cell variants. *Int J Cancer* 1991 Feb 20;47(4):533-43.
- Chabner BA, Fojo A. Multidrug resistance: P-glycoprotein and its allies--the elusive foes. *J Natl Cancer Inst* 1989 Jun 21;81(12):910-3.
- Chen CJ, Clark D, Ueda K, Pastan I, Gottesman MM, Roninson IB. Genomic organization and evolution of the human multidrug resistance (*mdr1*) gene [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A1983.
- Chen CJ, Clark D, Ueda K, Pastan I, Gottesman MM, Roninson IB. Genomic organization of the human multidrug resistance (MDR1) gene and origin of P-glycoproteins. *J Biol Chem* 1990 Jan 5;265(1): 506-14.
- Chin KV, Chauhan SS, Abraham I, Sampson KE, Krolczyk AJ, Wong M, Schimmer B, Pastan I, Gottesman MM. Reduced mRNA levels for the multidrug-resistance genes in cAMP-dependent protein kinase mutant cell lines. *J Cell Physiol* 1992 Jul;152(1):87-94.
- Chin KV, Chauhan SS, Abraham I, Simpson KE, Schimmer B, Wong M, Pastan I, Gottesman MM. Reduced mRNA levels for the multidrug-resistance genes in cAMP-dependent protein kinase mutant cell lines [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2162.
- Chin KV, Ueda K, Pastan I, Gottesman MM. Modulation of activity of the promoter of the human MDR1 gene by Ras and p53. *Science* 1992 Jan 24; 255(5043):459-62.
- Cornwell MM. The human multidrug resistance gene: sequences upstream and downstream of the initiation site influence transcription. *Cell Growth Differ* 1990 Dec;1(12):607-15.
- Cornwell MM. Molecular biology of P-glycoprotein. *Cancer Treat Res* 1991;57:37-56.
- Cowman AF. The P-glycoprotein homologues of *Plasmodium-falciparum*: Are they involved in chloroquine resistance? *Parasitol Today* 1991; 7(4):70-6.
- Cowman AF, Foote SJ. Chemotherapy and drug resistance in malaria. *Int J Parasitol* 1990 Jul;20(4):503-13.
- Cowman AF, Karcz S, Galatis D, Culvenor JG. A P-glycoprotein homologue of *Plasmodium-falciparum* is localized on the digestive vacuole. *J Cell Biol* 1991;113(5):1033-42.
- Cowman AF, Karcz SR. The *pfmdr* gene homologues of *Plasmodium falciparum*. *Acta Leiden* 1991; 60(1):121-9.
- Croop JM, Gros P, Housman DE. Genetics of multidrug resistance. *J Clin Invest* 1988;81(5): 1303-9.
- Croop JM, Raymond M, Haber D, Devault A, Arceci RJ, Gros P, Housman DE. The three mouse multidrug resistance *mdr* genes are expressed in a tissue-specific manner in normal mouse tissues. *Mol Cell Biol* 1989;9(3):1346-50.
- Currier SJ, Ueda K, Willingham MC, Pastan I, Gottesman MM. Deletion and insertion mutants of the multidrug transporter. *J Biol Chem* 1989; 264(24):14376-81.
- Currier SJ, Willingham MC, Pastan I, Gottesman MM. Mutational analysis of the multidrug transporter by the formation of a chimeric *mdr1*-*mdr2* molecule [abstract]. *J Cell Biol* 1989;109(4 Pt 2):253a.
- Daoud SS, Juliano RL. Modulation of doxorubicin resistance by valinomycin nsc-122023 and

- liposomal valinomycin in Chinese hamster ovary cells. *Cancer Res* 1989;49(10):2661-7.
- De Kant E, Reuter J, Schulz G, Rochlitz CF, Neubauer A, Huhn D, Herrmann R. R-verapamil (R-VPM) modulation of multidrug resistance (MDR) and expression of P-glycoprotein (PGP) in human colorectal xenografts [abstract]. *Onkologie* 1991; 14 Suppl 2:26.
- De Vita VT Jr. The problem of resistance. *Pezcoller Found Symp* 1990;1:7-31.
- de Vries EG, Pinedo HM. Clinical implications of multidrug resistance to chemotherapy. *Cancer Treat Res* 1991;57:171-86.
- DeMars R, Spies T. New genes in the MHC that encode proteins for antigen processing. *Trends Cell Biol* 1992;2(3):81-6.
- Deuchars KL, Duthie M, Ling V. Identification of distinct P-glycoprotein gene sequences in rat. *Biochim Biophys Acta* 1992 Mar 24;1130(2): 157-65.
- Deuchars KL, Ling V. P-glycoprotein and multidrug resistance in cancer chemotherapy. *Semin Oncol* 1989 Apr;16(2):156-65.
- Devault A, Gros P. Two members of the mouse mdr gene family confer multidrug resistance with overlapping but distinct drug specificities. *Mol Cell Biol* 1990 Apr;10(4):1652-63.
- Deverson EV, Gow IR, Coadwell WJ, Monaco JJ, Butcher GW, Howard JC. MHC class II region encoding proteins related to the multidrug resistance family of transmembrane transporters [see comments]. *Nature* 1990 Dec 20-27;348(6303): 738-41.
- Devine SE, Ling V, Melera PW. Amino acid substitutions in the sixth transmembrane domain of P-glycoprotein alter multidrug resistance. *Proc Natl Acad Sci U S A* 1992 May 15;89(10):4564-8.
- Dhir R, Buschman E, Gros P. Structural and functional characterization of the mouse multidrug resistance gene family. *Bull Cancer (Paris)* 1990;77(11):1125-9.
- Dickson RB, Gottesman MM. Understanding of the molecular basis of drug resistance in cancer reveals new targets for chemotherapy. *Trends Pharmacol Sci* 1990;11(8):305-7.
- Dietel M, Seidel A, Nickelsen M. Microfilaments and vesicle-associated drug transport in multidrug-resistant EPG85-257 cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2749.
- Dolci ED, Abramson R, Yassa DS, Tritton TR. Anomalous expression of P-glycoprotein in highly resistant human KB cells [abstract]. *J Cell Biol* 1991;115(3 Pt 2):200a.
- Dudler R, Hertig C. Structure of an mdr-like gene from *Arabidopsis thaliana*. Evolutionary implications. *J Biol Chem* 1992 Mar 25;267(9): 5882-8.
- Dutta GP, Bajpai R, Vishwakarma RA. Antimalarial efficacy of arteether against multiple drug resistant strain of *Plasmodium yoelii-nigeriensis*. *Pharmacol Res* 1989;21(4):415-20.
- Dreesen TD, Johnson DH, Henikoff S. The brown protein of *Drosophila-melanogaster* is similar to the white protein and to components of active transport complexes. *Mol Cell Biol* 1988;8(12):5206-15.
- Efferth T, Lathan B, Volm M. Selective growth-inhibition of multidrug-resistant CHO-cells by the monoclonal antibody 265-F4. *Br J Cancer* 1991; 64(1):87-9.
- Ellison JA, Hall JJ, Noble LJ. Immunocytochemical localization of a multidrug-resistant glycoprotein in CNS vasculature of the rat [abstract]. *Soc Neurosci Abstr* 1989;15(2):1220.
- Endicott JA, Ling V. The biochemistry of P-glycoprotein-mediated multidrug resistance. *Annu Rev Biochem* 1989;58:137-71.
- Endicott JA, Sarangi F, Georges E, Ling V. P-glycoprotein phosphorylation and the multidrug resistance phenotype [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:367.
- Endicott JA, Sarangi F, Ling V. Complete cDNA sequences encoding the Chinese hamster P-glycoprotein gene family. *DNA Seq* 1991;2(2): 89-101.
- Epenetos AA, Kosmas C. Monoclonal antibodies for imaging and therapy. *Br J Cancer* 1989;59(2): 152-5.
- Fath MJ, Skvirsky RC, Kolter R. Functional complementation between bacterial MDR-like export systems: colicin V, alpha hemolysin, and *Erwinia* protease. *J Bacteriol* 1991 Dec;173(23): 7549-56.
- Finstad CL, Saigo PE, Rubin SC, Federici MG, Provencher DM, Hoskins WJ, Lewis JL Jr, Lloyd KO. Immunohistochemical localization of P-glycoprotein in adult human ovary and female genital tract of patients with benign gynecological conditions. *J Histochem Cytochem* 1990;38(11): 1677-82.
- Fojo AT. Multidrug resistance. *Adv Intern Med* 1991;36:195-218.
- Fojo AT. Multidrug resistance to chemotherapy. *Cancer Bull* 1989;41(1):26-30.

- Foote SJ, Kyle DE, Martin RK, Oduola AM, Forsyth K, Kemp DJ, Cowman AF. Several alleles of the multidrug-resistance gene are closely linked to chloroquine resistance in *Plasmodium falciparum*. *Nature* 1990 May 17;345(6272): 255-8.
- Foote SJ, Thompson JK, Cowman AF, Kemp DJ. Amplification of the multidrug resistance gene in some chloroquine-resistant isolates of *P. falciparum*. *Cell* 1989 Jun 16;57(6):921-30.
- Ford JM, Hait WN. Pharmacology of drugs that alter multidrug resistance in cancer. *Pharmacol Rev* 1990 Sep;42(3):155-99.
- Friedlander ML, Bell DR. Multidrug resistance: clinical findings and implications. *Cancer Treat Res* 1989;42:63-77.
- Fuqua SA, Merkel DE, McGuire WL. Laboratory aspects of multidrug resistance. *Cancer Treat Res* 1989;42:45-59.
- Galski H, Merlino GT, Gottesman MM, Pastan I. Expression of a human multidrug-resistance cDNA (MDR1) under the control of a beta-actin promoter in transgenic mice. *Biotechnology* 1991;16:103-24.
- Galski H, Sullivan M, Willingham MC, Chin KV, Gottesman MM, Pastan I, Merlino GT. Expression of a human multidrug resistance cDNA (MDR1) in the bone marrow of transgenic mice: resistance to daunomycin-induced leukopenia. *Mol Cell Biol* 1989 Oct;9(10):4357-63.
- Galski H, Sullivan M, Willingham MC, Gottesman MM, Pastan I, Merlino GT. Increased bone marrow resistance to cytotoxic drugs in mice carrying a human multidrug-resistant (MDR1) transgene [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2001.
- Gant TW, Schrenk D, Thorgeirsson SS. Two routes for induction of the *mdr* gene by xenobiotics [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2828.
- Gant TW, Silverman JA, Bisgaard HC, Burt RK, Marino PA, Thorgeirsson SS. Regulation of 2-acetylaminofluorene- and 3-methylcholanthrene-mediated induction of multidrug resistance and cytochrome P450IA gene family expression in primary hepatocyte cultures and rat liver. *Mol Carcinog* 1991;4(6):499-509.
- Gant TW, Silverman JA, Marino PA, Thorgeirsson SS. Receptor and trans-acting factor mediated transcriptional control of multidrug resistance gene expression [abstract]. *FASEB J* 1991;5(4):A824.
- Gauci DF, Busche R, Riordan JR. The role of the binding of drugs to P-glycoprotein in their exclusion from multidrug resistant cells [abstract]. *FASEB J* 1988;2(6):8409.
- Gautam SC, Finke JH, Lewis I, Grabowski D, Ganapathi R. Immunological investigation of multi-drug resistant b16-bl6 mouse melanoma cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1620.
- Gebel HM, Markham PN, Bines SD, Wang Y, Coon JS, Chong ASF. Inhibition of natural killer cell mediated cytotoxicity by agents that reverse multidrug resistance gene function [abstract]. *Hum Immunol* 1991;32 Suppl 1:18.
- Georges E, Bradley G, Garipey J, Ling V. Mapping of P-glycoprotein monoclonal antibody epitopes: application for immunohistological staining [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2029.
- Georges E, Sharom FJ, Ling V. Multidrug resistance and chemosensitization: therapeutic implications for cancer chemotherapy. *Adv Pharmacol* 1990;21: 185-220.
- Georges E, Zhang JT, Ling V. Modulation of ATP and drug binding by monoclonal antibodies against P-glycoprotein. *J Cell Physiol* 1991 Sep;148(3): 479-84.
- Gerlach JH. Structure and function of P-glycoprotein. *Cancer Treat Res* 1989;48:37-53.
- Germann UA, Chin KV, Pastan I, Gottesman MM. Retroviral transfer of a chimeric multidrug resistance-adenosine deaminase gene. *FASEB J* 1990 Mar;4(5):1501-7.
- Germann UA, Gottesman MM, Pastan I. Expression of a multidrug resistance-adenosine deaminase fusion gene. *J Biol Chem* 1989;264(13):7418-24.
- Germann UA, Gottesman MM, Pastan I. Stable expression of a human multidrug resistance-adenosine deaminase fusion gene after DNA-mediated transfer into human KB cells [abstract]. *J Cell Biol* 1988;107(6 Pt 3):326A.
- Giboda M, Denis MB. Response of Kampuchean strains of *Plasmodium-falciparum* to antimalarials: in-vivo assessment of quinine and quinine plus tetracycline multiple drug resistance in-vitro. *J Trop Med Hyg* 1988;91(4):205-11.
- Gilson L, Mahanty HK, Kolter R. Genetic analysis of an MDR-like export system: the secretion of colicin V. *EMBO J* 1990 Dec;9(12):3875-94.
- Gobbi M, Michieli M, Raspadori D, Damiani D, Michelutti A, Pierri I, Tazzari PL. [Methods for studying pleiotropic drug resistance (multidrug

- resistance, MDR)]. *Haematologica* 1991 Jun; 76 Suppl 3:150-3. (Ita).
- Gottesman MM. Multidrug resistance during chemical carcinogenesis: a mechanism revealed. *J Natl Cancer Inst* 1988;80(17):1352-53.
- Gottesman MM, Goldstein LJ, Bruggemann E, Currier SJ, Galski H, Cardarelli C, Thiebaut F, Willingham MC, Pastan I. Molecular diagnosis of multidrug resistance. *Cancer Cells* 1989;7:75-80.
- Gottesman MM, Pastan I. Molecular biology and clinical relevance of multidrug-resistance [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29: 522-3.
- Gottesman MM, Pastan I. The multidrug transporter, a double-edged sword. *J Biol Chem* 1988;263(25): 12163-6.
- Greenberger LM, Croop JM, Horwitz SB, Arceci RJ. P-glycoproteins encoded by *mdr1b* in murine gravid uterus and multidrug resistant tumor cell lines are differentially glycosylated. *FEBS Lett* 1989;257(2): 419-21.
- Greenberger LM, Lisanti CJ, Silva JT, Horwitz SB. Site-specific antibodies for domain mapping of P-glycoprotein [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2184.
- Greenberger LM, Lothstein L, Horwitz SB. Heterogeneous forms of P-glycoprotein in multidrug resistant J774.2 cells. In: Tapiero H, Robert J, Lampidis TJ, editors. *1st International Interface of Clinical and Laboratory Responses to Anticancer Drugs*; 1989 Mar 13-15; Villejuif, France. Paris: Les Editions Inserm; 1989. p. 263-76. (Colloque INSERM; 191).
- Greenberger LM, Yang CPH, Gindin E, Horwitz SB. The multidrug transporter p-glycoprotein is specifically labeled by an alpha-1 adrenergic photoaffinity probe iodoarylazidoprazosin [abstract]. *J Cell Biol* 1989;109(4 Pt 2):252a.
- Grinchuk TM, Ignatova TN, Sorokina EA, Artsybasheva IV, Pan' Shina Yu T. [Chromosome polymorphism in mammalian cells with multidrug resistance. 1. Karyotypical analysis of Chinese hamster cells resistant to ethidium bromide at the early passages of initial selection steps]. *Tsitologiya* 1988;30(3):312-20. (Rus).
- Grogl M, Martin RK, Oduola AM, Milhous WK, Kyle DE. Characteristics of multidrug resistance in *Plasmodium* and *Leishmania*: detection of P-glycoprotein-like components. *Am J Trop Med Hyg* 1991 Jul;45(1):98-111.
- Gros P, Raymond M, Bell J, Housman D. Cloning and characterization of a second member of the mouse *mdr* gene family. *Mol Cell Biol* 1988;8(7): 2770-8.
- Gutheil JC, Melera PW. Megesterol acetate inhibits cell growth in cells overexpressing P-glycoprotein [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A1284.
- Haber DA, Housman DE. MSPI-HAPAI polymorphism in the human multidrug resistance gene 1. *Nucleic Acids Res* 1989;17(23):10142.
- Hake LE, Bowcock A, King MC, Cavalli-Sforza LL. Genetic markers on the long arm of chromosome 7 [abstract]. *Clin Res* 1988;36(3):403a.
- Hamada H, Maezawa K, Tsuruo T. Nucleotide sequences of the variable regions of a mouse monoclonal antibody MRK16. *Nucleic Acids Res* 1990;18(7):1900.
- Han EKH, Yang CPH, Horwitz SB. Mutagenesis of the protein kinase A phosphorylation site in P-glycoprotein MDR1B [abstract]. *J Cell Biol* 1991;115(3 Pt 2):200A.
- Hayes JD, Wolf CR. Molecular mechanisms of drug resistance. *Biochem J* 1990 Dec 1;272(2):281-95.
- Higgins C. Transport proteins. Export-import family expands [news]. *Nature* 1989 Aug 3;340(6232): 342.
- Higgins CF, Gottesman MM. Is the multidrug transporter a flippase? *Trends Biochem Sci* 1992; 17(1):18-21.
- Hoell V, Becker KF, Kouba M, Vogt G. The multidrug resistance (MDR) 1 gene and a related transporter gene (NG-TRA) are expressed in COS monkey kidney cells [abstract]. *Pfluegers Arch Eur J Physiol* 1991;418 Suppl 1:R65.
- Holland IB, Blight MA, Kenny B. The mechanism of secretion of hemolysin and other polypeptides from gram-negative bacteria. *J Bioenerg Biomembr* 1990 Jun;22(3):473-91.
- Holland IB, Possot O, Blight M, Yue K. Bacterial haemolysin and mammalian P-glycoprotein. *Biochem Soc Trans* 1991 Apr;19(2):252-5.
- Hoof T, Riordan JR, Tumbler B. Quantitation of mRNA by the kinetic polymerase chain reaction assay: a tool for monitoring P-glycoprotein gene expression. *Anal Biochem* 1991 Jul;196(1):161-9.
- Hsu SI, Cohen D, Kirschner LS, Lothstein L, Hartstein M, Horwitz SB. Structural analysis of the mouse *mdr1a* (P-glycoprotein) promoter reveals the basis for differential transcript heterogeneity in multidrug-resistant J774.2 cells. *Mol Cell Biol* 1990

- Jul;10(7):3596-606. Published erratum appears in Mol Cell Biol 1990 Nov;10(11):6101.
- Hui FM, Morrison DA. Genetic transformation in *Streptococcus-pneumoniae*: nucleotide sequence analysis shows comA, a gene required for competence induction, to be a member of the bacterial ATP-dependent transport protein family. J Bacteriol 1991;173(1):372-81.
- Hyde SC, Emsley P, Hartshorn MJ, Mimmack MM, Gileadi U, Pearce SR, Gallagher MP, Gill DR, Hubbard RE, Higgins CF. Structural model of ATP-binding proteins associated with cystic fibrosis, multidrug resistance and bacterial transport. Nature 1990 Jul 26;346(6282):362-5.
- Ince TA, Scotto KW. The role of P-glycoprotein mRNA stability in multidrug-resistant Chinese hamster cells [abstract]. Proc Annu Meet Am Assoc Cancer Res 1991;32:367.
- Jakobsson AH. The semistability of centric chromatin bodies during long term passage of multidrug resistant mouse Chinese hamster cell hybrids. Anticancer Res 1988;8(3):307-12.
- Jongsma AP, Riethorst A, Aten JA. Determination of the DNA content of a six-gene amplicon in the multidrug-resistant Chinese hamster cell line CHRB3 by flow karyotyping. Cancer Res 1990 May 1;50(9):2803-7.
- Juranka P, Zhang F, Kulpa J, Endicott J, Blight M, Holland IB, Ling V. Characterization of the hemolysin transporter, HlyB, using an epitope insertion. J Biol Chem 1992 Feb 25;267(6):3764-70.
- Kamitsuka PF, Iovannisci D, Ellenberger TE, Beverley SM. Rearrangement site for H region amplification conferring multiple drug resistance in *Leishmania* is a dispersed repetitive element [abstract]. J Cell Biochem Suppl 1989;13 Pt E: 107.
- Kane SE, Reinhard DH, Fordis CM, Pastan I, Gottesman MM. A new vector using the human multidrug resistance gene as a selectable marker enables overexpression of foreign genes in eukaryotic cells. Gene (Amsterdam) 1989;84(2): 439-46.
- Kane SE, Troen BR, Gal S, Ueda K, Pastan I, Gottesman MM. Use of a cloned multidrug resistance gene for coamplification and overproduction of major excreted protein A transformation-regulated secreted acid protease. Mol Cell Biol 1988;8(8):3316-21.
- Karcz S, Cowman AF. Similarities and differences between the multidrug resistance phenotype of mammalian tumor cells and chloroquine resistance in *Plasmodium falciparum*. Exp Parasitol 1991 Aug;73(2):233-40.
- Kellen JA. Drug resistance, the last frontier? Anticancer Res 1991 Mar-Apr;11(2):917-9.
- Kim YJ, Furihata K, Yamanaka S, Fudo R, Seto H. Isolation and structural elucidation of stipiamide, a new antibiotic effective to multidrug-resistant cancer cells [letter]. J Antibiot (Tokyo) 1991;44(5):553-6.
- Kioka N, Hosokawa N, Komano T, Hirayoshi K, Nagata K, Ueda K. Quercetin, a bioflavonoid, inhibits the increase of human multidrug resistance gene (MDR1) expression caused by arsenite. FEBS Lett 1992 Apr 27;301(3):307-9.
- Kioka N, Tsubota J, Kakehi Y, Komano T, Gottesman MM, Pastan I, Ueda K. P-glycoprotein gene (MDR1) cDNA from human adrenal: normal P-glycoprotein carries Gly185 with an altered pattern of multidrug resistance. Biochem Biophys Res Commun 1989 Jul 14;162(1):224-31.
- Kirschner LS, Greenberger LM, Hsu SI, Yang CP, Cohen D, Piekarz RL, Castillo G, Han EK, Yu LJ, Horwitz SB. Biochemical and genetic characterization of the multidrug resistance phenotype in murine macrophage-like J774.2 cells. Biochem Pharmacol 1992 Jan 9;43(1):77-87.
- Knost J, Barnett D, Mo C, Van Dyke C, Van Dyke K. Tetrandrine (TeT) a plant alkaloid that reverses multiple drug resistance (MDR-1) [abstract]. Proc Annu Meet Am Soc Clin Oncol 1991;10:A191.
- Konig R, Ashwell G, Hanover JA. Overexpression and biosynthesis of CD4 in Chinese hamster ovary cells coamplification using the multiple drug resistance gene. Proc Natl Acad Sci U S A 1989;86(23):9188-92.
- Krishan A, Sauerteig A, Stein JH. Comparison of three commercially available antibodies for flow cytometric monitoring of P-glycoprotein expression in tumor cells. Cytometry 1991;12(8):731-42.
- Kuchler K, Sterne RE, Thorner J. *Saccharomyces cerevisiae* STE6 gene product: a novel pathway for protein export in eukaryotic cells. EMBO J 1989 Dec 20;8(13):3973-84.
- Kuchler K, Thorner J. Functional expression of human Mdr1 in the yeast *Saccharomyces cerevisiae*. Proc Natl Acad Sci U S A 1992 Mar 15;89(6): 2302-6.
- Lazarowski AJ. [GP-170 glycoprotein and resistance to chemotherapy (editorial)]. Medicina (B Aires) 1991;51(3):279-80. (Spa)
- Leibovitch IJ, Olsson CA, Goldwasser B, Buttyan R. A novel multidrug resistance-1 related product synthesized exclusively during the regression of the rat ventral prostate gland [abstract]. J Urol 1991; 145(4 Suppl):293a.
- Lincke CR, Smit JJ, van der Velde-Koerts T, Borst P. Structure of the human MDR3 gene and physical

- mapping of the human MDR locus. *J Biol Chem* 1991 Mar 15;266(8):5303-10.
- Ling V. The basis of multidrug resistance to anticancer drugs. Paper presented at: 2nd International Congress on Neo-Adjuvant Chemotherapy; 1988 Feb 19-21; Paris.
- Ling V. Charles F. Kettering Prize. P-glycoprotein and resistance to anticancer drugs. *Cancer* 1992 May 15;69(10):2603-9.
- Ling V. Expression of P-glycoprotein isoforms in normal and malignant cells. Paper presented at: Drug resistance as a biochemical target in cancer chemotherapy. 13th Bristol-Myers Squibb Symposium on Cancer Research; 1990 May 10-11; Tokyo, Japan.
- Ling V, Juranka PF, Endicott JA, Deuchars K L, Gerlach JH. Multidrug resistance and P-glycoprotein expression. In: Woolley PV 3d, Tew KD, editors. *Mechanisms of drug resistance in neoplastic cells*; 1986 Oct 15-16; Washington, DC. San Diego (CA): Academic Press, Inc.; 1988. p. 197-210. (Bristol-Myers cancer symposia ; 9).
- Ling V, Kartner N, inventors ; The Ontario Cancer Institute, assignee. Method for selecting hybridomas producing antibodies specific to the P-glycoprotein cell surface antigen and a complementary DNA clone encoding the carboxyl-terminal portion of the antigen. US patent 4,837,306. 1989 Jun 6.
- Lu K, Savaraj N, Yau J, Li D, Kuo T, Feun L, Freireich EJ. In situ hybridization for MDR-1 mRNA expression in the detection of tumor cell heterogeneity [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A1658.
- Ludescher C, Hofmann H, Drach J, Grunicke H, Gatringer C. Flow cytometric analysis of rhodamine-123 uptake and efflux for the detection of multidrug-resistant cells [abstract]. *Onkologie* 1991;14 Suppl 2:100.
- Marino PA, Gottesman MM, Pastan I. Regulation of the multidrug resistance gene (MDR1) in regenerating rat liver [abstract]. *J Cell Biol* 1988;107(6 Pt 3):750A.
- Mazzanti JMC, Gatmaitan Z, Arias IM. Benzquinamide (BZQ), a new inhibitor of P-glycoprotein (P-gp) and drug resistance [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:378.
- Mazzanti R, Gatmaitan Z, Arias IM. Gp170, the multidrug resistance gene product, selectively increases drug efflux [abstract]. *Hepatology* 1988;8(5):1250.
- McGrath JP, Varshavsky A. The yeast STE6 gene encodes a homologue of the mammalian multidrug resistance P-glycoprotein. *Nature* 1989 Aug 3;340(6232):400-4.
- Meese E, Meltzer P, Trent J. Application of natural partial digests to pulsed-field gel analysis of the amplified *mdr* locus. *Genomics* 1989;5(2):371-4.
- Meese EU, Horwitz SB, Trent JM. Evidence for linear extrachromosomal elements mediating gene amplification in the multidrug-resistant J774.2 murine cell line. *Cancer Genet Cytogenet* 1992 Mar;59(1):20-5.
- Mehta BM, Rosa E, Bading J, Fissekis J, Biedler JL, Larson SM. In vivo assessment of tumor multidrug-resistance with radiolabeled colchicine: implications for positron emission tomographic imaging [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2153.
- Mickisch GH, Pastan I, Gottesman MM. Multidrug resistant transgenic mice as a novel pharmacologic tool. *Bioessays* 1991 Aug;13(8):381-7.
- Mickley LA, Spengler BA, Biedler JL, Fojo AT. Sequence analysis and regulation of expression of human P-glycoprotein (Pgp) [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2140.
- Mimmack ML, Gallagher MP, Pearce SR, Hyde SC, Booth IR, Higgins CF. Energy coupling to periplasmic binding protein-dependent transport systems: stoichiometry of ATP hydrolysis during transport in vivo. *Proc Natl Acad Sci U S A* 1989 Nov;86(21):8257-61.

- Mimura CS, Holbrook SR, Ames GF. Structural model of the nucleotide-binding conserved component of periplasmic permeases. *Proc Natl Acad Sci U S A* 1991 Jan 1;88(1):84-8.
- Moscow JA, Cowan KH. Multidrug resistance. *Cancer Chemother Biol Response Modif* 1991; 12:91-109.
- Moscow JA, Cowan KH. Multidrug resistance. *J Natl Cancer Inst* 1988;80(1):14-20.
- Muller C, Ling V. P-glycoprotein stability is affected by serum deprivation and high cell density in multidrug-resistant cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res*; 33:A2701 1992.
- Neyfakh AA. The multidrug efflux transporter of *Bacillus subtilis* is a structural and functional homolog of the *Staphylococcus* norA protein. *Antimicrob Agents Chemother* 1992;36(2):484-5.
- Neyfakh AA. Use of fluorescent dyes as molecular probes for the study of multidrug resistance. *Exp Cell Res* 1988;174(1):168-76.
- Neyfakh AA, Bidnenko VE. MDR-like phenomenon in bacteria [abstract]. *J Cancer Res Clin Oncol* 1990;116 Suppl Pt 2:1145.
- Neyfakh AA, Bidnenko VE, Chen LB. Efflux-mediated multidrug resistance in *Bacillus subtilis*: similarities and dissimilarities with the mammalian system. *Proc Natl Acad Sci U S A* 1991 Jun 1; 88(11):4781-5.
- Ng WF, Sarangi F, Zastawny RL, Veinot-Drebot L, Ling V. Identification of members of the p-glycoprotein multigene family. *Mol Cell Biol* 1989;9(3):1224-32.
- Ogura M, Takatori T, Sugimoto Y, Tsuruo T. Identification and characterization of three DNA-binding proteins on the promoter of the human MDR1 gene in drug-sensitive and -resistant cells. *Jpn J Cancer Res* 1991 Oct;82(10):1151-9.
- Padmanabhan R, Tsuruo T, Kane SE, Willingham MC, Howard BH, Gottesman MM, Pastan I. Magnetic-affinity cell sorting of human multidrug-resistant cells. *J Natl Cancer Inst* 1991 Apr 17;83(8):565-9.
- Pastan I, Gottesman MM. Multidrug resistance. *Annu Rev Med* 1991;42:277-86.
- Pavelic ZP, Pavelic L. Distribution of the multi-drug resistance (MDR) gene product P-glycoprotein (PGP) in human normal and tumor tissues [abstract]. *Pathol Res Pract* 1991;187(6):743-4.
- Pearce SR, Mimmack ML, Gallagher MP, Gileadi U, Hyde SC, Higgins CF. Membrane topology of the integral membrane components, OppB and OppC, of the oligopeptide permease of *Salmonella typhimurium*. *Mol Microbiol* 1992 Jan;6(1):47-57.
- Phang JM, Poore CM, Lopaczynska J, Yeh GC. The role of membrane glycoprotein 170 (P-gp 170)-mediated efflux in cellular resistance to chemical carcinogens [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A3314.
- Prinsep MR, Calplan FR, Moore RE, Patterson GML, Smith CD. Tolyporphin, a novel multidrug resistance reversing agent from the blue-green alga *Tolypothrix nodosa*. *J Am Chem Soc* 1998;114(1): 385-7.
- Ramu A, Ramu N. Reversal of multidrug resistance by phenothiazines and structurally related compounds. *Cancer Chemother Pharmacol* 1992; 30(3):165-73.
- Raunio H, Silverman JA, Gant TW, Marino PA, Thorgeirsson SS. Induction of multidrug resistance genes by carcinogens [abstract]. *Eur J Cancer* 1991;27 Suppl 3:S44.
- Raymond M, Gros P. Cell-specific activity of cis-acting regulatory elements in the promoter of the mouse multidrug resistance gene *mdr1*. *Mol Cell Biol* 1990 Nov;10(11):6036-40.
- Raymond M, Gros P. Mammalian multidrug-resistance gene correlation of exon organization with structural domains and duplication of an ancestral gene. *Proc Natl Acad Sci U S A* 1989; 86(17):6488-92.
- Raymond M, Gros P, Whiteway M, Thomas DY. Functional complementation of yeast STE6 by a mammalian multidrug resistance *mdr* gene. *Science* 1992 Apr 10;256(5054):232-4.
- Richert ND, Aldwin L, Nitecki D, Gottesman MM, Pastan I. Stability and covalent modification of P-glycoprotein in multidrug-resistant KB cells. *Biochemistry* 1988;27(20):7607-13.
- Rittmann-Grauer L, Bischoff E, Huang A, Mackensen D. Inhibition of growth of multidrug-resistant tumors in athymic nude mice by anti-p-glycoprotein monoclonal antibodies [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2797.
- Roninson IB. From amplification to function: the case of the MDR1 gene. *Mutat Res* 1992 May;276(3): 151-61.
- Roninson IB. The role of the MDR1 (P-glycoprotein) gene in multidrug resistance in vitro and in vivo. *Biochem Pharmacol* 1992 Jan 9;43(1):95-102.
- Roninson IB, Fukumoto M, Chin JE, Choi K, Chen CJ, Morse B, Noonan KE, Shevrin DH, Estensen RD. Gene amplification in cancer-multidrug resistance [abstract]. *J Cell Biochem Suppl* 1989;13 Pt B:2.
- Rothenberg M, Ling V. Multidrug resistance molecular biology and clinical relevance meeting, Bethesda, Maryland USA, Apr 10-11, 1989. *J Natl Cancer Inst* 1989;81(12):907-13.

- Salminen A, Elson H, Mickley L, Fojo A, Gottesman M. Retrovirus-mediated gene transfer to myocytes: an approach to muscle gene therapy [abstract]. *Cell Biol Int Rep* 1990;14 Suppl:50.
- Sampson KE, Abraham I. Identification and characterization of a 170 KDA kinase activity in multidrug resistant cells [abstract]. *J Cell Biol* 1991;115(3 Pt 2):437a.
- Samuelson J, Ayala P, Orozco E, Wirth D. Emetine-resistant mutants of *Entamoeba histolytica* overexpress mRNAs for multidrug resistance. *Mol Biochem Parasitol* 1990 Jan 15;38(2):281-90.
- Samuelson J, Descoteaux S, Ayala P, Orozco E. P-glycoprotein genes of *Entamoeba histolytica* [abstract]. *Am J Trop Med Hyg* 1991;45(3 Suppl):250.
- Scheper RJ, Broxterman HJ, Scheffer GL, Meijer CJ, Pinedo HM. Drug-transporter proteins in clinical multidrug resistance. *Clin Chim Acta* 1992 Mar 13;206(1-2):25-32.
- Schinkel AH, Borst P. Multidrug resistance mediated by P-glycoproteins. *Semin Cancer Biol* 1991 Aug;2(4):213-26.
- Schinkel AH, Smit JJ, Wagenaar E, van Deemter L, Robanus EM, te Riele H, van Roon M, Berns AJ, Borst P. Efficient inactivation of the mouse *mdr* genes in embryonic stem cells using homologous recombination [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2787.
- Schoenlein PV, Shen DW, Barrett JT, Pastan I, Gottesman MM. Double minute chromosomes carrying the human multidrug resistance 1 and 2 genes are generated from the dimerization of submicroscopic circular DNAs in colchicine-selected KB carcinoma cells. *Mol Biol Cell* 1992 May;3(5):507-20.
- Sharma RC, Inoue S, Roitelman J, Schimke RT, Simoni RD. Peptide transport by the multidrug resistance pump. *J Biol Chem* 1992 Mar 25;267(9):5731-4.
- Sharom FJ, Doige CA, Yu XH. Characterization and lipid preferences of ATPase-active P-glycoprotein [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2830.
- Shen DW, Pastan I, Gottesman MM. In situ hybridization analysis of acquisition and loss of the human multidrug-resistance gene. *Cancer Res* 1988;48(15):4334-9.
- Shimabuku AM, Nishimoto T, Ueda K, Komano T. P-glycoprotein. ATP hydrolysis by the N-terminal nucleotide-binding domain. *J Biol Chem* 1992 Mar 5;267(7):4308-11.
- Shimabuku AM, Saeki T, Ueda K, Komano T. Production of a site specifically cleavable P-glycoprotein beta galactosidase fusion protein. *Agric Biol Chem* 1991;55(4):1075-80.
- Silverman JA, Raunio H, Gant TW, Thorgeirsson SS. Cloning and characterization of a member of the rat multidrug resistance (*mdr*) gene family. *Gene* 1991 Oct 15;106(2):229-36.
- Slovak M, Ling V, Trent J. Molecular/cytogenetic characterization of the sequential development of multidrug resistance (MDR) in a panel of colchicine resistant (CLCR) cell lines [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1270.
- Slovak ML, Lothstein L, Horwitz SB, Trent JM. Molecular-cytogenetic alterations accompanying the development of multidrug resistance in the J774.2 murine cell line. *Leukemia* 1988;2(7):453-8.
- Smit JJ, Lincke CR, van der Velde-Koerts T, Borst P. Structure of the human MDR locus [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1990;31:A2667.
- Sokova OI, Kopnin BP. [Segments of Djungarian hamster chromosomes, specific for translocation of integration of amplified *mdr1* genes, do not possess increased instability]. *Genetika* 1991 Oct;27(10):1722-5. (Rus).
- Sokova OI, Siyanova E Yu, Gudkov AV, Kopnin BP. [Gene amplification in mammalian somatic cells resistant to colchicine]. *Genetika* 1988;24(5):836-41. (Rus).
- Sorrentino BP, Brandt SJ, Bodine D, Gottesman M, Pastan I, Cline A, Nienhuis AW. Selection of drug-resistant bone marrow cells in vivo after retroviral transfer of human MDR1. *Science* 1992 Jul 3;257(5066):99-103.
- Spies T, DeMars R. Restored expression of major histocompatibility class I molecules by gene transfer of a putative peptide transporter. *Nature* 1991 May 23;351(6324):323-4.
- Stahl F, Wettergren Y, Levan G. Amplicon structure in multidrug-resistant murine cells: a nonrearranged region of genomic DNA corresponding to large circular DNA. *Mol Cell Biol* 1992 Mar;12(3):1179-87.
- Stanfield SW, Ielpi L, O'Brochta D, Helinski DR, Ditta GS. The NDV-A gene product of *Rhizobium meliloti* is required for beta-1-2 glucan production and has homology to the ATP-binding export protein HLY-B. *J Bacteriol* 1988;170(8):3523-30.
- Sugawara I, Watanabe M, Masunaga A, Itoyama S, Ueda K. Primer-dependent amplification of *mdr1* mRNA by polymerase chain reaction. *Jpn J Cancer Res* 1992;83(2):131-3.
- Tanaka S, Currier SJ, Bruggemann EP, Ueda K, Germann UA, Pastan I, Gottesman MM. Use of recombinant P-glycoprotein fragments to produce

- antibodies to the multidrug transporter. *Biochem Biophys Res Commun* 1990 Jan 15;166(1):180-6.
- Tiirikainen MI, Krusius T. Multidrug resistance. *Ann Med* 1991;23(5):509-20.
- Trowsdale J, Hanson I, Mockridge I, Beck S, Townsend A, Kelly A. Sequences encoded in the class II region of the MHC related to the 'ABC' superfamily of transporters. *Nature* 1990 Dec 20-27;348(6303):741-4.
- Valverde MA, Diaz M, Sepulveda FV, Gill DR, Hyde SC, Higgins CF. Volume-regulated chloride channels associated with the human multidrug-resistance P-glycoprotein. *Nature* 1992 Feb; 355(6363):830-3.
- van der Bliek AM, Borst P. Multidrug resistance. *Adv Cancer Res* 1989;52:165-203.
- Van Dijk J, Tsuruo T, Segal DM, Bolhuis RLH, Colognola R, Van DeGriend RJ, Fleuren GJ, Warnaar SO. Bispecific antibodies reactive with the multidrug-resistance-related glycoprotein and CD-3 induce lysis of multidrug-resistant tumor cells. *Int J Cancer* 1989;44(4):738-43.
- Wadkins RM, Houghton PJ. Mechanism of multi-drug resistance MDR modulation by phenoxazines. I. Membrane transport properties [abstract]. *FASEB J* 1992;6(1):A235.
- Weinstein RS, Kuszak JR, Brown H, Coon JS, Roninson IB. Mdr gene family freeze-fracture studies of multidrug resistant KBP epidermoid cells [abstract]. *J Cell Biol* 1989;109(4 Pt 2):33a.
- Weinstein RS, Kuszak JR, Coon JS. P-glycoprotein selectively partitions in lipid-rich domains of multidrug-resistant cell membranes [abstract]. *FASEB J* 1989;3(4 Pt 2):A1052.
- Weinstein RS, Kuszak JR, Kluskens LF, Coon JS. P-glycoproteins in pathology: the multidrug resistance gene family in humans. *Hum Pathol* 1990 Jan; 21(1):34-48.
- Wilson CM, Serrano AE, Wasley A, Bogenschutz MP, Shankar AH, Wirth DF. Amplification of a gene related to mammalian mdr genes in drug-resistant *Plasmodium falciparum*. *Science* 1989 Jun 9; 244(4909):1184-6.
- Wilson CM, Thaithong S, Wirth DF. The relationship of Pf-mdr1 to mefloquine resistance in *Plasmodium falciparum* [abstract]. *Am J Trop Med Hyg* 1991; 64(3 Suppl):191.
- Wirth DF. Mechanism of drug resistance in *Plasmodium falciparum*: role of MDR-like genes [abstract]. *AIDS Res Hum Retroviruses* 1990; 6(11):1354.
- Woods G, Lund LA, Naik M, Ling V, Ochi A. Resistance of multidrug-resistant lines to natural killer-like cell-mediated cytotoxicity. *FASEB J* 1988;2(12):2791-6.
- Workman P, Dive C. Minimal resistance to the membrane-active ether lipid SRI 62-834 in multidrug-resistant mouse mammary tumor cells [abstract]. *Cancer Chemother Pharmacol* 1989; 24 Suppl 2:S82.
- Wu CT, Budding M, Griffin MS, Croop JM. Isolation and characterization of *Drosophila* multidrug-resistance gene homologs. *Mol Cell Biol* 1991; 11(8):3940-8.
- Yang CPH, Mellado W, Horwitz SB. Azidopine photoaffinity labeling of multidrug resistance-associated glycoproteins. *Biochem Pharmacol* 1988;37(7):1417-21.
- Yoshimoto K, Iwahana H, Yokogoshi Y, Saito S, Shiraiishi M, Sekiya T, Gottesman MM, Pastan I. A polymorphic HIN-D-III site within the human multidrug resistance gene 1 (MDR1). *Nucleic Acids Res* 1988;16(24):11850.
- Yoshimura A, Kuwazuru Y, Sumizawa T, Ichikawa M, Ikeda S, Uda T, Akiyama S. Cytoplasmic orientation and two-domain structure of the multidrug transporter, P-glycoprotein, demonstrated with sequence-specific antibodies. *J Biol Chem* 1989 Sep 25;264(27):16282-91.
- Yoshimura A, Kuwazuru Y, Sumizawa T, Ikeda SI, Ichikawa M, Usagawa T, Akiyama SI. Biosynthesis processing and half-life of P-glycoprotein in a human multidrug-resistant KB cell. *Biochim Biophys Acta* 1989;992(3):307-14.
- Young PR, Krasney PA. Interleukin-1-beta can be secreted from mammalian cells by the human mdr1 P-glycoprotein [abstract]. *Cytokine* 1991;3(5):472.
- Zastawny RL, Benchimol S, Ling V. Modulation of P-glycoprotein promoter activity by P53 [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33: A2700.
- Zhang JT, Ling V. Study of membrane orientation and glycosylated extracellular loops of mouse P-glycoprotein by in vitro translation. *J Biol Chem* 1991 Sep 25;266(27):18224-32.
- Zsido TJ, Beerman TA, Meegan RL, Woynarowski JM, Baker RM. Resistance of CHO cells expressing P-glycoprotein to cyclopropylpyrrolindole (CPI) alkylating agents. *Biochem Pharmacol* 1992 Apr 15;43(8):1817-22.

GLUTATHIONE

- Akman S, Forrest G, Chu FF, Esworthy RS, Stetzler J, Doroshow J. Antioxidant enzyme gene expression in multidrug-resistant MCF-7 breast cancer cells (MCF-7/ADR) [abstract]. Proc Annu Meet Am Assoc Cancer Res 1989;30:A1973.
- Akman SA, Forrest G, Chu FF, Esworthy RS, Doroshow JH. Antioxidant and xenobiotic-metabolizing enzyme gene expression in doxorubicin-resistant MCF-7 breast cancer cells. Cancer Res 1990 Mar 1;50(5):1397-402.
- Alaoui-Jamali MA, Panasci L, Schechter RL, Lehnert S, Batist G. Atypical cross-resistance and multiple mechanisms in melphalan-resistant rat mammary carcinoma cell line [abstract]. Proc Annu Meet Am Assoc Cancer Res 1991;32:A2130.
- Arkin H, Ohnuma T, Holland JF, Averbuch SD. Cellular glutathione-S-transferase characteristics in differential multidrug resistant human acute lymphoblastic MOLT-3 leukemia sublines [abstract]. Proc Annu Meet Am Assoc Cancer Res 1988;29:A1258.
- Averbuch S, Murphrey M, Koch T, Gaudiano G, Stone H, Gamson J, DeGraff W, Mitchell J. Cellular pharmacology and radiosensitization properties of the novel aminocarboxy reducing agent, bi(3,5-dimethyl-5-hydroxymethyl-2-oxomorpholin-3-yl), in sensitive and multidrug-resistant human tumor cells [abstract]. Proc Annu Meet Am Assoc Cancer Res 1989;30:A2005.
- Batist G, Schechter R, Woo A, Greene D, Lehnert S. Glutathione depletion in human and in rat multidrug resistant breast cancer cell lines. Biochem Pharmacol 1991 Feb 15;41(4):631-5.
- Bellamy WT, Dalton WS, Gleason MC, Grogan TM, Trent JM. Development and characterization of a melphalan-resistant human multiple myeloma cell line. Cancer Res 1991 Feb 1;51(3):995-1002.
- Bellamy WT, Dalton WS, Meltzer P, Dorr RT. Role of glutathione and its associated enzymes in multidrug-resistant human myeloma cells. Biochem Pharmacol 1989;38(5):787-94.
- Bellamy WT, Dorr RT, Dalton WS, Meltzer P, Alberts DS. The role of glutathione (GSH) as a potential detoxification system in multidrug resistant (MDR) human myeloma cells [abstract]. Proc Annu Meet Am Assoc Cancer Res 1988;29:A1259.
- Benard J, Bourhis J, Riou G. Inducing chemoresistance in the N-myc oncogene and associated genes. Prognostic value for neuroblastoma. Bull Cancer 1991;78(1):91-7.
- Benchekroun MN, Catroux P, Montaudon D, Robert J. Development of mechanisms of protection against oxidative stress in doxorubicin-resistant rat tumoral cells in culture. Free Radic Res Commun 1990; 11(1-3):137-44.
- Benz CC, Keniry MA, Ford JM, Townsend AJ, Cox FW, Palayoor S, Matlin SA, Hait WN, Cowan KH. Biochemical correlates of the antitumor and antimitochondrial properties of gossypol enantiomers. Mol Pharmacol 1990 Jun;37(6): 840-7.
- Board PG, Johnston PN, Ross VL, Webb GC, Coggan M, Suzuki T. Molecular genetics of the human glutathione S-transferase. Int Symp Princess Takamatsu Cancer Res Fund 1990;21:199-211.
- Brown R, Keith N, Stallard S, Kaye SB. Expression of mdr1 and gst-pi in breast tumors: correlations with chemoresponsiveness in vitro [abstract]. Proc Annu Meet Am Assoc Cancer Res 1989;30:A2054.
- Buetler TM, Van Ness KP, Eaton DL. Alignment of multiple glutathione S-transferase amino acid sequences and prediction of structure-function relationship [abstract]. Proc Annu Meet Am Assoc Cancer Res 1992;33:A1175.
- Burk RK, Garfield S, Johnson K, Thorgiersson SS. Transformation of rat liver epithelial cells with V-H-RAS or V-RAF causes expression of MDR-1 glutathione-S-transferase-P and increased resistance to cytotoxic chemicals. Carcinogenesis 1988;9(12): 2329-32.
- Chao CCK, Huang YT, Ma CM, Chou WY, Lin-Chao S. Overexpression of glutathione S-transferase and elevation of thiol pools in a multidrug-resistant human colon cancer cell line. Mol Pharmacol 1992;41(1):69-75.
- Chen G, Zeller WJ. In vitro investigations on induction and reversal of cisplatin resistance in a rat ovarian tumor cell line. J Cancer Res Clin Oncol 1990;116(5):443-7.
- Chen TL, Erlichman C, Alaoui-Jamali M. Modulation of adriamycin (ADR)-induced growth inhibition by cyclosporin A (CSA) and buthionine sulfoximine (BSO) in human ovarian carcinoma cells (SKOV3) and its multidrug-resistant variant SKVCR2 [abstract]. Proc Annu Meet Am Assoc Cancer Res 1992;33:A2861.
- Cole SP, Downes HF, Mirski SE, Clements DJ. Alterations in glutathione and glutathione-related enzymes in a multidrug-resistant small cell lung cancer cell line. Mol Pharmacol 1990 Feb;37(2): 192-7.

- Cole SPC, Downes HF, Mirski SEL. Glutathione GSH levels are diminished but GSH-S-transferase and reductase activities are elevated in the multidrug resistant small cell lung cancer cell line H69AR [abstract]. Proc Annu Meet Am Assoc Cancer Res 1989;30:510.
- Cowan KH. Glutathione S-transferases and drug resistance [abstract]. Proc Annu Meet Am Assoc Cancer Res 1989;30:674.
- Crescimanno M, D'Alessandro N, Clapper M, Tew K, Tapiero H, Rausa L. Are the antioxidant and glutathione transferase activities involved in multidrug resistance? [abstract]. Anticancer Res 1988;8(5 Pt B):1089.
- Dalton WS. Mechanisms of drug resistance in breast cancer. Semin Oncol 1990 Aug;17(4 Suppl 7): 37-9.
- Deffie AM, Alam T, Seneviratne C, Beenken SW, Batra JK, Shea TC, Henner WD, Goldenberg GJ. Multifactorial resistance to adriamycin relationship of DNA repair glutathione transferase activity drug efflux and P-glycoprotein in cloned cell lines of adriamycin-sensitive and adriamycin-resistant P388 leukemia. Cancer Res 1988;48(13):3595-602.
- Dusre L, Mimnaugh EG, Myers CE, Sinha BK. Potentiation of doxorubicin cytotoxicity by buthionine sulfoximine in multidrug-resistant human breast tumor cells. Cancer Res 1989;49(3):511-5.
- Dusre L, Rajagopalan S, Eliot HM, Covey JM, Sinha BK. DNA interstrand cross-link and free radical formation in a human multidrug-resistant cell line from mitomycin C and its analogues. Cancer Res 1990 Feb 1;50(3):648-52.
- Ellis AL, Munger CE, Bunch RT, Woods KE, Randolph JK, Boise L, Swerdlow PS, Zwelling LA, Hinds M, Yanovich S, et al. Components of intrinsic drug resistance in the rat hepatoma. Biochem Pharmacol 1992 Jan 22;43(2):331-42.
- Fairchild CR, Moscow JA, Cowan KH. Effect of gst pi expression on the pattern of multidrug resistance conferred by transfection of the P-glycoprotein gene [abstract]. Proc Annu Meet Am Assoc Cancer Res 1989;30:A2100.
- Ford JM, Hait WH. Buthionine sulfoximine supersensitizes multidrug resistant cells to verapamil [abstract]. Proc Annu Meet Am Assoc Cancer Res 1989;30:570.
- Ford JM, Yang JM, Hait WN. Effect of buthionine sulfoximine on toxicity of verapamil and doxorubicin to multidrug resistant cells and to mice. Cancer Res 1991;51(1):67-72.
- Frankfurt OS, Seckinger D, Sugarbaker EV. Intercellular transfer of drug resistance. Cancer Res 1991 Feb 15;51(4):1190-5.
- Fujiwara Y, Sugimoto Y, Kasahara K, Bungo M, Yamakido M, Tew KD, Saijo N. Determinants of drug response in a cisplatin resistant human lung cancer cell line. Jpn J Cancer Res 1990;81(5): 527-35.
- Gessner T, Vaughan LA, Beehler BC. Increased defenses against oxidative stress in daunorubicin (dau)-resistant p388 leukemia cells [abstract]. FASEB J 1989;3(3 Pt 1):A740.
- Gessner T, Vaughan LA, Beehler BC, Bartels CJ, Baker RM. Elevated pentose cycle and glucuronyltransferase in daunorubicin-resistant P388 cells. Cancer Res 1990 Jul 1;50(13):3921-7.
- Gleason M, Bellamy W, Dalton W. Development of a melphalan drug-resistant human myeloma cell line [abstract]. Proc Annu Meet Am Soc Clin Oncol 1989;8:A980.
- Godwin AK, Meister A, O'Dwyer PJ, Huang CS, Hamilton TC, Anderson ME. High resistance to cisplatin in human ovarian cancer cell lines is associated with marked increase of glutathione synthesis. Proc Natl Acad Sci U S A 1992 Apr 1; 89(7):3070-4.
- Harris AL. Mechanisms of anticancer drug resistance. Dev Oncol 1990;58:107-15.
- Harris AL, Hochhauser D. Mechanisms of multidrug resistance in cancer treatment. Acta Oncol 1992; 31(2):205-13.
- Hill B, Whelan R, Hosking L. Differential increased glutathione S-transferase activity in a range of multidrug resistant human tumor cell lines [abstract]. Proc Annu Meet Am Soc Clin Oncol 1989;8:A111.
- Hill BT. Modulation of antitumour drug resistance: experimental laboratory data and results of clinical evaluation. Cancer Treat Rev 1990 Sep;17(2-3): 197-202.
- Hoban PR, Robson CN, Davies SM, Hall AG, Cattan AR, Hickson ID, Harris AL. Reduced topoisomerase II and elevated alpha class glutathione S-transferase expression in a multidrug resistant CHO cell line highly cross-resistant to mitomycin C. Biochem Pharmacol 1992 Feb 18; 43(4):685-93.
- Huitfeldt HS, Brandtzaeg P, Poirier MC. Relation between proliferation, aminofluorene-DNA adduct accumulation, and multidrug resistance gene expression in rat liver during continuous acetylaminofluorene feeding [abstract]. Proc Annu Meet Am Assoc Cancer Res 1989;30:A452.
- Ishikawa T. Is the glutathione S-conjugate carrier an mdr1 gene product? [letter]. Trends Biochem Sci 1990 Jun;15(6):219-20.

- Ishikawa T, Mueller M, Klauenemann C, Schaub T, Keppler D. ATP-dependent primary active transport of cysteinyl leukotrienes across liver canalicular membrane. Role of the ATP-dependent transport system for glutathione S-conjugates. *J Biol Chem* 1990;265(31):19279-86.
- Kaye SB. Reversal of multidrug resistance. *Cancer Treat Rev* 1990 Dec;17 Suppl A:37-43.
- Keith WN, Stallard S, Brown R. Expression of *mdr1* and *gst-pi* in human breast tumours: comparison to *in vitro* chemosensitivity. *Br J Cancer* 1990 May; 61(5):712-6.
- Kim R, Hirabayashi N, Nishiyama M, Jinushi K, Toge T, Okada K. Factors contributing to adriamycin sensitivity in human xenograft tumors: the relationship between expression of the *MDR1*, *GST-pi* and topoisomerase II genes and tumor sensitivity to adriamycin. *Anticancer Res* 1992 Jan-Feb;12(1):241-5.
- Kramer RA, Zakher J, Newburger P. The role of selenium-dependent glutathione peroxidase activity in multidrug resistance [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2071.
- Kramer RA, Zakher J. Adriamycin resistance in human breast cancer cells involves both altered transport and oxygen radical detoxification mechanisms [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1239.
- Kramer RA, Zakher J, Kim G. Role of the glutathione redox cycle in acquired and *de novo* multidrug resistance. *Science* 1988;241(4866):694-7.
- Krishan A, Sridhar KS, Samy A, Singh SV, Nair S, DiCicco L, Wellham L, Gordon K, Sauerteig A. Doxorubicin resistance in a human melanoma [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2072.
- Kuo-Pao PY, Samaan NA. Intrinsic drug resistance in a human medullary thyroid carcinoma cell line: association with a multidrug resistance gene expression and low proliferation fraction [abstract]. *Anticancer Res* 1990;10(5B):1404.
- Kuroda H, Sugimoto T, Ueda K, Tsuchida S, Horii Y, Inazawa J, Sato K, Sawada T. Different drug sensitivity in two neuroblastoma cell lines established from the same patient before and after chemotherapy. *Int J Cancer* 1991 Mar 12;47(5): 732-7.
- Kuzmich S, Vanderveer LA, Tew KD. Post-translational modification of glutathione S-transferases by glycosylation [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2040.
- Kuzmich S, Vanderveer LA, Walsh ES, Tew KD. Elevated glutathione-S-transferase activity and altered thiol metabolism in cells resistant to ethacrynic acid [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1990;31:A2153.
- LaCreta FP, Olszewski J, Tew KD. High performance fast affinity chromatography of glutathione S-transferases [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1220.
- Lai GM, Chen YN, Mickley LA, Fojo AT, Bates SE. Intrinsic and acquired resistance (R) to adriamycin (Ad) in human colon carcinoma cell lines (HCCCL) [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1990;31:A2254.
- Lai GM, Moscow JA, Alvarez MG, Fojo AT, Bates SE. Contribution of glutathione and glutathione-dependent enzymes in the reversal of adriamycin resistance in colon carcinoma cell lines. *Int J Cancer* 1991 Nov 11;49(5):688-95.
- Larsson R, Bergh J, Nygren P. Combination of cyclosporin A and buthionine sulfoximine (BSO) as a pharmacological strategy for circumvention of multidrug resistance in small cell lung cancer cell lines selected for resistance to doxorubicin. *Anticancer Res* 1991 Jan-Feb;11(1):455-9.
- Lau DHM, Lewis AD, Ehsan MN, Sikic BI. Multifactorial mechanisms associated with broad cross-resistance of ovarian carcinoma cells selected by cyanomorpholinodoxorubicin. *Cancer Res* 1991; 51(19):5181-7.
- Lee FYF, Sciandra J, Siemann DW. A study of the mechanism of resistance to adriamycin *in-vivo* glutathione metabolism P-glycoprotein expression and drug transport. *Biochem Pharmacol* 1989; 38(21):3697-706.
- Lee FYF, Siemann DW. Isolation by flow cytometry of a human ovarian tumor cell subpopulation exhibiting a high glutathione content phenotype and increased resistance to adriamycin. *Int J Radiat Oncol Biol Phys* 1989;16(5):1315-9.
- Lefevre D, Riou JF, Ahomadegbe JC, Zhou DY, Benard J, Riou G. Study of molecular markers of resistance to m-AMSA in a human breast cancer cell line. Decrease of topoisomerase II and increase of both topoisomerase I and acidic glutathione S transferase. *Biochem Pharmacol* 1991 Jun 15; 41(12):1967-79.
- Lewis AD, Duran GE, Lau DH, Sikic BI. Sensitization of drug resistant human ovarian cancer cells to cyanomorpholino doxorubicin (MRA-CN) by modulation of glutathione metabolism. *Int J Radiat Oncol Biol Phys* 1992;22(4):821-4.

- Lewis AD, Lau DH, Ross KL, Wolf CR, Hayes JD, Sikic BI. Glutathione metabolism in human ovarian cancer cells resistant to cyanomorpholino doxorubicin (MRA-CN) [abstract]. Proc Annu Meet Am Assoc Cancer Res 1989;30:A1979.
- Linsenmeyer ME, Jefferson S, Wolf M, Matthews JP, Board PG, Woodcock DM. Levels of expression of the *mdr1* gene and glutathione S-transferase genes 2 and 3 and response to chemotherapy in multiple myeloma. Br J Cancer 1992 Mar;65(3): 471-5.
- Luna MC, Gomer CJ. Isolation and initial characterization of mouse tumor cells resistant to porphyrin-mediated photodynamic therapy. Cancer Res 1991;51(16):4243-9.
- Lutzky J, Canada AL, Yamanishi DT, Bhalla K, Hindenburg AA. Effect of verapamil and buthionine sulfoximine (BSO) on daunorubicin (DNR) cytotoxicity of multidrug-resistant human melanoma cell lines overexpressing P-glycoprotein and glutathione-s-transferases [abstract]. Proc Annu Meet Am Assoc Cancer Res 1992;33:A3315.
- Lutzky J, Madrid KK, Krishna S, Bhalla K, Hindenburg AA, Taub RN. Effect of glutathione depletion plus verapamil on HL60 and HL60/AR cells [abstract]. Proc Annu Meet Am Assoc Cancer Res 1991;32:A2203.
- Mannervik B, Berhane K, Castro VM, Olin B, Ridderstrom M, Vignani R, Kozarich JW, Ringborg U. Glutathione-linked enzymes in normal and tumor cells and their role in resistance against genotoxic agents. Int Symp Princess Takamatsu Cancer Res Fund 1990;21:253-62.
- Masters JR. Biochemical basis of resistance to chemotherapy. Radiother Oncol 1990 Dec; 19(4):297-305.
- Mattern J, Volm M. Prediction of drug resistance in human tumors using immunohistochemical techniques. Anticancer Res 1992 Mar-Apr;12(2): 413-8.
- Maurya AK, Nair S, Mian AM, Singh SV. Mechanism of cross-resistance to mitomycin C in multidrug-resistant mouse leukemic P388 cells [abstract]. Proc Annu Meet Am Assoc Cancer Res 1991;32:A2100.
- Mazzoni A, Trave F, Russo P, Nicolini A, Rustum YM. Generation and characterization of a low-degree drug-resistant human tumor cell line. Oncology 1990;47(6):488-94.
- Medh RD, Gupta V, Zhang Y, Awasthi YC, Belli JA. Glutathione S-transferase and P-glycoprotein in multidrug resistant Chinese hamster cells. Biochem Pharmacol 1990 Jun 1;39(11):1641-5.
- Meijer C, Mulder NH, Timmer-Bosscha H, Peters WH, de Vries EG. Combined in vitro modulation of adriamycin resistance. Int J Cancer 1991 Oct 21; 49(4):582-6.
- Mickisch G, Bier H, Bergler W, Bak M, Tschada R, Alken P. P-170 glycoprotein, glutathione and associated enzymes in relation to chemoresistance of primary human renal cell carcinomas. Urol Int 1990;45(3):170-6.
- Mickisch G, Fajta S, Bier H, Tschada R, Alken P. Cross-resistance patterns related to glutathione metabolism in primary human renal cell carcinoma. Urol Res 1991;19(2):99-103.
- Mickisch GH, Roehrich K, Koessig J, Forster S, Tschada RK, Alken PM. Mechanisms and modulation of multidrug resistance in primary human renal cell carcinoma. J Urol 1990 Sep; 144(3):755-9.
- Millar BC, Bell JBG, Maitland JA, Zuiable A, Gore ME, Selby PJ, McElwain TJ. In vitro studies of ways to overcome resistance to VAMP high dose melphalan in the treatment of multiple myeloma. Br J Haematol 1989;71(2):213-22.
- Mimnaugh EG, Fairchild CR, Fruehauf JP, Sinha BK. Biochemical and pharmacological characterization of MCF-7 drug-sensitive and AdrR multidrug-resistant human breast tumor xenografts in athymic nude mice. Biochem Pharmacol 1991 Jul 5;42(2): 391-402.
- Mimnaugh EG, Fairchild CR, Fruehauf JP, Sinha BK. Biochemical characterization of MCF-7 sensitive and ADRR multidrug-resistant human breast tumors in nude mice [abstract]. Proc Annu Meet Am Assoc Cancer Res 1990;31:A2092.
- Molina R, Fuqua SA, Tandon AK, Clark GM, Allred DC, Townsend AJ, Moscow JA, Cowan KH, McGuire WL. Glutathione transferase GST-PI in breast tumors evaluated by three techniques [abstract]. Proc Annu Meet Am Assoc Cancer Res 1990;31:A39.
- Moscow JA, Fairchild CR, Madden M, Ransom DT, Wieand HS, O'Brien E, Poplack DG, Cossmann J, Myers CE, Cowan KH. Expression of anionic glutathione-S-transferase and p-glycoprotein genes in human tissues and tumors. Cancer Res 1989; 49(6):1422-8.
- Moscow JA, Kovach J, Poisson R, Poplack DG, Wheng-Peng J, Myers CE, Cowan KH. Heterogeneous expression in human tumors of anionic glutathione S-transferase, a phase II enzyme associated with multidrug resistance [abstract]. Proc Annu Meet Am Soc Clin Oncol 1988;7:A195.
- Moscow JA, Morrow CS, He R, Mullenbach GT, Cowan KH. Structure and function of the 5'-

- flanking sequence of the human cytosolic selenium-dependent glutathione peroxidase gene (hgp1). *J Biol Chem* 1992 Mar 25;267(9):5949-58.
- Moscow JA, Townsend AJ, Baird WM, Myers CE, Cowan KH. Transfection of a vector expressing the human anionic glutathione-S-transferase confers resistance to alkylating agents [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1249.
- Moscow JA, Townsend AJ, Cowan KH. Structure and regulation of the human glutathione peroxidase gene. *Proc Annu Meet Am Assoc Cancer Res* 1990;31:A1922.
- Moscow JA, Townsend AJ, Goldsmith ME, Whang-Peng J, Vickers PJ, Poisson R, Legault-Pioisson S, Myers CE, Cowan KH. Isolation of the human anionic glutathione-S-transferase complementary DNA and the relation of its gene expression to estrogen-receptor content in primary breast cancer. *Proc Natl Acad Sci U S A* 1988;85(17):6518-22.
- Muller MR, Twentyman PR, Lambert E, Cox H, Watson JV, Baglin TP, Rees JH. P-glycoprotein (PGP) expression and glutathione (GSH) content in human leukemia cells determined by flow-cytometry (FCM). Paper presented at: British Association for Cancer Research/Association for Cancer Physicians/Leukaemia Research Fund Joint Winter Meeting on Leukaemia and Lymphomas; 1989 Dec 11-12; London, UK.
- Muller MR, Twentyman PR, Lambert E, Cox H, Watson JV, Baglin TP, Rees JHK. P-glycoprotein (Pgp) expression and glutathione (GSH) content in human leukemia cells determined by flow-cytometry (FCM) [abstract]. *Br J Cancer* 1990;61(6):949-50.
- Muramatsu M, Okuda A, Morimura S, Osada S, Imagawa M, Sakai M. Regulation of glutathione transferase P gene. Implications in carcinogenesis and drug resistance. Paper presented at: Drug resistance as a biochemical target in cancer chemotherapy. 13th Bristol-Myers Squibb Symposium on Cancer Research; 1990 May 10-11; Tokyo, Japan.
- Nair S, Gordon K, Singh SV, Sridhar KS, Wellham L, Sauerteig A, Krishan A. Cellular glutathione content and glutathione-S-transferase activity in human lung tumor cell lines [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1990;31:A2124.
- Nair S, Singh SV, Krishan A. Flow cytometric monitoring of glutathione content and anthracycline retention in tumor cells. *Cytometry* 1991;12(4):336-42.
- Nakagawa K, Saijo N, Tsuchida S, Sakai M, Tsunokawa Y, Yokota J, Muramatsu M, Sato K, Terada M, Tew KD. Glutathione-S-transferase pi as a determinant of drug resistance in transfected cell lines. *J Biol Chem* 1990 Mar 15;265(8):4296-301.
- Nakagawa K, Sasaki Y, Fujiwara Y, Minato K, Shinkai T, Eguchi K, Tamura T, Otsu A, Ohe Y, Saijo N. Levels of glutathione S transferase-II (GST-II) mRNA in human lung cancer cell lines correlate with the resistance to cisplatin [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1988;7:A781.
- Nakamura M, Tsunoda S, Watabe Y, Shimomura T, Sakaki T, Konishi N, Hiasa Y. [Immunohistochemical study of placental form of glutathione S-transferase in human brain tumors and fetal brains]. *No To Shinkei* 1990 Oct;42(10):965-70. (Jpn).
- Nakatsukasa H, Evarts RP, Silverman JA, Marsden E, Thorgeirsson SS. Expression of multidrug-resistance (MDR) and glutathione-transferase-P (GST-P) genes in rat hepatocarcinogenesis [abstract]. *FASEB J* 1991;5(5):A1247.
- Ozols RF. Reversal of drug resistance: clinical trials based on experimental studies in human tumor model systems. Paper presented at: Symposium on Mechanisms of Drug and Radiation Resistance of Tumor Cells; 1989 Jun 28-30; Villejuif, France.
- Ozols RF. Reversal of drug resistance: laboratory data and clinical trials. Paper presented at: Biology and therapy of breast cancer. Joint NCI-IST Symposium/3rd IST International Symposium; 1989 Sep 25-27; Genoa, Italy.
- Parekh H, Chavan S, Chitnis M. Modulation of thiol pools by vitamin K3 and its effect on survival of sensitive and resistant murine tumor cells. *Anticancer Drugs* 1991 Apr;2(2):159-68.
- Parekh HK, Mansuri-Torshizi H, Srivastava TS, Chitnis MP. Circumvention of adriamycin resistance: effect of 2-methyl-1,4-naphthoquinone (vitamin K3) on drug cytotoxicity in sensitive and MDR P388 leukemia cells. *Cancer Lett* 1992 Jan 10;61(2):147-56.
- Peters WH, Boon CE, Roelofs HM, Wobbes T, Nagengast FM, Kremers PG. Expression of drug-metabolizing enzymes and P-170 glycoprotein in colorectal carcinoma and normal mucosa. *Gastroenterology* 1992 Aug;103(2):448-55.
- Peters WH, Roelofs HM. Biochemical characterization of resistance to mitoxantrone and adriamycin in Caco-2 human colon adenocarcinoma cells: a possible role for glutathione S-transferases. *Cancer Res* 1992 Apr 1;52(7):1886-90.
- Phillips PC. Antineoplastic drug resistance in brain tumors. *Neurol Clin* 1991 May;9(2):383-404.
- Nakagawa K, Saijo N, Tsuchida S, Sakai M, Tsunokawa Y, Yokota J, Muramatsu M, Sato K, Terada M, Tew

- Rabier MJ, Bruno NA, Slate DL. Multifactorial resistance in LS174T human colon carcinoma cells selected with doxorubicin. *Int J Cancer* 1991 Oct 21;49(4):601-7.
- Redmond SM, Joncourt F, Buser K, Ziemiecki A, Altermatt HJ, Fey M, Margison G, Cerny T. Assessment of P-glycoprotein, glutathione-based detoxifying enzymes and O6-alkylguanine-DNA alkyltransferase as potential indicators of constitutive drug resistance in human colorectal tumors. *Cancer Res* 1991 Apr 15;51(8):2092-7.
- Riou G, Barrois M, Zhou D. Expression of anionic glutathione S transferase (GST pi) gene in carcinomas of the uterine cervix and in normal cervixes. *Br J Cancer* 1991 Feb;63(2):191-4.
- Saburi Y, Nakagawa M, Ono M, Sakai M, Muramatsu M, Kohno K, Kuwano M. Increased expression of glutathione S-transferase gene in cis-diamminedichloroplatinum(II)-resistant variants of a Chinese hamster ovary cell line. *Cancer Res* 1989 Dec 15;49(24 Pt 1):7020-5.
- Saijo N, Nakagawa K, Fujiwara Y, Bungo M, Horichi N, Sasaki Y, Yokota J, Terada M. Characteristics of clinical and experimental resistance to cisplatin. Paper presented at: 1st International Interface of Clinical and Laboratory Responses to Anticancer Drugs; 1989 Mar 13-15; Villejuif, France.
- Saito Y, Nakada Y, Hotta T, Mikami T, Kurisu K, Yamada K, Kiya K, Kawamoto K, Uozumi T. Cross resistance patterns in ACNU-resistant glioma sublines in culture. *J Neurosurg* 1991;75(2):277-83.
- Samuels BL, Murray JL, Cohen MB, Safa AR, Sinha BK, Townsend AJ, Beckett MA, Weichselbaum RR. Increased glutathione peroxidase activity in a human sarcoma cell line with inherent doxorubicin resistance. *Cancer Res* 1991 Jan 15;51(2):521-7.
- Sato K, Tsuchida S, Tamai K. [Anti-cancer drug resistance and glutathione S-transferases]. *Gan To Kagaku Ryoho* 1989 Mar;16(3 Pt 2):592-8. (Jpn).
- Satta T, Isobe K, Yamauchi M, Nakashima I, Akiyama S, Itou K, Watanabe T, Takagi H. Establishment of drug resistance in human gastric and colon carcinoma xenograft lines. *Jpn J Cancer Res* 1991 May;82(5):593-8.
- Satta T, Isobe K, Yamauchi M, Nakashima I, Takagi H. Expression of MDR1 and glutathione S transferase-pi genes and chemosensitivities in human gastrointestinal cancer. *Cancer* 1992 Feb 15;69(4):941-6.
- Saxena M, Sharma R, Singhal SS, Ahmad H, Awasthi YC. The effect of doxorubicin on the transport of glutathione conjugates from human erythrocytes. *Biochem Arch* 1991;7(4):285-92.
- Schechter RL, Woo A, Duong M, Batist G. In vivo and in vitro mechanisms of drug resistance in a rat mammary carcinoma model. *Cancer Res* 1991; 51(5):1434-42.
- Schisselbauer JC, Crescimanno M, D'Alessandro N, Clapper M, Toulmond S, Tapiero H, Tew KD. Glutathione, glutathione S-transferases, and related redox enzymes in Adriamycin-resistant cell lines with a multidrug resistant phenotype. *Cancer Commun* 1989;1(2):133-9.
- Schisselbauer JC, Silber R, Papadopoulous E, LaCreta FP, Tew KD. Characterization of lymphocyte glutathione S-transferase isozymes in chronic lymphocytic leukemia [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2039.
- Sinha BK, Politi PM. Anthracyclines. *Cancer Chemother Biol Response Modif* 1990;11:45-57.
- Supino R, Sala E, Binaschi M, Capranico G, Zunino F. Drug resistance in a multidrug-resistant human small cell lung carcinoma cell line [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2693.
- Terrier P, Townsend AJ, Coindre JM, Triche TJ, Cowan KH. An immunohistochemical study of pi class glutathione S-transferase expression in normal human tissue. *Am J Pathol* 1990 Oct;137(4):845-53.
- Tew K. The involvement of glutathione-related enzymes in drug resistance. Paper presented at: 1st International Interface of Clinical and Laboratory Responses to Anticancer Drugs; 1989 Mar 13-15; Villejuif, France.
- Toffoli G, Frustaci S, Tumiotta L, Talamini R, Gherlinzoni F, Picci P, Boiocchi M. Expression of MDR1 and GST-pi in human soft tissue sarcomas: relation to drug resistance and biological aggressiveness. *Ann Oncol* 1992 Jan;3(1):63-9.
- Toffoli G, Viel A, Tumiotta L, Biscontin G, Boiocchi M. Multidrug-resistance in human colon carcinoma cell lines [abstract]. *Anticancer Res* 1990;10(5B):1406-7.
- Townsend AJ, Morrow CS, Sinha BK, Cowan KH. Selenium-dependent glutathione peroxidase expression is inversely related to estrogen receptor content of human breast cancer cells. *Cancer Commun* 1991 Aug;3(8):265-70.
- Trujillo JM, Yang LY, Su YZ, Gercovich G, Hai S, Williams A. Cytotoxicity synergism of interferon (IFN) and adriamycin (AdR) on lovo human colon

tumor cell line and its multidrug resistant (MDR) subclone [abstract]. Proc Annu Meet Am Assoc Cancer Res 1991;32:A2033.

Twentyman PR. Strategies for circumventing resistance to cytotoxic drugs. Paper presented at: 5th Biennial Conference of the Indian Association of Cancer Chemotherapists; 1989 Feb 17-19; Bombay, India.

Volm M, Mattern J, Samsel B. Overexpression of P-glycoprotein and glutathione S-transferase-pi in resistant non-small cell lung carcinomas of smokers. Br J Cancer 1991 Oct;64(4):700-4.

Wang Y, Teicher BA, Shea TC, Holden SA, Rosbe KW, Al Achi A, Henner WD. Cross resistance and glutathione-S-transferase pi levels among four human melanoma cell lines selected for alkylating agent resistance. Cancer Res 1989;49(22):6185-92.

Welch PJ, Manoharan TH, Lathrop AL, Puchalski RB, Fahl WE. Tandem expression of two glutathione-S-transferase cDNAs to achieve resistance to multiple, structurally diverse alkylating molecules [abstract]. Proc Annu Meet Am Assoc Cancer Res 1989;30:A680.

Whelan RD, Hosking LK, Townsend AJ, Cowan KH, Hill BT. Differential increases in glutathione S-transferase activities in a range of multidrug-resistant human tumor cell lines. Cancer Commun 1989;1(6):359-65.

Yang KP, Liang YF, Samaan NA. Intrinsic drug resistance in a human medullary thyroid carcinoma cell line: association with overexpression of mdr1 gene and low proliferation fraction. Anticancer Res 1991;11(3):1065-8.

Young RC. Mechanisms to improve chemotherapy effectiveness. Cancer 1990 Feb 1;65(3 Suppl): 815-22.

Yusa K, Hamada H, Tsuruo T. Comparison of glutathione-S-transferase activity between drug-resistant and sensitive human tumor cells. Is glutathione-S-transferase associated with multidrug resistance? Cancer Chemother Pharmacol 1988; 22(1):17-20.

TOPOISOMERASE

Alton PA, Fry A, Hickson ID, Harris AL. Use of the MTT assay in acute myeloid leukemia to assess mechanisms of resistance [abstract]. Br J Cancer 1991;63 Suppl 13:14.

Baguley BC, Holdaway KM, Fray LM. Design of DNA intercalators to overcome topoisomerase II-mediated multidrug resistance. J Natl Cancer Inst 1990 Mar 7;82(5):398-402.

Beck WT. Mechanisms of multidrug resistance in human tumor cells. The roles of P-glycoprotein, DNA topoisomerase II, and other factors. Cancer Treat Rev 1990 Dec;17 Suppl A:11-20.

Beck WT. Strategies to circumvent multidrug resistance due to P-glycoprotein or to altered DNA topoisomerase II. Bull Cancer (Paris) 1990;77(11): 1131-41.

Beck WT. Unknotting the complexities of multidrug resistance the involvement of DNA topoisomerases in drug action and resistance. J Natl Cancer Inst 1989;81(22):1683-5.

Beck WT, Danks MK, Suttle DP. The role of DNA topoisomerases in multidrug resistance [abstract]. J Cell Biochem Suppl 1991;15 Pt F:15.

Beck WT, Danks MK, Wolverton JS, Chen M, Bugg BY, Suttle DP, Catapano CV, Fernandes DJ. Altered DNA topoisomerase II in multidrug resistance (MDR) [abstract]. Eur J Cancer 1991; 27 Suppl 3:S7.

Beck WT, Danks MK, Yalowich JC, Zamora JM, Certain MC. Different mechanisms of multiple drug resistance in two human leukemic cell lines. In: Woolley PV 3rd, Tew KD, editors. Mechanisms of drug resistance in neoplastic cells; 1986 Oct 15-16; Washington, DC. San Diego (CA): Academic Press, Inc.; 1988. p. 211-22. (Bristol-Myers cancer symposia; 9).

Beck WT, Qian X, Danks MK. Circumvention of multidrug resistance due to P-glycoprotein or to altered DNA topoisomerase II. Paper presented at: 3rd International Congress on the Neo-adjuvant Chemotherapy; 1991 Feb 6-9; France. (Eng, Fre).

Boege F, Gieseler F, Biersack H, Clark M. Use of anion-exchange chromatography and chromatofocusing to reveal the structural and functional heterogeneity of topoisomerase II in a HL-60 cell line resistant to multi-drug treatment. J Chromatogr 1991 Nov 29;587(1):3-9.

- Boege F, Gieseler F, Biersack H, Meyer P. The measurement of nuclear topoisomerase II inhibition in vitro: a possible tool for detecting resistance on a subcellular level in haematopoietic malignancies. *Eur J Clin Chem Clin Biochem* 1992 Feb;30(2): 63-8.
- Bugg BY, Danks MK, Beck WT, Suttle DP. Expression of a mutant DNA topoisomerase II in CCRF-CEM human leukemic cells selected for resistance to teniposide. *Proc Natl Acad Sci U S A* 1991;88(17):7654-8.
- Chang JY, Han FS, Liu SY, Wang ZQ, Lee KH, Cheng YC. Effect of 4 beta-arylamino derivatives of 4'-O-demethylepipodophyllotoxin on human DNA topoisomerase II, tubulin polymerization, KB cells, and their resistant variants. *Cancer Res* 1991 Apr 1;51(7):1755-9.
- Chen HX, Chang JY, Wang ZQ, Lee KH, Cheng YC. In vitro and in vivo studies on the toxicity and antitumor activity of etoposide (VP-16) and its analogs [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2254.
- Chin KV, Chauhan SS, Pastan I, Gottesman MM. Regulation of *mdr* RNA levels in response to cytotoxic drugs in rodent cells. *Cell Growth Differ* 1990 Aug;1(8):361-5.
- Cole SP. The 1991 Merck Frosst Award. Multidrug resistance in small cell lung cancer. *Can J Physiol Pharmacol* 1992 Mar;70(3):313-29.
- Cole SPC, Chanda ER, Dicke FP, Gerlach JH, Mirski SEL. Non-P-glycoprotein-mediated multidrug resistance in a small cell lung cancer cell line evidence for decreased susceptibility to drug-induced DNA damage and reduced levels of topoisomerase II. *Cancer Res* 1991;51(13): 3345-52.
- Dalton WS. Mechanisms of drug resistance in breast cancer. *Semin Oncol* 1990 Aug;17(4 Suppl 7): 37-9.
- Danks MK, Funabiki T, Beck WT. Functional assay for multiple drug resistance (MDR) distinguishes MDR associated with P-glycoprotein (PGP-MDR) from MDR associated with altered topoisomerase II (topo II; at-MDR) [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2102.
- Danks MK, Schmidt CA, Cirtain MC, Suttle DP, Beck WT. Altered catalytic activity of and DNA cleavage by DNA topoisomerase II from human leukemic cells selected for resistance to VM-26. *Biochemistry* 1988;27(24):8861-9.
- Davies SM, Robson CN, Davies SL, Hoban PR, Harris AL, Hickson ID. Isolation of CHO cell lines hypersensitive to adriamycin: identification of abnormalities in topoisomerase II and drug transport [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1100.
- De Isabella P, Capranico G, Binaschi M, Tinelli S, Zunino F. Evidence of DNA topoisomerase II-dependent mechanisms of multidrug resistance in P388 leukemia cells. *Mol Pharmacol* 1990 Jan; 37(1):11-6.
- De Isabella P, Capranico G, Zunino F. Minireview: the role of topoisomerase II in drug resistance. *Life Sci* 1991;48(23):2195-205.
- De Jong S, Withoff S, Smit EF, De Vries EG, Mulder NH. Mechanisms of resistance to VM-26 and m-AMSA in an adriamycin-resistant human sclc cell line, GLC4/ADR [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2687.
- de Jong S, Zijlstra JG, de Vries EG, Mulder NH. Reduced DNA topoisomerase II activity and drug-induced DNA cleavage activity in an adriamycin-resistant human small cell lung carcinoma cell line. *Cancer Res* 1990 Jan 15;50(2):304-9.
- de Jong S, Zijlstra JG, Mulder NH, de Vries EG. Lack of cross-resistance to fostriecin in a human small-cell lung carcinoma cell line showing topoisomerase II-related drug resistance. *Cancer Chemother Pharmacol* 1991;28(6):461-4.
- de Vries EG, Zijlstra JG, Mulder NH. Morpholinyl anthracyclines: option for reversal of anthracycline resistance. Paper presented at: 3rd International Congress on the Neo-adjuvant Chemotherapy; 1991 Feb 6-9; Paris, France. (Eng, Fre).
- Delaporte C, Charcosset JY, Jacquemin-Sablon A. Effects of verapamil on the cellular accumulations and toxicity of several antitumor drugs in 9 hydroxyellipticine-resistant cells. *Biochem Pharmacol* 1988;37(4):613-20.
- Delaporte C, Larsen AK, Dautry F, Jacquemin-Sablon A. Influence of *myc* overexpression on the phenotypic properties of Chinese hamster lung cells resistant to antitumor agents. *Exp Cell Res* 1991 Dec;197(2):176-82.
- Doyle LA, Kaufmann SH, Long BH, Goldstein LH, Ross D, Hamburger AW, Giaccone G, Gazdar AF. Evaluation of topoisomerase II expression in relation to sensitivity to etoposide in small-cell lung cancer (SCLC) [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1991;10:A184.
- Ellis AL, Gewirtz DA, Munger C, Woods KE, Randolph JK, Boise L, Yanovich S. Multifactorial drug resistance in the rat hepatoma [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A1999.

- Ellis AL, Munger CE, Bunch RT, Woods KE, Randolph JK, Boise L, Swerdlow PS, Zwelling LA, Hinds M, Yanovich S, et al. Components of intrinsic drug resistance in the rat hepatoma. *Biochem Pharmacol* 1992 Jan 22;43(2):331-42.
- Evans CD, Mirski SE, Danks MK, Beck WT, Cole SP. Alterations in topoisomerase II in multidrug resistance in the small cell lung cancer cell line H69AR [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2694.
- Fernandes DJ, Danks MK, Beck WT. Decreased nuclear matrix DNA topoisomerase II (topo II) in VM-26-resistant human leukemia cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A1996.
- Fernandes DJ, Danks MK, Beck WT. Decreased nuclear matrix DNA topoisomerase II in human leukemia cells resistant to VM-26 and m-AMSA. *Biochemistry* 1990 May 1;29(17):4235-41.
- Finlay GJ, Baguley BC, Snow K, Judd W. Multiple patterns of resistance of human leukemia cell sublines to amsacrine analogues. *J Natl Cancer Inst* 1990 Apr 18;82(8):662-7.
- Friche E, Danks MK, Schmidt CA, Beck WT. Decreased DNA topoisomerase II in daunorubicin-resistant Ehrlich ascites tumor cells. *Cancer Res* 1991 Aug 15;51(16):4213-8.
- Ganapathi R, Kamath N, Constantinou A, Grabowski D, Ford J, Anderson A. Effect of the calmodulin inhibitor trifluoperazine on phosphorylation of P-glycoprotein and topoisomerase II: Relationship to modulation of subcellular distribution, DNA damage and cytotoxicity of doxorubicin in multidrug resistant L1210 mouse leukemia cells. *Biochem Pharmacol* 1991 Jun 15;41(12):R21-6.
- Giaccone G, Gazdar AF, Beck H, Zunino F, Capranico G. Multidrug sensitivity phenotype of human lung cancer cells associated with topoisomerase II expression. *Cancer Res* 1992 Apr 1;52(7):1666-74.
- Giai M, Biglia N, Sismondi P. Chemoresistance in breast tumors. *Eur J Gynaecol Oncol* 1991;12(5):359-73.
- Gieseler F, Boege F, Biersack H, Spohn B, Wilms K. Characterization of three HL-60 sublines with different types of multidrug resistance [abstract]. *Onkologie* 1991;14 Suppl 2:54.
- Glisson BS. Multidrug resistance mediated through alterations in topoisomerase II. *Cancer Bull* 1989;41(1):37-40.
- Glisson BS, Ross WE, Woodward J, Siciliano MJ. Reconstitution of topoisomerase II-mediated drug sensitivity in somatic cell hybrids of resistant CHO cells and normal human lymphocytes [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1993.
- Grandi M, Ballinari D, Capolongo L, Pastori A, Ripamonti M, Suarato A, Spreafico F. [New anthracyclines and multidrug resistance]. *Haematologica* 1991 Jun;76 Suppl 3:181-3. (Ita).
- Granzen B, Beck WT. DNA topoisomerases in human rhabdomyosarcoma cell lines [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2580.
- Harker WG, Knight C, Slade DL, Kapoor R, Parr R. Reduced topoisomerase II activity in human CEM leukemia cells selected for resistance to mitoxantrone [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2698.
- Harker WG, Slade DL, Drake FH, Parr RL. Mitoxantrone resistance in HL-60 leukemia cells: reduced nuclear topoisomerase II catalytic activity and drug-induced DNA cleavage in association with reduced expression of the topoisomerase II beta isoform. *Biochemistry* 1991 Oct 15;30(41):9953-61.
- Harris AL. Mechanisms of anticancer drug resistance. *Dev Oncol* 1990;58:107-15.
- Harris AL, Hickson ID. The molecular mechanisms of sensitivity to anticancer drugs. In: Bleasdale C, Golding BT, editors. *Molecular mechanisms in bioorganic processes. Symposium; 1989 Jul 17-20; Newcastle-Upon-Tyne, England. Cambridge [England]: Royal Society of Chemistry; 1990. p. 83-99.*
- Harris AL, Hochhauser D. Mechanisms of multidrug resistance in cancer treatment. *Acta Oncol* 1992;31(2):205-13.
- Hofsli E. Multimedikamentresistens - teoretiske og kliniske aspekter [Multidrug resistance - theoretical and clinical aspects]. *Tidsskr Nor Laegeforen* 1992;112(4):472-4. (Nor).
- Ito T, Ohnuma T, Holland JF, Mattern MR. Altered DNA topoisomerase (TOPO) II activity in human leukemia sublines resistant to trimetrexate (TMQ) [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2078.
- Jacquemin-Sablon A, Dautry F, Delaporte C, Larsen AK. The influence of c-myc expression on tumorigenicity and drug resistance in 9-hydroxy-ellipticine-resistant Chinese hamster lung cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2030.

- Jensen PB, Jensen PS, Demant EJ, Friche E, Srensen BS, Sehested M, Wassermann K, Vindelov L, Westergaard O, Hansen HH. Antagonistic effect of aclarubicin on daunorubicin-induced cytotoxicity in human small cell lung cancer cells: relationship to DNA integrity and topoisomerase II. *Cancer Res* 1991 Oct 1;51(19):5093-9.
- Jensen PB, Jensen PS, Sehested M, Demant EJ, Sorensen BS, Vindelov L, Hansen HH. Lack of cross-resistance to aclarubicin in an altered topoisomerase II multidrug-resistant (at-MDR) small-cell lung cancer (SCLC) cell line [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2077.
- Johnson RK, McCabe FL, Faucette LF, Hertzberg RP, Kingsbury WD, Boehm JC, Caranfa MJ, Holden KG. SKF 104864, a water-soluble analog of camptothecin with broad-spectrum activity in preclinical tumor models [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2482.
- Kamath N, Grabowski D, Ford J, Drake F, Kerrigan D, Pommier Y, Ganapathi R. Trifluoperazine modulation of resistance to the topoisomerase II inhibitor etoposide in doxorubicin resistant L1210 murine leukemia cells. *Cancer Commun* 1991 Feb; 3(2):37-44.
- Kim R, Hirabayashi N, Nishiyama M, Jinushi K, Toge T, Okada K. Factors contributing to adriamycin sensitivity in human xenograft tumors: the relationship between expression of the MDR1, GST-pi and topoisomerase II genes and tumor sensitivity to adriamycin. *Anticancer Res* 1992 Jan-Feb;12(1):241-5.
- Kuhl JS, Lau D, Duran G, Blume KG, Chao NJ, Sikic BI. Multiple mechanisms of resistance to etoposide in variants of murine p388 leukemia [abstract]. *Proc Annu Meet An Assoc Cancer Res* 1991;32:362.
- Larsen AK, Jacquemin-Sablon A. Multiple resistance mechanisms in Chinese hamster cells resistant to 9-hydroxyellipticine. *Cancer Res* 1989 Dec 15; 49(24 Pt 1):7115-9.
- Larsen AK, Markovits J, Jacquemin-Sablon A. Increased sensitivity of 9-hydroxyellipticine-resistant Chinese hamster cells to alkylating agents [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2071.
- Lefevre D, Riou JF, Ahomadegbe JC, Zhou DY, Benard J, Riou G. Study of molecular markers of resistance to m-AMSA in a human breast cancer cell line. Decrease of topoisomerase II and increase of both topoisomerase I and acidic glutathione S transferase. *Biochem Pharmacol* 1991 Jun 15; 41(12):1967-79.
- Liu LF. DNA topoisomerases in drug resistance and cancer chemotherapy. Paper presented at: 3rd Conference on DNA Topoisomerases in Therapy; 1990 Oct 15-18; New York, NY.
- Long BH, Wang L, Lorico A, Wang RCC, Brattain MG, Casazza M. Mechanisms of resistance to etoposide and teniposide in acquired resistant human colon and lung carcinoma cell lines. *Cancer Res* 1991;51(19):5275-83.
- Masters JR. Biochemical basis of resistance to chemotherapy. *Radiother Oncol* 1990 Dec; 19(4):297-305.
- Minato K, Kanzawa F, Nishio K, Nakagawa K, Fujiwara Y, Saijo N. Characterization of an etoposide-resistant human small-cell lung cancer cell line. *Cancer Chemother Pharmacol* 1990;26(5): 313-7.
- Mirski SE, Evans CD, Almquist KC, Cole SP. A novel topoisomerase II in the drug-resistant small cell lung cancer (SCLC) cell line H209/V6 [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2695.
- Muller C, Laval F, Soues S, Birck C, Charcosset JY. High cell density-dependent resistance and P-glycoprotein-mediated multidrug resistance in mitoxantrone-selected Chinese hamster cells. *Biochem Pharmacol* 1992 May 28;43(10):2091-102.
- Narayana K, Grabowski D, Ford J, Drake F, Kerrigan D, Pommier Y, Ganapathi R. Trifluoperazine modulation of resistance to the topoisomerase II inhibitor etoposide in doxorubicin resistant L1210 murine leukemia cells. *Cancer Commun* 1991;3(2): 37-44.
- Norris MD, Haber M, King M, Davey RA. Atypical multidrug resistance in CCRF-CEM cells selected for high level methotrexate resistance: reactivity to monoclonal antibody C219 in the absence of P-glycoprotein expression. *Biochem Biophys Res Commun* 1989 Dec 29;165(3):1435-41.
- Phillips PC. Antineoplastic drug resistance in brain tumors. *Neurol Clin* 1991 May;9(2):383-404.
- Potmesil M, Wall ME, Wani MC, Silber R, Cordon-Cardo C, Stehlin JS, Kozielski A, Giovanella BC. DNA topoisomerase-I targeted chemotherapy of human colon cancer xenografts with MDR phenotype [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1990;31:A2602.
- Rabier MJ, Bruno NA, Slate DL. Multifactorial resistance in LS174T human colon carcinoma cells selected with doxorubicin. *Int J Cancer* 1991 Oct 21;49(4):601-7.
- Seneviratne C, Goldenberg GJ. Further characterization of drug-sensitivity and cross-resistance profiles of

- cloned cell lines of Adriamycin-sensitive and -resistant P388 leukemia. *Cancer Commun* 1989;1(1):21-7.
- Sinha BK, Eliot HM. Etoposide-induced DNA damage in human tumor cells: requirement for cellular activating factors. *Biochim Biophys Acta* 1991 Sep 23;1097(2):111-6.
- Sinha BK, Haim N, Dusre L, Kerrigan D, Pommier Y. DNA strand breaks produced by etoposide VP-16 213 in sensitive and resistant human breast tumor cells. Implications for the mechanism of action. *Cancer Res* 1988;48(18):5096-100.
- Sinha BK, Politi PM. Anthracyclines. *Cancer Chemother Biol Response Modif* 1990;11:45-57.
- Smith PJ, Morgan SA, Fox ME, Watson JV. Mitoxantrone-DNA binding and the induction of topoisomerase II associated DNA damage in multi-drug resistant small cell lung cancer cells. *Biochem Pharmacol* 1990 Nov 1;40(9):2069-78.
- Smith PJ, Morgan SA, Watson JV. Detection of multidrug resistance and quantification of responses of human tumour cells to cytotoxic agents using flow cytometric spectral shift analysis of Hoechst 33,342-DNA fluorescence. *Cancer Chemother Pharmacol* 1991;27(6):445-50.
- Snow K, Judd W. Characterisation of adriamycin- and amsacrine-resistant human leukaemic T cell lines. *Br J Cancer* 1991 Jan;63(1):17-28.
- Stuart N, Houlbrook S, Kirk J, Philip P, Lien E, Harris A, Carmichael J. Tamoxifen as an enhancer of etoposide cytotoxicity in lung cancer: in vitro and clinical effects [abstract]. *Br J Cancer* 1991; 63 Suppl 13:13.
- Su IJ, Chang IC, Cheng AL. Expression of growth related genes and drug resistance genes in HTLV-I positive and HTLV-I negative post thymic T-cell malignancies. *Ann Oncol* 1991;2 Suppl 2:151-5.
- Sugawara I, Iwahashi T, Okamoto K, Sugimoto Y, Ekimoto H, Tsuruo T, Ikeuchi T, Mori S. Characterization of an etoposide-resistant human K562 cell line, K/eto. *Jpn J Cancer Res* 1991 Sep; 82(9):1035-43.
- Sullivan DM, Latham MD, Feldhoff PW. Cross-resistance to inhibitors of DNA topoisomerase II (topo II) and collateral sensitivity to alkylating agents in a mitoxantrone (Mtz)-resistant Chinese hamster ovary (CHO) cell line [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2684.
- Sullivan DM, Ross WE. Resistance to inhibitors of DNA topoisomerases. *Cancer Treat Res* 1991; 57:57-99.
- Sullivan DM, Webb CD, Cardwell EM, Latham MD, Lock RB. Mechanisms of resistance to DNA topoisomerase II inhibitors [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2067.
- Supino R, Sala E, Binaschi M, Capranico G, Zunino F. Drug resistance in a multidrug-resistant human small cell lung carcinoma cell line [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2693.
- Suttle DP, Bugg BY, Danks MK, Beck WT. Expression of an altered DNA topoisomerase II (topo II) in multidrug-resistant (AT-MDR) CEM cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1990;31:A2120.
- Toffoli G, Viel A, Tumiotto L, Biscontin G, Boiocchi M. Multidrug-resistance in human colon carcinoma cell lines [abstract]. *Anticancer Res* 1990;10(5B):1406-7.
- Tsuruo T, Naito M, Takamori R, Tsukahara S, Yamabe-Mitsuhashi J, Yamazaki A, Oh-hara T, Sudo Y, Nakaike S, Yamagishi T. A benzophenazine derivative, N-beta-dimethylaminoethyl 9-carboxy-5-hydroxy-10-methoxy-benzo[a]phenazine-6-carboxamide, as a new antitumor agent against multidrug-resistant and sensitive tumors. *Cancer Chemother Pharmacol* 1990;26(2):83-7.
- Van Der Zee AGJ, Hollema H, De Jong S, Boonstra H, Gouw A, Willemse PHB, Zijlstra JG, De Vries EGE. P-glycoprotein expression and DNA topoisomerase I and II activity in benign tumors of the ovary and in malignant tumors of the ovary before and after platinum cyclophosphamide chemotherapy. *Cancer Res* 1991;51(21):5915-20.
- Waud WR, Vasanthakumar G, Schmid SM, Knick VC, Bair KW, Laster WR Jr, Harrison SD Jr. Characterization of an in vivo murine P388 leukemia resistant to etoposide [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2705.
- Webb CD, Latham MD, Lock RB, Sullivan DM. Attenuated topoisomerase II content directly correlates with a low level of drug resistance in a Chinese hamster ovary cell line. *Cancer Res* 1991; 51(24):6543-9.
- Wolverton JS, Beck WT. VM-26-resistant CEM cells display collateral sensitivity to nitrogen mustard, UV irradiation, and 3-aminobenzamide [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1990;31: A223.
- Wolverton JS, Danks MK, Schmidt CA, Beck WT. Genetic characterization of the multidrug-resistant phenotype of vm-26-resistant human leukemic cells. *Cancer Res* 1989;49(9):2422-6.
- Yamazaki H, Myers CE, Eliot HM, Sinha BK. Mechanisms of resistance against anticancer drugs in prostate cancer cell lines [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2703.

Young RC. Mechanisms to improve chemotherapy effectiveness. *Cancer* 1990 Feb 1;65(3 Suppl): 815-22.

Zwelling LA, Slovak ML, Doroshow JH, Hinds M, Chan D, Parker E, Mayes J, Sie KL, Meltzer PS, Trent JM. HT1080/DR4: a P-glycoprotein-negative human fibrosarcoma cell line exhibiting resistance to topoisomerase II-reactive drugs despite the presence of a drug-sensitive topoisomerase II. *J Natl Cancer Inst* 1990 Oct 3;82(19):1553-61.

UNKNOWN MECHANISM

Adams DJ, Knick VC. MDR and non-MDR forms of cellular resistance to 5'-nor-anhydrovinblastine (navelbine) [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2760.

Alberts DS, Garcia D, Mason-Liddil N. Cisplatin in advanced cancer of the cervix: an update. *Semin Oncol* 1991 Feb;18(1 Suppl 3):11-24.

Alexanian R, Barlogie B, Gutterman J. Alpha-interferon combination therapy of resistant myeloma. *Am J Clin Oncol* 1991 Jun;14(3): 188-92.

Allavena P, Peccatori F, Maggioni D, Pirovano P, Mantovani A. Killing of tumor cells with pleiotropic drug resistance by OK432-activated effector cells. *Immunopharmacol Immunotoxicol* 1989;11(2-3):257-68.

Allegra CJ, Grem JL, Yeh GC, Chabner BA. Antimetabolites. *Cancer Chemother Biol Response Modif* 1988;10:1-22.

Allen CN, Harpur ES, Gray TJ, Simmons NL, Hirst BH. Efflux of bis-carboxyethyl-carboxyfluorescein (BCECF) by a novel ATP-dependent transport mechanism in epithelial cells. *Biochem Biophys Res Commun* 1990 Oct 15;172(1):262-7.

Aquino A, Niu C, Glazer RI. Altered expression of protein kinase C (PKC) isoforms in multidrug resistant (MDR) cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1177.

Armand JP, Guiochet N, Cappellaere P, Oliveira J, Herait P, Thomas D, Schneider M, Mathe G. Pirarubicin in solid tumors. EORTC phase II trials with a 3-day schedule [abstract]. Paper presented at: 2nd International Congress on Neo-adjuvant Chemotherapy; 1988 Feb 19-21; Paris, [France].

Asoh K, Saburi Y, Sato S, Nogae I, Kohno K, Kuwano M. Potentiation of some anticancer agents by dipyridamole against drug-sensitive and drug-resistant cancer cell lines. *Jpn J Cancer Res* 1989 May;80(5):475-81.

Baas F, Jongsma AP, Broxterman HJ, Arceci RJ, Housman D, Scheffer GL, Riethorst A, van Groenigen M, Nieuwint AW, Joenje H. Non-P-glycoprotein mediated mechanism for multidrug resistance precedes P-glycoprotein expression during in vitro selection for doxorubicin resistance in a human lung cancer cell line. *Cancer Res* 1990 Sep 1;50(17):5392-8.

Badiner GJ, Moy BC, Smith KS, Tarpley WG, Groppi VE, Bhuyan BK. P388 leukaemia cells resistant to the anthracycline menogaril lack multidrug resistant phenotype. *Br J Cancer* 1990 Sep;62(3):378-84.

- Baguley BC, Finlay GJ. Relationship between the structure of analogues of amsacrine and their degree of cross-resistance to adriamycin-resistant P388 leukemia cells. *Eur J Cancer Clin Oncol* 1988;24(2):205-10.
- Baguley BC, Holdaway KM, Thomsen LL, Zhuang L, Zwi LJ. Inhibition of growth of colon 38 adenocarcinoma by vinblastine and colchicine: evidence for a vascular mechanism. *Eur J Cancer* 1991;27(4):482-7.
- Baird WM, Ferin M, Morgan S, Averbuch SD, Ivy SP, Cowan KH, Myers CE. Metabolism of benzo(a)pyrene (BaP) in the human breast adenocarcinoma cell line MCF-7 and an adriamycin resistant subline Adr(R)MDF-7 [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A486.
- Barlogie B, Alexanian R, Smallwood L, Cheson D, Dixon D, Dicke K, Cabanillas F. Prognostic factors with high dose melphalan for refractory multiple myeloma. *Blood* 1988;72(6):2015-9.
- Barlogie B, Velasquez WS, Alexanian R, Cabanillas F. Etoposide, dexamethasone, cytarabine, and cisplatin in vincristine, doxorubicin, and dexamethasone refractory myeloma. *J Clin Oncol* 1989;7(10):1514-7.
- Beck WT, Cirtain MC, Danks MK, Felsted RL, Safa AR, Wolverton JS, Suttle DPTrent JM. Pharmacological, molecular, and cytogenetic analysis of 'atypical' multidrug resistant human leukemic cells. *Cancer Res* 1987;47(20):5455-60.
- Beckman RA, Mcfall PJ, Sikic BI, Smith SD. Doxorubicin and the alkylating anthracycline 3' deamino-3'-3-cyano-4-morpholinyl doxorubicin comparative in-vitro potency against leukemia and bone marrow cells. *J Natl Cancer Inst* 1988;80(5):361-5.
- Berman E, McBride M, Clarkson B. Clinical implications of idarubicin pharmacology [abstract]. *Haematologica* 1991;76 Suppl 4:8.
- Best D, Baker R, Wilson R, Clark A, Capizzi R, Huber K, Sartiano GP. Preparation and in vitro cytotoxicity of Multi-Agent:DNA [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2429.
- Bouchelouche P, Lauridsen S, Skovgaard T. Increased activity of ATP-driven proton pumps in plasma membranes of daunorubicin-resistant Ehrlich (EA) and P388 cell lines [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2562.
- Campain JA, Padmanabhan R, Gottesman MM, Pastan I. An unusual mechanism of resistance to VP-16 in human melanoma cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2697.
- Chan HSL, Canton MD, Gallie BL. Chemosensitivity and multidrug resistance to antineoplastic drugs in retinoblastoma cell lines. *Anticancer Res* 1989; 9(2):469-74.
- Chan TC. Cross resistance profiles of human ovarian carcinoma cells selected for resistance to n-phosphonacetyl-L-aspartate (PALA) [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1188.
- Chauffert B, Corda C, Solary E, Bedenne L, Caillot D, Martin F. Potential usefulness of quinine to overcome the clinical resistance to anthracyclines. Paper presented at: European Association for Cancer Research 10th Biennial Meeting; 1989 Sep 10-13; Galway, Ireland.
- Chen HX, Guo X, Rosenthal A, Cheng YC. Development of a dipyrindamole analog, BIBW022, as a bifunctional modulator of the MDR phenotype and nucleoside transport in human tumor cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2534.
- Cole SPC, Downes HF, Slovak ML. Effect of calcium antagonists on the chemosensitivity of two multidrug-resistant human tumor cell lines which do not overexpress p-glycoprotein. *Br J Cancer* 1989; 59(1):42-6.
- Coley HM, Workman P, Twentyman PR. Retention of activity by selected anthracyclines in a multidrug resistant human large cell lung carcinoma line without P-glycoprotein hyperexpression. *Br J Cancer* 1991;63(3):351-7. [Published erratum appears in *Br J Cancer* 1991;63(6):1029].
- Combination chemotherapy MOCCA in resistant and relapsing multiple myeloma. Finnish Leukaemia Group. *Eur J Haematol* 1992 Jan;48(1):37-40.
- Dalton WS, Cress AE, Alberts DS, Trent JM. Cytogenetic and phenotypic analysis of a human colon carcinoma cell line resistant to mitoxantrone. *Cancer Res* 1988;48(7):1882-8.
- de Jong S, Holtrop M, de Vries H, de Vries EG, Mulder NH. Increased sensitivity of an adriamycin-resistant human small cell lung carcinoma cell line to mitochondrial inhibitors. *Biochem Biophys Res Commun* 1992 Jan 31; 182(2):877-85.
- De Vries EGE, Meijer C, Timmer-Bosscha H, Berendsen HH, De Leij L, Scheper RJ, Mulder NH. Resistance mechanisms in three human small cell lung cancer cell lines established from one patient during clinical follow-up. *Cancer Res* 1989;49(15):4175-8.
- Dietel M, Bunge A, Heidebrecht HJ, Reymann A, Seidel A. Resistance to the adriamycin-resistance

- reversing potency of cyclosporin A in P-glycoprotein-positive friend leukemia cells [abstract]. Proc Annu Meet Am Assoc Cancer Res 1992;33:A2906.
- Eijdemans EW, Borst P, Jongsma AP, de Jong S, de Vries EG, van Groenigen M, Versantvoort CH, Nieuwint AW, Baas F. Genetic transfer of non-P-glycoprotein-mediated multidrug resistance (MDR) in somatic cell fusion: dissection of a compound MDR phenotype. Proc Natl Acad Sci U S A 1992 Apr 15;89(8):3498-502.
- Eijdemans EW, Borst P, van Groenigen M, Jongsma AP, Baas F. Transfer of the non-P-glycoprotein-mediated multidrug-resistant (MDR) phenotype to drug-sensitive human lung cancer cells [abstract]. Proc Annu Meet Am Assoc Cancer Res 1991;32:A2209.
- Eijdemans EW, Borst P, Zaman GJ, De Haas M, Baas F. Investigation of low-level drug resistance in non-P-glycoprotein-mediated multidrug-resistant human lung cancer cell lines [abstract]. Proc Annu Meet Am Assoc Cancer Res 1992;33:A2714.
- Fidler IJ. The biology of cancer metastasis and its challenge for therapy. UCLA Symp Mol Cell Biol 1989;89:3-13.
- Figueredo A, Arnold A, Findlay B, Goodyear M, Neville A, Normandeau R, Jones A. Pilot study of verapamil (V) and tamoxifen (T) added to chemotherapy of extensive small cell lung cancer (SCLC) [abstract]. Proc Annu Meet Am Soc Clin Oncol 1988;7:A803.
- Finlay GJ, Baguley BC, Snow K, Judd W. Multiple patterns of resistance of human leukemia cell sublines to amsacrine analogues. J Natl Cancer Inst 1990 Apr 18;82(8):662-7.
- Frenay M, Milano G, Francois E, Khater R, Cassuto JP, Namer M. Phase II trial of weekly low dose doxorubicin in advanced breast cancer: clinical and pharmacokinetic results [abstract]. Proc Annu Meet Am Soc Clin Oncol 1988;7:A102.
- Fujii H, Katsura T, Fukaura A, Ohta S, Ohmori T, Horichi N, Kashima N, Tazawa H, Sugihara S, Mochizuki T, et al. Establishment and characterization of a MX2-resistant human leukemia cell line K562 [abstract]. Proc Annu Meet Am Assoc Cancer Res 1992;33:A2748.
- Garcia-Segura LM, Ferragut JA, Ferrer-Montiel AV, Escriba PV, Gonzalez-Ros JM. Ultrastructural alterations in plasma membranes from drug-resistant P388 murine leukemia cells. Biochim Biophys Acta 1990 Nov 2;1029(1):191-5.
- Gervasoni JE Jr, Taub RN, Rosado M, Krishna S, Stewart VJ, Knowles DM, Bhalla K, Ross DD, Baker MA, Lutzky J, et al. Membrane glycoprotein changes associated with anthracycline resistance in HL-60 cells. Cancer Chemother Pharmacol 1991;28(2):93-101.
- Gervasoni JE Jr, Taub RN, Rosado M, Krishna S, Lutzky J, Remnick RA, Baker MA, Hindenburg AA. Surface membrane glycoprotein alterations associated with multidrug resistance in a P-glycoprotein negative cell line [abstract]. Proc Annu Meet Am Assoc Cancer Res 1989;30:506.
- Gervasoni JE Jr, Warburton D, Rosado M, Krishna S, Lutzky J, Remnick R, Baker MA, Hindenburg AA, Taub RN. Identification of a homogeneously staining region on chromosome 7 at position q11.2 in an anthracycline-resistant cell line that does not overexpress the p-glycoprotein [abstract]. Proc Annu Meet Am Assoc Cancer Res 1989;30:A2013.
- Gordon R, Hamilton R, Barnes S. A randomized comparison trial of non-cross resistant combination chemotherapy vs cyclophosphamide, adriamycin and platinum for ovarian carcinoma, stage III suboptimal and stage IV [abstract]. Proc Annu Meet Am Soc Clin Oncol 1988;7:A512.
- Grandi M, Giuliani FC. Reduced cytotoxicity of tetracyclines to a multi-drug resistant human cell line. Biochem Pharmacol 1988;37(15):3038-41.
- Greco MA, Madu S, Brattain MG. Differential response by subclasses of colon carcinoma cells to methotrexate and vinblastine [abstract]. Proc Annu Meet Am Assoc Cancer Res 1989;30:A1988.
- Haber M, Norris MD, Kavallaris M, Bell DR, Davey RA, White L, Stewart BW. Atypical multidrug resistance in a therapy-induced drug-resistant human leukemia cell line lalw-2 resistance to vinca alkaloids independent of p-glycoprotein. Cancer Res 1989;49(19):5281-7.
- Hamilton TC, Ozols RF, Dabrow MB. Multidrug resistance to alkylating agents and platinum compounds: state of our knowledge. Oncology (Williston Park) 1990 Mar;4(3):101-6; discussion 106, 109.
- Head JF, Foster LB. Demonstration of antineoplastic drug cross-resistance in primary cultures of human tumor cells using the adhesive tumor cell culture system [abstract]. Proc Annu Meet Am Assoc Cancer Res 1988;29:22.
- Henderson GB. Mediation of cellular anion detoxification in leukemic cells by unidirectional efflux pumps. Adv Enzyme Regul 1989;29:61-72.
- Hickson ID, Turley H, Gattei K, Harris AL. A non-P-glycoprotein, 150-KD transmembrane protein associated with multidrug resistance [abstract]. Br J Cancer 1991;63 Suppl 13:13.

- Hill BT, Hosking LK, Shellard SA, Whelan RDH. Comparative effectiveness of mitoxantrone and doxorubicin overcoming experimentally induced drug resistance in murine and human tumor cell lines in-vitro. *Cancer Chemother Pharmacol* 1989; 23(3):140-4.
- Hitselberger MH, Starling JJ. Two human colon tumor cell lines which express comparable P-glycoprotein display a five thousand-fold difference in in vitro sensitivity to a vinca alkaloid [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32: A2207.
- Hopwood LE, Moulder JE. Enhancement of drug resistance following irradiation of rif-1 and scc-VII tumors [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1238.
- Horton JK, Houghton JA, Houghton PJ. Selection of primary resistance to melphalan (L-PAM) confers a multidrug-resistant (MDR) phenotype not reversible by verapamil [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2083.
- Horton JK, Thimmaiah KN, Houghton JA, Horowitz ME, Houghton PJ. Modulation by verapamil of vincristine pharmacokinetics and toxicity in mice bearing human tumor xenografts. *Biochem Pharmacol* 1989;38(11):1727-36.
- Huber KR, Schmidt WF, Al-Assaad B, Neuberg RW, Ettinger RS. Human tumor cells resistant to verapamil. *Biochem Biophys Res Commun* 1989; 161(3):1312-8.
- Huet S, Schott B, Robert J. P-glycoprotein overexpression cannot explain the complete doxorubicin-resistance phenotype in rat glioblastoma cell lines. *Br J Cancer* 1992 Apr;65(4):538-44.
- Ishikawa T, Mueller M, Klauenemann C, Schaub T, Keppler D. ATP-dependent primary active transport of cysteinyl leukotrienes across liver canalicular membrane. Role of the ATP-dependent transport system for glutathione S-conjugates. *J Biol Chem* 1990;265(31):19279-86.
- Jensen PB, Roed H, Skovsgaard T, Friche E, Vindelv L, Hansen HH, Spang-Thomsen M. Antitumor activity of the two epipodophyllotoxin derivatives VP-16 and VM-26 in preclinical systems: a comparison of in vitro and in vivo drug evaluation. *Cancer Chemother Pharmacol* 1990;27(3):194-8.
- Jensen PB, Vindelv L, Roed H, Demant EJ, Sehested M, Skovsgaard T, Hansen HH. In vitro evaluation of the potential of aclarubicin in the treatment of small cell carcinoma of the lung (SCCL). *Br J Cancer* 1989 Dec;60(6):838-44.
- Kadoyama C, Birrer M, Dosaka H, Lai S, Venzon D, Gazdar A. Transfection with H-ras or c-myc proto-oncogenes results in induction of the multidrug-resistant phenotype [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A1992.
- Kaplan O, Navon G, Lyon RC, Faustino PJ, Straka EJ, Cohen JS. P-31 and C-13 nuclear magnetic resonance studies of 2-deoxyglucose metabolism in sensitive and resistant breast tumor cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30: A2213.
- Kapoor R, Harker WG, Ohnuma T. Trimetrexate transport in multidrug resistant human leukemic cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2110.
- Kato S, Ideguchi H, Muta K, Nishimura J, Nawata H. Mechanisms involved in the development of adriamycin resistance in human leukemic cells. *Leuk Res* 1990;14(6):567-73.
- Kavallaris M, Haber M, Norris MD, Pittman SM, Reed C, Stewart BW. Phenotypic and cytogenetic analysis of atypical multidrug resistance in human leukaemic cells selected with methotrexate at high concentration. *Cancer Lett* 1990 Jun 15;51(3): 193-201.
- Khokhar AR, al-Baker S, Brown T, Perez-Soler R. Chemical and biological studies on a series of lipid-soluble (trans-(R,R)- and -(S,S)-1,2-diaminocyclohexane)platinum(II) complexes incorporated in liposomes. *J Med Chem* 1991 Jan; 34(1):325-9.
- Kikuchi H, Nishiyama K, Sumizawa T, Furukawa T, Yoshimura A, Akiyama SI. Verapamil potentiates the effect of adriamycin and vincristine on human renal adenocarcinoma cells. *Med J Kagoshima Univ* 1991;43(1):27-40.
- Klohs W, Steinkampf R, McMichael A, Nelson J, Leopold W, Wolverton J, Beck W. Development of resistance to the anthrapyrazole CI-937 in L1210 cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2080.
- Knight C, Slade DL, Harker WG. Multidrug resistance in mitoxantrone-selected CEM leukemia cells appears to be unrelated to P-glycoprotein expression [abstract]. *Clin Res* 1991;39(1):68A.
- Kobayashi H, Takemura Y, Miyachi H, Ogawa T. Antitumor activities of new platinum compounds DWA2114R NK121 and 254-S against human leukemia cells sensitive or resistant to cisplatin. *Invest New Drugs* 1991;9(4):313-20.
- Kolaric K, Tomek R. Cis-platinum-based alternating non-cross-resistant chemotherapy as a first-line treatment in metastatic breast cancer. A phase II study. *Tumori* 1990 Oct 31;76(5):472-5.
- Komiyama S, Matsui K, Kudoh S, Nogae I, Kuratomi Y, Saburi Y, Asoh KI, Kohno K, Kuwano M.

- Establishment of tumor cell lines from a patient with head and neck cancer and their different sensitivities to anti-cancer agents. *Cancer* 1989; 63(4):675-81.
- Kopf-Maier P, Kolon B. An organoid culture assay (OCA) for determining the drug sensitivity of human tumors. *Int J Cancer* 1992 Apr 22;51(1): 99-107.
- Kuhl JS, Lau D, Duran G, Blume KG, Chao NJ, Sikic BI. Multiple mechanisms of resistance to etoposide in variants of murine p388 leukemia [abstract]. *Proc Annu Meet An Assoc Cancer Res* 1991;32:362.
- Kurelec B, Pivcevic B. Distinct glutathione-dependent enzyme activities and a verapamil-sensitive binding of xenobiotics in a fresh-water mussel *Anodonta-cyanea*. *Biochem Biophys Res Commun* 1989; 164(2):934-40.
- Lai SL, Goldstein LJ, Gottesman MM, Pastan I, Tsai CM, Johnson BE, Mulshine JL, Ihde DC, Kayser K, Gazdar AF. Mdr1 gene expression in lung cancer. *J Natl Cancer Inst* 1989;81(15):1144-50.
- Laquaglia MP, Kopp EB, Spengler BA, Meyers MB, Biedler JL. Multidrug resistance in human neuroblastoma cells. *J Pediatr Surg* 1991; 26(9):1107-12.
- Leppert G, McDevitt R, Falco SC, Van Dyk TK, Ficke MB, Golin J. Cloning by gene amplification of two loci conferring multiple drug resistance in *Saccharomyces*. *Genetics* 1990 May;125(1):13-20.
- Liberati AM, Cinieri S, Senatore MG, Portuesi MG, De Angelis V, Di Clemente F, Schippa M, Ferrajoli A, Arzano S, Berruto P. Phase I-II trial on natural beta interferon in chemoresistant and relapsing multiple myeloma. *Haematologica* 1990 Sep-Oct;75(5):436-42.
- Lu K, Wang A, Jeffe N, Anzai T, Van Eys J. Molecular biology of human osteosarcoma cell lines [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A1727.
- Luk CK, Tannock IF. Tumour response to chemotherapy in animals that have been treated with the same drugs prior to tumour implantation: A model for studying host effects on apparent drug resistance. *Br J Cancer* 1988;58(2):133-8.
- Lytelton M, Ganeshaguru K, Chiu E, Hoffbrand AV, Mehta AB. Absence of mdr1 gene amplification in patients with resistant hematological malignancies [abstract]. *Invest New Drugs* 1989;7(4):439.
- Marchesini R, Gritti A, Colombo A, Dasdia T, Sichirollo AE. Effectiveness of photodynamic therapy after photofrin II sensitization in a multidrug resistant human breast carcinoma line in vitro [abstract]. Paper presented at: 3rd Biennial Meeting of the International Photodynamic Association; 1990 Jul 17-21; Buffalo, NY.
- Marks PA, Michaeli J, Jackson J, Richon VM, Rifkind RA. Induced differentiation of murine erythroleukemia cells (MELC) by polar compounds: marked increased sensitivity of vincristine resistant MELC. *Prog Clin Biol Res* 1989;316B:171-81.
- Marquardt D, Center MS. Drug transport mechanisms in HL60 cells isolated for resistance to adriamycin: evidence for nuclear drug accumulation and redistribution in resistant cells. *Cancer Res* 1992 Jun 1;52(11):3157-63.
- Martynenko LD, Vladimirova EV, Loverdo RG, Chertishcheva EV. [Role of microbiological surveillance in the choice of antibacterial therapy for intestinal *Klebsiella* infection in infants]. *Antibiot Khimioter* 1990 Sep;35(9):45-7. (Rus).
- Matsushima Y, Baba T. The in-vivo effect of cyclosporine A on macrophages. *J Exp Pathol* 1990;5(2):39-48.
- Mattern J, Bak M, Volm M. Intrinsic and acquired multidrug resistance in human lung carcinomas grown in nude mice [abstract]. *Anticancer Res* 1988;8(5 Pt B):1090.
- Mazumder A, Twomey P, Charak B. Novel approach to purging of resistant tumor cells by photofrin (pfrn) [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1990;9:A41.
- Mazzoni A, Canti G. Reversal of doxorubicin and cisplatin resistance in vivo in murine leukemias by the calcium antagonist RO 11-2933. *Sel Cancer Ther* 1990 Winter;6(4):167-76.
- Mazzoni A, Trave F, Russo P, Nicolini A, Rustum YM. Generation and characterization of a low-degree drug-resistant human tumor cell line. *Oncology* 1990;47(6):488-94.
- McGown AT, Murphy DJ, Crowther D, Fox BW. Effect of verapamil on daunorubicin accumulation in normal lymphocytes isolated from patients undergoing chemotherapy for epithelial ovarian cancer [abstract]. *Br J Cancer* 1990;62(3):514.
- Mcgrath T, Center MS. Mechanisms of multidrug resistance in HL60 cells evidence that a surface membrane protein distinct from P-glycoprotein contributes to reduced cellular accumulation of drug. *Cancer Res* 1988;48(14):3959-63.
- McGrath T, Latoud C, Arnold ST, Safa AR, Felsted RL, Center MS. Mechanisms of multidrug resistance in HL60 cells. Analysis of resistance associated
- Marchesini R, Gritti A, Colombo A, Dasdia T, Sichirollo AE. Effectiveness of photodynamic therapy after photofrin II sensitization in a multidrug

- membrane proteins and levels of *mdr* gene expression. *Biochem Pharmacol* 1989 Oct 15; 38(20):3611-9.
- Mcgrath T, Marquardt D, Center MS. Multiple mechanisms of adriamycin resistance in the human leukemia cell line ccrf-cem. *Biochem Pharmacol* 1989;38(3):497-502.
- Meijer C, de Vries EG, Timmer-Bosscha H, Scheper RJ, de Ley L, Berendsen HH, Mulder NH. Resistance mechanisms in three human small cell lung cancer cell lines established from one patient during clinical follow-up [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1221.
- Michaeli J, Lebedev YB, Richon VM, Chen ZX, Marks PA, Rifkind RA. Conversion of differentiation inducer resistance to differentiation inducer sensitivity in erythroleukemia cells. *Mol Cell Biol* 1990 Jul;10(7):3535-40.
- Miyamoto Y, Oda T, Maeda H. Comparison of the cytotoxic effects of the high- and low-molecular-weight anticancer agents on multidrug-resistant Chinese hamster ovary cells in vitro. *Cancer Res* 1990 Mar 1;50(5):1571-5.
- Mohammad RM, Mohamed AN, KuKuruga M, Smith MR, al-Katib A. A human B-cell lymphoma line with a de novo multidrug resistance phenotype. *Cancer* 1992 Mar 15;69(6):1468-74.
- Morgan SA, Watson JV, Twentyman PR, Smith PJ. Reduced nuclear binding of a DNA minor groove ligand (Hoechst 33342) and its impact on cytotoxicity in drug resistant murine cell lines. *Br J Cancer* 1990 Dec;62(6):959-65.
- Moscow JA, Cowan KH. Multidrug resistance. *Cancer Chemother Biol Response Modif* 1990;11: 97-114.
- Muggia FM, Norris K Jr. Drug resistance: implications for treatment strategies. *Pezzcoller Found Symp* 1990;1:331-6.
- Nakagawa M, Dixon KH, Gilbert L, Goldsmith ME, Cowan KH. Characterization of mitoxantrone resistant human breast cancer cell line [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32: A2204.
- Ning SC, Hahn GM. Cytotoxicity of lonidamine alone and in combination with other drugs against murine RIF-1 and human HT1080 cells in vitro. *Cancer Res* 1990 Dec 15;50(24):7867-70.
- Nishio K, Sugimoto Y, Nakagawa K, Niimi S, Fujiwara Y, Bungo M, Kasahara K, Fujiki H, Saijo N. Cross-resistance to tumour promoters in human cancer cell lines resistant to adriamycin or cisplatin. *Br J Cancer* 1990 Sep;62(3):415-9.
- Oguro M, Seki Y, Okada K, Andoh T. Collateral drug sensitivity induced in CPT-11 (a novel derivative of camptothecin)-resistant cell lines. *Biomed Pharmacother* 1990;44(4):209-16.
- Ohe Y, Nakagawa K, Fujiwara Y, Sasaki Y, Minato K, Bungo M, Niimi S, Horichi N, Fukuda M, Saijo N. In vitro evaluation of the new anticancer agents KT6149, MX 2, SM5887, menogaril, and liblomycin using cisplatin or adriamycin resistant human cancer cell lines. *Cancer Res* 1989;49(15): 4098-102.
- Ohe Y, Nakagawa K, Fujiwara Y, Sasaki Y, Minato K, Bungo M, Niimi S, Horichi N, Fukuda M, Saijo N. In vitro evaluation of the new anticancer agents, KT6149, MX-2, SM5887, menogaril, and NK313 using CDDP- or ADM-resistant human cancer cell lines [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1989;8:A908.
- Onoda JM, Nelson KK, Taylor JD, Honn KV. In-vivo characterization of combination antitumor chemotherapy with calcium channel blockers and cis diamminedichloroplatinum-II. *Cancer Res* 1989; 49(11):2844-50.
- Osmak M. Repeated irradiations of gamma rays change the sensitivity of human and animal cells to cytotoxic drugs. Paper presented at: Symposium on Mechanisms of Drug and Radiation Resistance of Tumor Cells; 1989 Jun 28-30; Villejuif, France.
- Parce JW, Owicki JC, Kercso KM. Biosensors for directly measuring cell affecting agents. *Ann Biol Clin (Paris)* 1990;48(9):639-41.
- Phillips JK. Use of the MTT assay to assess drug resistance patterns in acute myeloid leukemia (AML). Paper presented at: British Association for Cancer Research/Association for Cancer Physicians/Leukaemia Research Fund Joint Winter Meeting on Leukaemia and Lymphomas; 1989 Dec 11-12; London, UK.
- Pieters R, Hongo T, Loonen AH, Huismans DR, Broxterman HJ, Hahlen K, Veerman AJ. Different types of non-P-glycoprotein mediated multiple drug resistance in children with relapsed acute lymphoblastic leukaemia. *Br J Cancer* 1992 May; 65(5):691-7.
- Pincus R, Goldman ID. Decreased tight binding of mitoxantrone in P388 leukemia cells with multiple drug resistance [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1185.
- Pinedo HM, van Groeningen CJ, van Kalken CK. Cellular pharmacology and drug resistance in breast cancer. Paper presented at: Biology and therapy of breast cancer. Joint NCI-IST Symposium/3rd IST International Symposium; 1989 Sep 25-27; Genoa, Italy.

- Politi PM, Arnold ST, Felsted RL, Sinha BK. P-glycoprotein-independent mechanism of resistance to VP-16 in multidrug-resistant tumor cell lines: pharmacokinetic and photoaffinity labeling studies. *Mol Pharmacol* 1990 Jun;37(6):790-6.
- Politi PM, Sinha BK. Role of differential drug uptake efflux and binding of etoposide in sensitive and resistant human tumor cell lines implications for the mechanisms of drug resistance. *Mol Pharmacol* 1989;35(3):271-8.
- Pratesi G, Capranico G, Binaschi M, De Isabella P, Pilotti S, Supino R, Zunino F. Relationships among tumor responsiveness, cell sensitivity, doxorubicin cellular pharmacokinetics and drug-induced DNA alterations in two human small-cell lung cancer xenografts. *Int J Cancer* 1990 Oct 15; 46(4):669-74.
- Priebe TS, Atkinson EN, Pan BF, Nelson JA. Intrinsic resistance to anticancer agents in the murine pancreatic adenocarcinoma PANC02. *Cancer Chemother Pharmacol* 1992;29(6):485-9.
- Raghu G, Pierre-Jerome M, Burkhead D, Noble CC, Bauer KD, Winter JN. Isolation and characterization of a drug-resistant subclone of the human leukemia cell line HL-60 [abstract]. *Clin Res* 1990;38(3):843A.
- Ramu N, Ramu A, Cole DE, Balis FM, Poplack DG, Pollard HB. Mechanism of acquired resistance to methotrexate in p388 murine leukemia cells and in their doxorubicin-resistant subline. *Isr J Med Sci* 1988;24(9-10):477-82.
- Remnick RA, Gervasoni JE Jr, Hindenburg AA, Lutzky J, Krishna S, Rosado M, Taub RN. The subcellular distribution of daunorubicin in drug-resistant cell lines that do and do not overexpress the P-glycoprotein [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2032.
- Reymann A, Woermann C. In-vitro study on physiological membrane transport and diffusional properties in multidrug-resistant mouse Friend erythroleukemia cells. *Naunyn-Schmiedeberg Arch Pharmacol* 1989;339 Suppl:R42.
- Rosenberg MC, Colvin OM, Griffith OW, Bigner SH, Elion GB, Horton JK, Lilley E, Bigner DD, Friedman HS. Establishment of a melphalan-resistant rhabdomyosarcoma xenograft with cross-resistance to vincristine and enhanced sensitivity following buthionine sulfoximine-mediated glutathione depletion. *Cancer Res* 1989 Dec 15; 49(24 Pt 1):6917-22.
- Ross DD. Cellular and pharmacologic aspects of drug resistance in acute myeloid leukemia. *Curr Opin Oncol* 1991 Feb;3(1):21-9.
- Salmon JM, Lahmy S, Viallet P. Fluorescence image analysis for detection of multidrug resistant cells [abstract]. *Anticancer Res* 1990;10(5 Pt B):1402-3.
- Sampson KE, Abraham I. A novel 170-KD protein kinase activity in multidrug-resistant cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33: A2795.
- Samuels B, Weichselbaum R, Tapp S, Safa A, Cohen M, Cowan J, Beckett M. Clinical inherent doxorubicin resistance in sarcoma not associated with multidrug resistance [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1244.
- Scheck AC, Heston WD, Shapiro JR. Expression of platelet-derived growth factor, ornithine decarboxylase, and the multi-drug resistance gene locus in bcnu-resistant human glioma cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A254.
- Schmidt WF, Huber KR, Ettinger RS, Neuberger RW. Verapamil-resistant human tumor cell lines [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2098.
- Sebolt J, Havlick M, Hamelhele K, Nelson J, Leopold W, Jackson R. Activity of the pyrazoloacridines against multidrug-resistant tumor cells. *Cancer Chemother Pharmacol* 1989;24(4):219-24.
- Selassie CD, Hansch C, Khwaja TA. Structure activity relationships of multidrug resistance. In: Curtius H-C, Ghisla S, Blau N, editors. *Chemistry and biology of pteridines, 1989: pteridines and folic acid derivatives*. 9th International Symposium on Pteridines and Folic Acid Derivatives Chemical, Biological, and Clinical Aspects; 1989 Sep 3-8; Zurich, Switzerland. Berlin: Walter de Gruyter and Co.; 1990. p. 1217-20.
- Shen DW, Mao WW, Pastan I, Gottesman MM. The intrinsic drug resistance in human hepatocellular carcinoma-derived cell lines [abstract]. *In Vitro Cell Dev Biol* 1990;26(3 Pt 2):64a.
- Shimm DS, Olson S, Hill AB. Radiation resistance in a multidrug resistant human T-cell leukemia line. *Int J Radiat Oncol Biol Phys* 1988;15(4):931-6.
- Slapak CA, Fracasso PM, LeCerf JM, Levy SB. Active efflux of vincristine without P-glycoprotein in multidrug-resistant leukemia cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33: A2732.
- Slapak CA, Levy SB. Frequency and phenotype of early adriamycin-resistant mammalian leukemia cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2019.
- Slovak ML, Hoeltge GA, Dalton WS, Trent JM. Pharmacological and biological evidence for differing mechanisms of doxorubicin resistance in two human tumor cell lines. *Cancer Res* 1988; 48(10):2793-7.

- Smith PJ, Sykes HR, Fox ME, Furlong IJ. Subcellular distribution of the anticancer drug mitoxantrone in human and drug-resistant murine cells analyzed by flow cytometry and confocal microscopy and its relationship to the induction of DNA damage. *Cancer Res* 1992 Jul 15;52(14):4000-8.
- Sognier MA, Zhang Y, Sweet KM, Eberle RL, Belli JA. Further selection of multidrug resistant LZ-8 cells produces additional resistance mechanisms [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2746.
- Speeg KV, Mcguire WL. Use of noncytotoxic transport probes in a model of multiple drug resistance [abstract]. *Clin Res* 1988;36(3):500a.
- Starling JJ, Maciak RS, Hinson NA, Hoskins J, Laguzza BC, Gadski RA, Strnad J, Rittmann-Grauer L, DeHerdt SV, Bumol TF, et al. In vivo selection of human tumor cells resistant to monoclonal antibody-Vinca alkaloid immunoconjugates. *Cancer Res* 1990 Dec 1; 50(23):7634-40.
- Stewart BW, Brian MJ, Haber M, Norris MD, White L. Therapy-induced resistance to both methotrexate and some natural product drugs in a human leukemia line (LALW-2) [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1237.
- Supino R, Mariani M, Capranico G, Colombo A, Parmiani G. Doxorubicin cellular pharmacokinetics and DNA breakage in a multi-drug resistant B16 melanoma cell line. *Br J Cancer* 1988;57(2):142-6.
- Suzuki H. [Antitumor drugs and potentiators aiming circumvention of drug resistance]. *Gan To Kagaku Ryoho* 1990 Mar;17(3 Pt 1):335-41. (Jpn).
- Tapiero H, Talha S, Trincal G, Fourcade A, Lampidis TJ. Relationship of membrane potential to acquired and intrinsic multiple drug resistance [abstract]. *Anticancer Res* 1988;8(5 Pt B):1088.
- Taylor CW, Dalton WS. Multiple mechanisms of drug resistance in MCF-7 human breast cancer cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2109.
- Terashima Y, Hattori T, Kanamori S, Akimoto M. [The analysis of the difference in anti-cancer drug sensitivity of 3 clones separated from bladder cancer cell line]. *Nippon Hinyokika Gakkai Zasshi* 1989 Dec;80(12):1720-7. (Jpn).
- Teyssier JR, Benard J, Ferre D, Da Silva J, Renaud L. Drug-related chromosomal changes in chemoresistant human ovarian carcinoma cells. *Cancer Genet Cytogenet* 1989;39(1):35-44.
- Trent JM, Meltzer PS, Slovak ML, Gill AB, Dalton WS, Beck WT, Coles SPC. Cytogenetic and molecular biologic alterations associated with anthracycline resistance. In: Woolley PV 3rd, Tew KD, editors. *Mechanisms of drug resistance in neoplastic cells*; 1986 Oct 15-16; Washington, DC. San Diego (CA): Academic Press, Inc.; 1988. p. 259-76. (Bristol-Myers cancer symposia; 9).
- van Kalken CK, Pinedo HM, Giaccone G. Multidrug resistance from the clinical point of view. *Eur J Cancer* 1991;27(11):1481-6.
- Vassal G, Slocum H, Rustum Y. Enhancement of arabinosylcytosine metabolism and cytotoxicity by dipyrindamole in sensitive and multidrug-resistant P388 cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2284.
- Versantvoort CH, Broxterman HJ, Feller N, Dekker H, Kuiper CM, Lankelma J. Probing daunorubicin accumulation defects in non-P-glycoprotein expressing multidrug-resistant cell lines using digitonin. *Int J Cancer* 1992 Apr 1;50(6):906-11.
- Volm M, Bak M, Mattern J. Intrinsic multidrug resistance in human lung carcinomas grown in nude mice. *Strahlenther Onkol* 1989;165(7):524-6.
- Watanabe M, Komeshima N, Nakajima S, Tsuruo T. Mx-2 a morpholinoanthracycline as a new antitumor agent against drug-sensitive and multidrug-resistant human and murine tumor cells. *Cancer Res* 1988; 48(23):6653-7.
- Waud WR, Leopold WR, Elliott WL, Dykes DJ, Laster WR Jr, Temple CG Jr, Harrison SD Jr, Griswold DP Jr. Antitumor activity of ethyl 5-amino-1,2-dihydro-2-methyl-3-phenyl-pyrido [3,4-b]pyrazin-7-ylcarbamate, 2-hydroxyethanesulfonate, hydrate (NSC 370147) against selected tumor systems in culture and in mice. *Cancer Res* 1990 Jun 1; 50(11):3239-44.
- Waxman S, Wang S, Tan I, Scher W. Combination cytotoxic-differentiation therapy with 5-fluorouracil, leucovorin and hexamethylene bisacetamide [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1990;31:A2551.
- Weber JM, Sircar S, Horvath J, Dion P. Non P-glycoprotein mediated multidrug resistance in detransformed rat cells selected for resistance to methylglyoxal bis(guanylhydrazone). *Cancer Res* 1989;49(21):5779-83.
- White L, Haber M, Brian MJ, Norris MD, Trickett A, Sosula L, Tiley C, Stewart BW. Therapy-induced drug resistance in a human leukemia line lalw-2 a clinically relevant model. *Cancer* 1989;63(11): 2103-10.
- Wilcock LJ, Dulmadge EA, Holland LE, McCurdy JB, Donahue JP. Differential sensitivity to plant alkaloids of cultured human colon carcinoma and human lung adenocarcinoma cells exhibiting

- resistance to etoposide [abstract]. Proc Annu Meet Am Assoc Cancer Res 1988;29:A1163.
- Wright SC, Tam AW, Kumar P. Selection of tumor cell variants for resistance to tumor necrosis factor also induces a form of pleiotropic drug resistance. Cancer Immunol Immunother 1992;34(6):399-406.
- Wu CJ, Feun L, Lampidis TJ, Savaraj N. Induction of multidrug resistance (MDR) in cisplatin-resistant cells and induction of cisplatin resistance in MDR cells [abstract]. Proc Annu Meet Am Assoc Cancer Res 1992;33:A2730.
- Yamazaki H, Myers CE, Eliot HM, Sinha BK. Mechanisms of resistance against anticancer drugs in prostate cancer cell lines [abstract]. Proc Annu Meet Am Assoc Cancer Res 1992;33:A2703.
- Yang LY, Trujillo JM. Different mechanisms for multidrug resistance in two models of adriamycin-resistant subclones derived from a human colon carcinoma cell line [abstract]. Proc Annu Meet Am Assoc Cancer Res 1989;30:A2053.
- Yang LY, Trujillo JM, Su YZ. Further characterization of two distinct adriamycin-resistant sublines from LoVo human colon carcinoma cells. Anticancer Res 1992 Mar-Apr;12(2):473-9.
- Zamora JM, Beck WT. Chloroquine enhancement of anticancer drug cytotoxicity in multiple drug resistant human leukemic cells. Biochem Pharmacol 1990;35(23):4303-10.
- OTHER**
- Adam S, Kaufmann F. A new class of potent antiproliferative glycolipids. Chem Phys Lipids 1991;59(3):255-62.
- Ades EW, Hooper C, Pruckler JM. Cytoreductive therapy of multidrug-resistant hepatocellular carcinoma: negative regulation of growth using combination differentiation therapy. Pathobiology 1992;60(1):45-8.
- Alaoui-Jamali MA, Panasci L, Schechter RL, Lehnert S, Batist G. Atypical cross-resistance and multiple mechanisms in melphalan-resistant rat mammary carcinoma cell line [abstract]. Proc Annu Meet Am Assoc Cancer Res 1991;32:A2130.
- Allong G, Trombe MC, Claverys JP. Cloning of the amia locus of streptococcus-pneumoniae and identification of its functional limits. Gene 1989; 76(2):363-8.
- Alton PA, Fry A, Hickson ID, Harris AL. Use of the MTT assay in acute myeloid leukemia to assess mechanisms of resistance [abstract]. Br J Cancer 1991;63 Suppl 13:14.
- Ames GFL. Bacterial periplasmic permeases as model systems for the superfamily of traffic ATPases which includes MDR and CFTR [abstract]. FASEB J 1998;6(1):A127.
- Aquino A, Johnson-Thompson M, Glazer RI. Enhanced Ca²⁺-dependent proteolysis associated with Adriamycin-resistant HL-60 cells. Cancer Commun 1990;2(7):243-7.
- Arita N, Hayakawa T. [Chemotherapy of malignant brain tumors--scientific basis for combination chemotherapy]. Gan To Kagaku Ryoho 1991 Feb; 18(2):180-7. (Jpn).
- Arvelo F, Le Chevalier T, Jacrot M, Brambilla C, Poupon MF. Drug response of small cell lung carcinomas implanted into nude mice. Correlation with overexpression of growth-related genes and multidrug-resistance gene (MDR1). Paper presented at: 3rd International Congress on the Neo-adjuvant Chemotherapy; 1991 Feb 6-9; Paris, France. (Eng, Fre).
- Ashikari R, Mittelman A, Puccio C, Davidian M, Rojas-Corona R, Zachrau R, Ahmed T, Clayton E, Arlin Z. Analysis for the presence of erb B2, Ki67, P-glycoprotein estrogen (ER) and progesterone (PR) receptor in tissue samples from 45 patients (pts) [abstract]. Proc Annu Meet Am Soc Clin Oncol 1991;10:A86.

- Beck WT. Mechanisms of multidrug resistance in human tumor cells. The roles of P-glycoprotein, DNA topoisomerase II, and other factors. *Cancer Treat Rev* 1990 Dec;17 Suppl A:11-20.
- Belli JA. Interaction between radiation and drug damage in mammalian cells. *Radiat Res* 1989; 119(1):88-100.
- Berkower C, Michaelis S. Mutational analysis of the yeast A-factor transporter STE6, a member of the ATP binding cassette (ABC) protein superfamily. *EMBO J* 1991 Dec;10(12):3777-85.
- Beverly SM, Callahan HL. Amplification-prone cassettes provide a reservoir of multiple drug resistance genes in *Leishmania* [abstract]. *FASEB J* 1992;6(1):A139.
- Bhushan A, Katzman PJ, Tritton TR. Involvement of phospholipase A2 (PLA2) in multidrug-resistant mouse sarcoma S180 cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2675.
- Biedler JL, Meyers MB, Spengler BA. Cellular concomitants of multidrug resistance. In: Woolley PV 3d, Tew KD, editors. *Mechanisms of drug resistance in neoplastic cells*; 1986 Oct 15-16; Washington, DC. San Diego (CA): Academic Press, Inc.; 1988. p. 41-68. (Bristol-Myers cancer symposia; 9).
- Bonadonna G, Santoro A. Current issues in the management of advanced Hodgkin's disease. *Blood Rev* 1990 Mar;4(1):69-73.
- Borellini F, Aquino A, Josephs SF, Glazer RI. Increased expression and DNA-binding activity of transcription factor Sp1 in doxorubicin-resistant HL-60 leukemia cells. *Mol Cell Biol* 1990 Oct; 10(10):5541-7.
- Borst P. Genetic mechanisms of drug resistance. A review. *Acta Oncol* 1991;30(1):87-105.
- Bose R, Lam HYP. Membrane transport changes in an adriamycin-resistant murine leukemia cell line and in its sensitive parental cell line. *Cancer Chemother Pharmacol* 1988;21(1):14-8.
- Burt RK, Thorgeirsson SS. Coinduction of MDR-1 multidrug-resistance and cytochrome P-450 genes in rat liver by xenobiotics. *J Natl Cancer Inst* 1988; 80(17):1383-6.
- Buscher HP. Defective drug uptake contributing to multidrug resistance in hepatoma cells can be evaluated in vitro. *Klin Wochenschr* 1990 May 4; 68(9):443-6.
- Campling BG, Pym J, Baker HM, Cole SP, Lam YM. Chemosensitivity testing of small cell lung cancer using the MTT assay. *Br J Cancer* 1991 Jan;63(1): 75-83.
- Cancer chemotherapy and biological response modifiers. Annual 10. *Cancer Chemother Biol Response Modif* 1988;10:1-594.
- Cancer chemotherapy: concepts, clinical investigations and therapeutic advances. *Cancer Treat Res* 1989; 42:1-238.
- Cantwell BMJ, Bozzino JM, Corris P, Harris AL. The multidrug resistant phenotype in clinical practice evaluation of cross resistance to ifosfamide and mesna after VP-16-213 doxorubicin and vincristine VPAV for small cell lung cancer. *Eur J Cancer Clin Oncol* 1988;24(2):123-30.
- Casals D, Cordon-Cardo C. [Multiple drug resistance. Biological and clinical implications]. *Med Clin (Barc)* 1989 Jul 1;93(5):181-5. (Spa).
- Chabner BA, Fojo T, Bates S, Wilson WH. Drug-resistance considerations in neoadjuvant chemotherapy. Paper presented at: 3rd International Congress on the Neo-adjuvant Chemotherapy; 1991 Feb 6-9; Paris, France. (Eng, Fre).
- Chabner BA, Wilson W. Reversal of multidrug resistance [editorial]. *J Clin Oncol* 1991 Jan; 9(1):4-6.
- Chaudhuri MM, Tonin PN, Lewis WH, Srinivasan PR. The gene for a novel protein, a member of the protein disulphide isomerase/form I phosphoinositide-specific phospholipase C family, is amplified in hydroxyurea-resistant cells. *Biochem J* 1992 Feb;281(3):645-50.
- Chen G, Zeller WJ. In vitro investigations on induction and reversal of cisplatin resistance in a rat ovarian tumor cell line. *J Cancer Res Clin Oncol* 1990;116(5):443-7.
- Chen YN, Mickley LA, Hwang JL, Fojo AT. A novel resistance-related membrane protein is overexpressed in an adriamycin-resistant MCF-7 cell line [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2078.
- Chen YN, Mickley LA, Schwartz AM, Acton EM, Hwang JL, Fojo AT. Characterization of adriamycin-resistant human breast cancer cells which display overexpression of a novel resistance-related membrane protein. *J Biol Chem* 1990 Jun 15;265(17):10073-80.
- Chitnis MP. Drug resistance in cancer. Paper presented at: 5th Biennial Conference of the Indian Association of Cancer Chemotherapists; 1989 Feb 17-19; Bombay, India.
- Chitnis MP, Viladkar AB, Juvekar AS. Inhibition of DNA biosynthesis by vincristine and pentoxifylline in murine P388 leukemia cells resistant to doxorubicin. *Neoplasma* 1990;37(6):619-26.

- Chu E, Drake JC, Koeller DM, Zinn S, Jamis-Dow CA, Yeh GC, Allegra CJ. Induction of thymidylate synthase associated with multidrug resistance in human breast and colon cancer cell lines. *Mol Pharmacol* 1991 Feb;39(2):136-43.
- Chung YJ, Steen MT, Hansen JN. The subtilin gene of *Bacillus subtilis* ATCC 6633 is encoded in an operon that contains a homolog of the hemolysin B transport protein. *J Bacteriol* 1992 Feb;174(4):1417-22.
- Cianfriglia M, Cenciarelli C, Tombesi M, Barca S, Mariani M, Morrone S, Santoni A, Samoggia P, Alessio M, Malavasi F. Murine monoclonal antibody recognizing a 90-kDa cell-surface determinant selectively lost by multi-drug-resistant variants of CEM cells. *Int J Cancer* 1990 Jan 15;45(1):95-103.
- Ciocca DR, Fuqua SA, Lock-Lim S, Toft DO, Welch WJ, McGuire WL. Response of human breast cancer cells to heat shock and chemotherapeutic drugs. *Cancer Res* 1992 Jul 1;52(13):3648-54.
- Cole SP, Pinkoski MJ, Bhardwaj G, Deeley RG. Elevated expression of annexin II (lipocortin II, p36) in a multidrug resistant small cell lung cancer cell line. *Br J Cancer* 1992 Apr;65(4):498-502.
- D'Incalci M, Broxterman HJ, van Kalken CK. AACR special conference in cancer research. Membrane transport in multidrug resistance, development, and disease. American Association for Cancer Research. *Ann Oncol* 1991 Oct;2(9):635-9.
- Dalton WS. Mechanisms of drug resistance in breast cancer. *Semin Oncol* 1990 Aug;17(4 Suppl 7):37-9.
- Damiani D, Michelutti A, Michieli M, Geromin A, Raspadori D, Giacca M, Mallardi F, Baccarani M. [Multidrug resistance in lymphoproliferative syndromes]. *Haematologica* 1991 Jun;76 Suppl 3:162-4. (Ita).
- De Isabella P, Capranico G, Castelli C, Zunino F. Molecular basis of multifactorial drug resistance in P388 doxorubicin-resistant cells [abstract]. *Invest New Drugs* 1989;7(4):440.
- Dietel M. What's new in cytostatic drug resistance and pathology. *Pathol Res Pract* 1991 Sep;187(7):892-905.
- Dietel M, Arps H, Lage H, Niendorf A. Membrane vesicle formation due to acquired mitoxantrone resistance in human gastric carcinoma cell line EPG85-257. *Cancer Res* 1990 Sep 15;50(18):6100-6.
- Druilhe P, Brasseur P. Multi-chimio-resistance du paludisme en Afrique. I. Donnees epidemiologiques [Multiresistant malaria in Africa. I. Epidemiologic data]. *Sem Hop* 1992;68(3):54-9. (Fre).
- Druilhe P, Brasseur P. Multi-chimio-resistance du paludisme en Afrique. II. Consequences therapeutiques et attitude pratique [Multiresistant malaria in Africa. II. Therapeutic implications and practical approach]. *Sem Hop* 1992;68(4):90-5. (Fre).
- Engelholm SA, Rasmussen DL, Spang-Thomsen M. Human small cell lung cancer (SCCL) in model systems for investigation of drug resistance [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2026.
- Fairchild CR, Cowan KH. Keynote address: Multidrug resistance: a pleiotropic response to cytotoxic drugs. *Int J Radiat Oncol Biol Phys* 1991 Feb;20(2):361-7.
- Fairchild CR, Moscow JA, O'Brien EE, Cowan KH. Multidrug resistance in cells transfected with human genes encoding a variant P-glycoprotein and glutathione S-transferase-pi. *Mol Pharmacol* 1990 Jun;37(6):801-9.
- Fan D, Fidler IJ, Ward NE, Seid C, Earnest LE, Housey GM, O'Brian CA. Stable expression of a cDNA encoding rat brain protein kinase C-beta I confers a multidrug-resistance (MDR) phenotype on rat fibroblasts [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2724.
- Ferguson PJ. The role of gene amplification in clinical resistance to chemotherapy: a review. *J Otolaryngol* 1991 Apr;20(2):130-6.
- Footo SJ, Thompson JK, Marshall V, Cowman AF, Biggs BA, Brown GV, Kemp DJ. The multidrug resistance gene of *Plasmodium falciparum*. Does it mediate chloroquine resistance? In: Agabian N, Cerami A, editors. *Parasites: molecular biology, drugs and vaccine design*. UCLA Symposia on Molecular and Cellular Biology New Series, vol. 130; 1989 Apr 3-10; Keystone, CO. New York: Wiley-Liss; 1990. p. 325-34.
- Fujiwara Y, Sugimoto Y, Kasahara K, Bungo M, Yamakido M, Tew KD, Saijo N. Determinants of drug response in a cisplatin resistant human lung cancer cell line. *Jpn J Cancer Res* 1990;81(5):527-35.
- Futscher BW, Campbell K, Dalton WS. Collateral sensitivity to nitrosoureas in multidrug-resistant cells selected with verapamil [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2793.
- Garcia-Segura LM, Ferragut JA, Ferrer-Montiel AV, Escriba PV, Gonzalez-Ros JM. Ultrastructural alterations in plasma membranes from drug-resistant

- P388 murine leukemia cells. *Biochim Biophys Acta* 1990 Nov 2;1029(1):191-5.
- Geleziunas R, McQuillan A, Malapetsa A, Hutchinson M, Kopriva D, Wainberg MA, Hiscott J, Bramson J, Panasci L. Increased DNA synthesis and repair-enzyme expression in lymphocytes from patients with chronic lymphocytic leukemia resistant to nitrogen mustards. *J Natl Cancer Inst* 1991 Apr 17;83(8):557-64.
- Gervasoni JE Jr, Fields SZ, Krishna S, Baker MA, Rosado M, Thuraisamy K, Hindenburg AA, Taub RN. Subcellular distribution of daunorubicin in P-glycoprotein-positive and -negative drug-resistant cell lines using laser-assisted confocal microscopy. *Cancer Res* 1991 Sep 15;51(18):4955-63.
- Gessner T, Vaughan LA, Beehler BC, Bartels CJ, Baker RM. Elevated pentose cycle and glucuronyltransferase in daunorubicin-resistant P388 cells. *Cancer Res* 1990 Jul 1;50(13):3921-7.
- Giaccone G, Fridman R, Kanemoto T, Martin GR, Kurita Y, Linnoila RI, Jensen S, Mulshine J, Gazdar AF. In vitro interaction with laminin can result in morphological alterations and increased drug resistance of small cell lung cancer cell lines [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A202.
- Giai M, Biglia N, Sismondi P. Chemoresistance in breast tumors. *Eur J Gynaecol Oncol* 1991;12(5):359-73.
- Ginsburg H. Enhancement of the antimalarial effect of chloroquine on drug-resistant parasite strains--a critical examination of the reversal of multidrug resistance. *Exp Parasitol* 1991 Aug;73(2):227-32.
- Ginsburg H, Krugliak M. Quinoline-containing antimalarials--mode of action, drug resistance and its reversal. An update with unresolved puzzles. *Biochem Pharmacol* 1992 Jan 9;43(1):63-70.
- Ginsburg H, Stein WD. Kinetic modelling of chloroquine uptake by malaria-infected erythrocytes. Assessment of the factors that may determine drug resistance. *Biochem Pharmacol* 1991 May 15;41(10):1463-70.
- Goldie JH. Genetic factors in chemotherapy resistance. Paper presented at: Biology and therapy of breast cancer. Joint NCI-IST Symposium/3rd IST International Symposium; 1989 Sep 25-27; Genoa, Italy.
- Goldie JH, Coldman AJ. The somatic mutation theory of drug resistance: the 'Goldie-Coldman' hypothesis revisited. *Cancer Princ Pract Oncol Updates* 1989;3(5):1-12.
- Gottesman MM, Pastan I, Akiyama SI, Foho A. T.; Shen DW, Ueda K, Clark DP, Cardarelli CO, Richert ND, et al. Expression, amplification, and transfer of DNA sequences associated with multidrug resistance. In: Woolley PV 3d, Tew KD, editors. *Mechanisms of drug resistance in neoplastic cells*; 1986 Oct 15-16; Washington, DC. San Diego (CA): Academic Press, Inc.; 1988. p. 243-57. (Bristol-Meyers cancer symposia; 9).
- Gottesman MM, Pastan I. The multidrug resistance MDR1 gene as a selectable marker in gene therapy. In: Cohen-Haguenaer O, Boiron M, editors. *Transfert de genes chez l'homme [Human gene transfer]*. International Workshop; 1991 Apr 11-13; Gouvieux-Chantilly, France. Paris: Editions INSERM; 1991. p. 185-92. (Colloque INSERM; 219).
- Gros P, Shustik C. Multidrug resistance: a novel class of membrane-associated transport proteins is identified. *Cancer Invest* 1991;9(5):563-9.
- Gutheil JC, Wong R, Needleman SW, Melera PW. The ras oncogene imparts a specific multidrug resistance phenotype in NIH-3T3 cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32: A2099.
- Hamada H, Okochi E, Oh-Hara T, Tsuruo T. Purification of the M-R 22000 calcium-binding protein sorcin associated with multidrug resistance and its detection with monoclonal antibodies. *Cancer Res* 1988;48(11):3173-8.
- Hamada H, Okochi E, Watanabe M, Oh Hara T, Sugimoto Y, Kawabata H, Tsuruo T. M(r) 85,000 membrane protein specifically expressed in adriamycin resistant human tumor cells. *Cancer Res* 1988;48(24):7082-7.
- Hamada H, Tsuruo T. [Expression and function of proteins associated with multidrug resistance]. *Gan To Kagaku Ryoho* 1989 Mar;16(3 Pt 2):585-91. (Jpn).
- Hantel A, Ayala S. Mechanisms contributing to melphalan (M) resistance (MR) in human colon cancer cell lines (HCCCL) selected for MR [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2127.
- Harker WG, Slade DL, Dalton WS, Meltzer PS, Trent JM. Multidrug resistance in mitoxantrone-selected hl-60 leukemia cells in the absence of p-glycoprotein overexpression. *Cancer Res* 1989;49(16):4542-9.
- Harris AL. Mechanisms of anticancer drug resistance. *Dev Oncol* 1990;58:107-15.
- Himmelman AW, Danhauser-Riedl S, Steinhauser G, Busch R, Modest EJ, Noseda A, Rastetter J, Vogler WR, Berdel WE. Cross-resistance pattern of cell lines selected for resistance towards different

- cytotoxic drugs to membrane-toxic phospholipids in vitro. *Cancer Chemother Pharmacol* 1990;26(6):437-43.
- Hindenburg AA, Gervasoni JE Jr, Krishna S, Stewart VJ, Rosado M, Lutzky J, Bhalla K, Baker MA, Taub RN. Intracellular distribution and pharmacokinetics of daunorubicin in anthracycline-sensitive and resistant hl-60 cells. *Cancer Res* 1989;49(16):4607-14.
- Hoban PR, Walton MI, Robson CN, Godden J, Stratford IJ, Workman P, Harris AL, Hickson ID. Decreased NADPH:cytochrome P-450 reductase activity and impaired drug activation in a mammalian cell line resistant to mitomycin C under aerobic but not hypoxic conditions. *Cancer Res* 1990 Aug 1;50(15):4692-7.
- Hochhauser D, Harris AL. Drug resistance. *Br Med Bull* 1991 Jan;47(1):178-96.
- Hofslie E. Multimedikamentresistens - teoretiske og kliniske aspekter [Multidrug resistance - theoretical and clinical aspects]. *Tidsskr Nor Laegeforen* 1992;112(4):472-4. (Nor).
- Holden SA, Wright JE, Rosowsky A, Teicher BA, Frei E. Effect of multiple low-dose radiation exposure on the antifolate sensitivity of human head and neck squamous cell carcinoma in culture [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A1937.
- Honma Y, Okabe-Kado J, Kasukabe T, Hozumi M, Umezawa K. Inhibition of ABL oncogene tyrosine kinase induces erythroid differentiation of human myelogenous leukemia K562 cells. *Jpn J Cancer Res* 1990 Nov;81(11):1132-6.
- Horichi N, Tapiero H, Sugimoto Y, Bungo M, Nishiyama M, Fourcade A, Lampidis TJ, Kasahara K, Sasaki Y, Takahashi T, et al. 3'-Deamino-3'-morpholino-13-deoxy-10-hydroxycarminomycin conquers multidrug resistance by rapid influx following higher frequency of formation of DNA single- and double-strand breaks. *Cancer Res* 1990 Aug 1;50(15):4698-701.
- Hornung RL, Pearson JW, Beckwith M, Longo DL. Preclinical evaluation of bryostatins as anticancer agents against several murine tumor cell lines: in vitro versus in vivo activity. *Cancer Res* 1992 Jan 1;52(1):101-7.
- Horwitz SB, Goei S, Greenberger L, Lothstein L, Mellado W, Roy SN, Yang CP, Zeheb R. Multidrug resistance in the mouse macrophage-like cell line J774.2. In: Woolley PV 3d, Tew KD, editors. Mechanisms of drug resistance in neoplastic cells; 1986 Oct 15-16; Washington, DC. San Diego (CA): Academic Press, Inc.; 1988. p. 197-210. (Bristol-Meyers cancer symposia; 9).
- Huot J, Roy G, Lambert H, Chretien P, Landry J. Increased survival after treatments with anticancer agents of Chinese hamster cells expressing the human M-R 27000 heat shock protein. *Cancer Res* 1991;51(19):5245-52.
- Hurta RA, Wright JA. Mammalian drug resistant mutants with multiple gene amplifications: genes encoding the M1 component of ribonucleotide reductase, the M2 component of ribonucleotide reductase, ornithine decarboxylase, p5-8, the H-subunit of ferritin and the L-subunit of ferritin. *Biochim Biophys Acta* 1990 Oct 23;1087(2):165-72.
- Isonishi S, Kirmani S, Kim S, Plaxe SC, Braly PS, McClay EF, Howell SB. Phase I and pharmacokinetic trial of intraperitoneal etoposide in combination with the multidrug-resistance-modulating agent dipyridamole. *J Natl Cancer Inst* 1991 May 1;83(9):621-6.
- Israel M, Koseki Y, Seshadri R. Further in vivo antitumor studies with 2-chloroethylnitrosourea-daunorubicin (AD 312) in murine P388 leukemia systems [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2401.
- Ito T, Ohnuma T, Holland JF, Mattern MR. Altered DNA topoisomerase (TOPO) II activity in human leukemia sublines resistant to trimetrexate (TMQ) [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2078.
- Ivy SP, Baird WM, Myers CE, Cowan KH. Inhibition of TCDD inducible cytochrome P1-450 expression in multidrug resistant MCF-7 cells by a trans-acting repressor [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:314.
- Ivy SP, Tulpule A, Fairchild CR, Averbuch SD, Myers CE, Nebert D W, Baird WM, Cowan KH. Altered regulation of P-450IA1 expression in a multidrug-resistant MCF-7 human breast cancer cell line. *J Biol Chem* 1988 Dec 15;263(35):19119-25.
- Iyengar BS, Dorr RT, Remers WA. Additional nucleotide derivatives of mitosenes. Synthesis and activity against parental and multidrug resistant L1210 leukemia. *J Med Chem* 1991 Jul;34(7):1947-51.
- Jaffe DR, Haraf D, Saeed B, Schwartz JL, Weichselbaum RR, Diamond AM. Radioresistant derivatives of an x-ray-sensitive CHO cell line exhibit distinct patterns of sensitivity to DNA damaging-agents [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A13.

- Jagannath S, Barlogie B, Dicke K, Alexanian R, Zagars G, Cheson B, Lemaistre FC, Smallwood L, Pruitt K, Dixon DO. Autologous bone marrow transplantation in multiple myeloma: identification of prognostic factors. *Blood* 1990 Nov 1;76(9):1860-6.
- Jandrig B, Wunderlich V. Membrane transport in multidrug resistance, development, and disease. AACR Special Conference in Cancer Research. *J Cancer Res Clin Oncol* 1992;118(3):238-9.
- Jett M, Fine RL, Jelsema C, Cowan KC, Chabner BA. The signal transduction cascade is more responsive to stimulation in multidrug-resistant mcf-7 breast cancer cells than in the wild type cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A80.
- Jett M, Fine RL, Pallansch L. Modifying multidrug-resistance by manipulating signal transduction pathways [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A1993.
- Kamatani T, Kitada M, Komori M, Inaba N. [Resistance to anticancer drugs in relation to cytochrome P-450]. *Gan To Kagaku Ryoho* 1989 Mar;16(3 Pt 2):605-10. (Jpn).
- Kaminsky R, Zwegarth E. The effect of verapamil alone and in combination with trypanocides on multidrug-resistant *Trypanosoma-brucei-brucei*. *Acta Trop* 1991;49(3):215-26.
- Kanazawa S, Driscoll M, Struhl K. ATR1, a *Saccharomyces-cerevisiae* gene encoding a transmembrane protein required for aminotriazole resistance. *Mol Cell Biol* 1988;8(2):664-73.
- Kaplan O, van Zijl PC, Cohen JS. Information from combined ¹H and ³¹P NMR studies of cell extracts: differences in metabolism between drug-sensitive and drug-resistant MCF-7 human breast cancer cells. *Biochem Biophys Res Commun* 1990 Jun 15;169(2):383-90.
- Kardono LBS, Angerhofer CK, Tsauri S, Padmawinata K, Pezzuto JM, Kinghorn AD. Cytotoxic and antimalarial constituents of the roots of *Eurycoma-longifolia*. *J Nat Prod* 1991 Sep-Oct;54(5):1360-7.
- Kashani-Sabet M, Rossi JJ, Lu Y, Chen J, Miyachi H, Ma JX, Blayney D, Leong L, Scanlon KJ. Early detection of cisplatin resistance in fresh human carcinoma cells by *in vitro* enzymatic amplification assay [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1159.
- Kawai K, Kamatani N, Georges E, Ling V. Identification of a membrane glycoprotein overexpressed in murine lymphoma sublines resistant to cis-diamminedichloroplatinum(II). *J Biol Chem* 1990 Aug 5;265(22):13137-42.
- Kaye SB. The multidrug resistance phenotype. *Br J Cancer* 1988;58(6):691-4.
- Kim R, Hirabayashi N, Nishiyama M, Saeki S, Toge T, Okada K. Expression of MDR1 GST-pi and topoisomerase II as an indicator of clinical response to adriamycin. *Anticancer Res* 1991;11(1):429-32.
- Kobayashi H, Takemura Y, Miyachi H, Ohnuma T. Alterations of MDR1 and dihydrofolate reductase genes in human leukemia sublines resistant to various folate analogs [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A1932.
- Kramer RA, Zakher J. Characterization of intrinsic mechanisms of drug resistance in human colorectal carcinoma cell lines [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2070.
- Krauer KG, McKenzie IF, Pietersz GA. Antitumor effect of 2'-deoxy-5-fluorouridine conjugates against a murine thymoma and colon carcinoma xenografts. *Cancer Res* 1992 Jan 1;52(1):132-7.
- Krishan A. Cellular resistance to drugs. *Cancer Invest* 1989;7(2):211-2.
- Krishnamachary N, Center MS. Detection and characterization of membrane protein changes in multidrug resistant HL-60 cells. *Oncol Res* 1992;4(1):23-8.
- Krishnamachary N, Center MS. Membrane protein changes in multidrug-resistant HL60 cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2721.
- Kuppen PJK, Schuitemaker H, Van't Veer LJ, De Bruijn EA, Van Oosterom AT, Schrier PI. Cis diamminedichloroplatinum-II-resistant sublines derived from two human ovarian tumor cell lines. *Cancer Res* 1988;48(12):3355-9.
- Lai GM, Chen YN, Mickley LA, Fojo AT, Bates SE. Intrinsic and acquired resistance (R) to adriamycin (Ad) in human colon carcinoma cell lines (HCCCL) [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1990;31:A2254.
- Larsen AK, Markovits J, Jacquemin-Sablon A. Increased sensitivity of 9-hydroxyellipticine-resistant Chinese hamster cells to alkylating agents [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2071.
- Larsson R, Nygren P. Verapamil and cyclosporin A potentiate the effects of chemotherapeutic drugs in the human medullary thyroid carcinoma TT-cell line not expressing the 170 kDa P-glycoprotein. *Cancer Lett* 1990 Nov 5;54(3):125-31.

- Lazo JS, Bahnson RR. Pharmacological modulators of DNA-interactive antitumor drugs. *Trends Pharmacol Sci* 1989;10(9):369-73.
- Lazo JS, Braun ID, Labaree DC, Schisselbauer JC, Meandzija B, Newman RA, KenNedy KA. Characteristics of bleomycin resistant phenotypes of human cell sublines and circumvention of bleomycin resistance by liblomycin. *Cancer Res* 1989;49(1):185-90.
- Lederer TW, Green KM Jr, Rossio JL, Giardina SL. Internatization of probe molecules into the cytoplasm of mammalian cells by electroporation without compromising cellular functions [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A329.
- Lee SA, Karaszkiwicz JW, Anderson WB. Elevated level of nuclear protein kinase C in multidrug-resistant MCF-7 human breast carcinoma cells [abstract]. *FASEB J* 1990;4(7):A2312.
- Lenehan P, Milak N, Gutierrez P, Ross D. Enhanced catalase-mediated antioxidant defenses in multidrug-resistant human leukemia cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2744.
- Levine AS. The biology of human cancer, and the development of a rational basis for treatment. *Cancer Growth Prog* 1989;1:1-22.
- Li XK, Ohnuma T, Acs G, Cuttner J, Holland JF. Expressions of dihydrofolate reductase (DHFR) and P-glycoprotein (P-G) genes in trimetrexate (TMQ)-resistant human leukemia cell lines [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1990;31:A2683.
- Liebert M, Shinohara N, Wedemeyer G, Chang JHC, Grossman HB. Unselected human bladder cancer cell lines demonstrate atypical multiple drug resistance [abstract]. *J Cancer Res Clin Oncol* 1990;116 Suppl Pt 1:414.
- Lin J, Tan C, Rodenhuis S, Bertino JR. Multiple mechanisms for methotrexate (mtx) resistance in human acute lymphocytic leukemia (all) [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1988;7:A725.
- Lock RB, Hill BT. Differential patterns of anti-tumour drug responses and mechanisms of resistance in a series of independently derived VP 16 resistant human tumour cell lines. *Int J Cancer* 1988;42(3):373-81.
- Lunn JM, Foster BJ, Jones M, Siraky J, Newell DR. Correlation between chemosensitivity to CB10-277 and 0(6)-alkyl-guanine-DNA alkyltransferase levels in human melanoma xenografts [abstract]. *Br J Cancer* 1990;62(3):514.
- Lutzky J, Madrid KK, Krishna S, Bhalla K, Hindenburg AA, Taub RN. Effect of glutathione depletion plus verapamil on HL60 and HL60/AR cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2203.
- Lyon RC, Daly PF, Faustino PJ, Myers CE, Cohen JS. Regulation of phospholipid metabolism associated with multidrug resistance in tumor cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A43.
- Ma L, Center MS. The gene encoding vacuolar H(+)-ATPase subunit C is overexpressed in multidrug-resistant HL60 cells. *Biochem Biophys Res Commun* 1992 Jan 31;182(2):675-81.
- Ma L, Marquardt D, Center MS. Involvement of protein P190 in multidrug resistance in HL60 cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2200.
- Marquardt D, Center MS. Involvement of vacuolar H(+)-adenosine triphosphatase activity in multidrug resistance in HL60 cells. *J Natl Cancer Inst* 1991 Aug 7;83(15):1098-102.
- Masters JR. Biochemical basis of resistance to chemotherapy. *Radiother Oncol* 1990 Dec;19(4):297-305.
- Matsumoto T, Tani E, Kaba K, Kochi N, Shindo H, Yamamoto Y, Sakamoto H, Furuyama J. Amplification and expression of a multidrug resistance gene in human glioma cell lines. *J Neurosurg* 1990 Jan;72(1):96-101.
- McCusker JH, Haber JE. Mutations in *Saccharomyces cerevisiae* which confer resistance to several amino acid analogs. *Mol Cell Biol* 1990 Jun;10(6):2941-9.
- Meltzer P, Leibovitz A, Dalton W, Villar H, Kute T, Davis J, Nagle R, Trent J. Establishment of two new cell lines derived from human breast carcinomas with HER-2-neu amplification. *Br J Cancer* 1991;63(5):727-35.
- Meyers MB. Sorcin is a cardiac calcium-binding protein [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2007.
- Meyers MB, Shen WPV, Spengler BA, Ciccarone V, O'Brien JP, Donner DB, Furth ME, Biedler JL. Increased epidermal growth factor receptor in multidrug-resistant human neuroblastoma cells. *J Cell Biochem* 1988;38(2):87-98.
- Michaeli J, Lebedev YB, Leng L, Tong WP, Richon VM, Marks PA, Rifkind RA. A multidrug resistance (MDR) phenotype in response to phorbol ester: role of P-glycoprotein and protein kinase C beta (PKC-beta) [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1990;31:A2224.

- Mimnaugh EG, Sinha BK, Rajagopalan S, Myers CE. Subcellular sites of enzymatic doxorubicin activation, oxyradical production and detoxification in sensitive and multidrug resistant MCF-7 human breast tumors [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2233.
- Mirski SE, Cole SP. Antigens associated with multidrug resistance in H69AR, a small cell lung cancer cell line. *Cancer Res* 1989 Oct 15;49(20):5719-24.
- Mirski SE, Cole SP. Antigens associated with the development of resistance in H69AR, a multidrug-resistant small cell lung cancer cell line [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2043.
- Misset JL. Clinical aspect of drug modulation and potentiation. In: Tapiero H, Robert J, Lampidis TJ, editors. *1st International Interface of Clinical and Laboratory Responses to Anticancer Drugs*; 1989 Mar 13-15; Villejuif, France. Paris: Les Editions Inserm; 1989. p. 65-76. (Colloque INSERM; 191).
- Mitchell JB, Gamson J, Russo A, Friedman N, Degraff W, Carmichael J, Glatstein E. Chinese hamster pleiotropic multidrug-resistant cells are not radioresistant. *NCI Monogr* 1988;(6):187-92.
- Mitchell JB, Glatstein E, Cowan KH, Russo A. Photodynamic therapy of multi-drug resistant cell lines [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1254.
- Miyachi H, Takemura Y, Kobayashi H, Ohnuma T. CB3717 induced enhancement of multidrug resistance (MDR) in a trimetrexate (TMQ)-resistant human acute lymphoblastic leukemia cell line [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1990;31:A2251.
- Miyamoto K, Wakusawa S, Nakamura S, Koshiura R, Otsuka K, Naito K, Hagiwara M, Hidaka H. Circumvention of multidrug resistance in P388 murine leukemia cells by a novel inhibitor of cyclic AMP-dependent protein kinase, H-87. *Cancer Lett* 1990 May 15;51(1):37-42.
- Mizuno K, Furuhashi Y, Maeda O, Iwata M, Misawa T, Kawai M, Kano T, Tomoda Y. Mitomycin C cross-resistance induced by adriamycin in human ovarian cancer cells in vitro. *Cancer Chemother Pharmacol* 1990;26(5):333-9.
- Moalli PA, Leikin RE, Rosen ST, Harmon JM. A mechanism of resistance to glucocorticoids in multiple myeloma [abstract]. *Blood* 1990; 76(10 Suppl 1):364a.
- Morikage T, Bungo M, Inomata M, Yoshida M, Ohmori T, Fujiwara Y, Nishio K, Saijo N. Reversal of cisplatin resistance with amphotericin B in a non-small cell lung cancer cell line. *Jpn J Cancer Res* 1991 Jun;82(6):747-51.
- Morikawa K, Morikawa R, Killion JJ, Fan D, Fidler IJ. Isolation of human colon carcinoma cells for resistance to a single interferon associated with cross-resistance to multiple recombinant interferons: alpha, beta, and gamma. *J Natl Cancer Inst* 1990 Mar 21;82(6):517-22.
- Moy BC, Petzold GL, Badiner GJ, Kelly RC, Aristoff PA, Adams EG, Li LH, Bhuyan BK. Characterization of B16 melanoma cells resistant to the CC-1065 analogue U-71,184. *Cancer Res* 1990 Apr 15;50(8):2485-92.
- Multidrug resistance in cancer. *Lancet* 1989 Nov 4; 2(8671):1075-6.
- Munck JN, Laval F, Tapiero H. Increase in poly adp ribosyl transferase activity and selective toxicity of agents interacting with this enzyme in adriamycin (adm) resistant cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1156.
- Myers CE. Anthracyclines. *Cancer Chemother Biol Response Modif* 1988;10:33-9.
- Nagourney RA, Messenger JC, Kern DH, Weisenthal LM. In vitro enhancement of doxorubicin (DOX) and nitrogen mustard (NM) cytotoxicity in drug-resistant human neoplasms by ehtacrynic acid (EA) [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2283.
- Neale ML, Matthews N. Development of tumour cell resistance to tumour necrosis factor does not confer resistance to cytotoxic drugs. *Eur J Cancer Clin Oncol* 1989 Jan;25(1):133-7.
- Niethammer D, Diddens H, Gekeler V, Frese G, Handgretinger R, Henze G, Schmidt H, Probst H. Resistance to methotrexate and multidrug resistance in childhood malignancies. *Adv Enzyme Regul* 1989;29:231-45.
- Niimi S, Nakagawa K, Sugimoto Y, Nishio K, Fujiwara Y, Yokoyama S, Terashima Y, Saijo N. Mechanism of cross-resistance to a camptothecin analogue (CPT-11) in a human ovarian cancer cell line selected by cisplatin. *Cancer Res* 1992 Jan 15; 52(2):328-33.
- Nooter K, Herweijer H, Sonneveld P, Verweij J, Hagenbeek A, Stoter G. Detection of multidrug resistance (MDR) in refractory cancer patients [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2092.
- Nygren P, Larsson R, Gruber A, Peterson C, Bergh J. Doxorubicin selected multidrug-resistant small cell lung cancer cell lines characterised by elevated

- cytoplasmic Ca²⁺ and resistance modulation by verapamil in absence of P-glycoprotein overexpression. *Br J Cancer* 1991 Dec;64(6):1011-8.
- Ohsaki Y, Ishida S, Fujikane T, Akiba Y, Osanai S, Onodera S. [Combination effect of caffeine and cisplatin on a cisplatin resistant human lung cancer cell line]. *Gan To Kagaku Ryoho* 1990 Jul;17(7):1339-43. (Jpn).
- Ohtsu T, Ishida Y, Tobinai K, Minato K, Hamada H, Ohkochi E, Tsuruo T, Shimoyama M. A novel multidrug resistance in cultured leukemia and lymphoma cells detected by a monoclonal antibody to 85-kDa protein, MRK20. *Jpn J Cancer Res* 1989 Nov;80(11):1133-40.
- Ozols RF, Hamilton TC, Fojo AT, Lai GM, Rothenberg M, Young RC. Reversal of alkylating agent and platinum resistance in ovarian cancer [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:526-7.
- Pain J, Sirotiak FM, Barrueco JR, Yang CH, Biedler JL. Altered molecular properties of tubulin in a multidrug-resistant variant of Chinese hamster cells selected for resistance to vinca alkaloids. *J Cell Physiol* 1988;136(2):341-7.
- Park SC, Kim EG, Kwak SJ, Kim SO, Woo KM, Kim SH, Rha YH, Lee KU, Kim ST. Induction and mechanism of drug-resistance in experimental hepatocarcinogenesis and human hepatoma tissues expression of *mdr* and cytochrome P-450. *Korean J Biochem* 1989;21(1):13-20.
- Parrish PR, Cress AE, Gleason MC, Bellamy WT, Dalton WS. Enhanced drug efflux in mitoxantrone-resistant human cells (MCF7/MITOX) is not attributed to P-glycoprotein (P-gp) [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1990;31: A2241.
- Patterson JE, Zervos MJ. High-level gentamicin resistance in *Enterococcus*: microbiology, genetic basis, and epidemiology. *Rev Infect Dis* 1990 Jul-Aug;12(4):644-52.
- Pauwels-Vergely C, Poupon MF. Chlorozotocin-induced selection of autocrine and multidrug resistant variants from a rat rhabdomyosarcoma. *Anticancer Res* 1988;8(1):137-44.
- Pelletier H, Millot JM, Chauffert B, Manfait M, Genne P, Martin F. Mechanisms of resistance of confluent human and rat colon cancer cells to anthracyclines: alteration of drug passive diffusion. *Cancer Res* 1990 Oct 15;50(20):6626-31.
- Phillips PC. Antineoplastic drug resistance in brain tumors. *Neurol Clin* 1991 May;9(2):383-404.
- Pieters R, Loonen AH, Huismans DR, Broxterman HJ, Veerman AJ. Drug resistance in children with leukemia [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1990;31:A1202.
- Pilantanapak A, Bhumiratana A, Jayanetra P, Panbangred W. Biotinylated probes for epidemiological studies of drug resistance in *Salmonella krefeld*. *J Antimicrob Chemother* 1990 Apr;25(4):593-603.
- Pitcher D, Johnson A, Allerberger F, Woodford N, George R. An investigation of nosocomial infection with *Corynebacterium jeikeium* in surgical patients using a ribosomal RNA gene probe. *Eur J Clin Microbiol Infect Dis* 1990 Sep;9(9):643-8.
- Plumb JA, Milroy R, Bicknell SR, Kaye SB. Glutathione-S-transferase (GST), P-glycoprotein, and drug resistance in small-cell lung cancer (SCLC) cell lines [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1990;31:A2185.
- Posada J, Vichi P, Tritton TR. Protein kinase C in adriamycin action and resistance in mouse sarcoma 180 cells. *Cancer Res* 1989 Dec 1;49(23):6634-9.
- Posada JA, McKeegan EM, Worthington KF, Morin MJ, Jaken S, Tritton TR. Human multidrug resistant KB cells overexpress protein kinase C: involvement in drug resistance. *Cancer Commun* 1989;1(5):285-92.
- Poyart-Salmeron C, Carlier C, Trieu-Cuot P, Courtieu AL, Courvalin P. Transferable plasmid-mediated antibiotic resistance in *Listeria monocytogenes*. *Lancet* 1990 Jun 16;335(8703):1422-6.
- Rachkova M. Drug resistance and drug toxicity depending on tyrosinase activity [abstract]. *Eur J Cancer* 1991;27 Suppl 3:S44.
- Ragaz J, Goldie J, Coldman A, Simpson-Herren L, Barnett M, Phillips G. Kinetic and biological effects of high-dose intensity consolidation chemotherapy (HDICC) regimens for solid tumors requiring autologous bone marrow (ABM)-peripheral stem cell (PBSC) support. Rationale for multiple transplants [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1991;10:A301.
- Rahman A, Madhu M, Siddiqui J, Yokozaki H, Clair T, Tortora G, Cho-Chung YS, Center M, Glazer RI. Potentiation of the cytotoxicity of adriamycin by 8-Cl-cAMP in multidrug resistant HL-60 leukemia cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2217.
- Ramachandran C, Wellham L, Sridhar KS, Krishan A. MDR-1 gene, P-glycoprotein, and doxorubicin cytotoxicity in human lung tumor cell lines

- [abstract]. Proc Annu Meet Am Assoc Cancer Res 1991;32:A2168.
- Ramu A, Ramu N, Gorodetsky R. Reduced ouabain-sensitive potassium entry as a possible mechanism of multidrug-resistance in P388 cells. *Biochem Pharmacol* 1991 Oct 9;42(9):1699-704.
- Redmond A, Moran E, Clynes M. Analysis of the mechanism of resistance of 7 novel MDR variants. *Biochem Soc Trans* 1992;20(1):57s.
- Redmond S, Joncourt F, Buser K, Joss RA, Cerny T. Drug resistance mechanisms in patients with colon or breast cancer [abstract]. Proc Annu Meet Am Assoc Cancer Res 1990;31:A2189.
- Reeve JG, Rabbitts PH, Twentyman PR. Non-P-glycoprotein-mediated multidrug resistance with reduced EGF receptor expression in a human large cell lung cancer cell line. *Br J Cancer* 1990 Jun; 61(6):851-5.
- Rhodes T, Twentyman PR. Effects of cyclosporin A and verapamil on cellular pharmacokinetics and chemosensitivity in an MDR cell line which does not express P-glycoprotein [abstract]. *Br J Cancer* 1991;63 Suppl 13:12.
- Rhodes T, Twentyman PR. A study of ethacrynic acid as a potential modifier of melphalan and cisplatin sensitivity in human lung cancer parental and drug-resistant cell lines. *Br J Cancer* 1992 May;65(5): 684-90.
- Richon VM, Weich N, Leng L, Kiyokawa H, Ngo L, Rifkind RA, Marks PA. Characteristics of erythroleukemia cells selected for vincristine resistance that have accelerated inducer-mediated differentiation. *Proc Natl Acad Sci U S A* 1991 Mar 1;88(5):1666-70.
- Riou GF, Zhou D, Ahomadegbe JC, Gabillot M, Duvillard P, Lhomme C. Expression of multidrug-resistance (MDR1) gene in normal epithelia and in invasive carcinomas of the uterine cervix. *J Natl Cancer Inst* 1990 Sep 19; 82(18):1493-6. Published erratum appears in *J Natl Cancer Inst* 1990 Nov 7; 82(21):1724.
- Rivoltini L, Colombo MP, Supino R, Ballinari D, Tsuruo T, Parmiani G. Modulation of multidrug resistance by verapamil or mdrl anti-sense oligodeoxynucleotide does not change the high susceptibility to lymphokine-activated killers in mdr-resistant human carcinoma (LoVo) line. *Int J Cancer* 1990 Oct 15;46(4):727-32.
- Ro J, Sahin A, Ro JY, Fritsche H, Hortobagyi G, Blick M. Immunohistochemical analysis of P-glycoprotein expression correlated with chemotherapy resistance in locally advanced breast cancer. *Hum Pathol* 1990 Aug;21(8):787-91.
- Roberts D, Meyers MB, Biedler JL, Wiggins LG. Association of sorcin with drug resistance in L1210 cells. *Cancer Chemother Pharmacol* 1988;23(1): 19-25.
- Robey-Cafferty SS, Ajani JA, Ota DM, Roth JA, Bruner JM. Histologic observations and P-glycoprotein expression in gastric and esophageal adenocarcinomas treated with preoperative chemotherapy. *Arch Pathol Lab Med* 1991 Aug; 115(8):807-12.
- Rosteck PR Jr, Reynolds PA, Hershberger CL. Homology between proteins controlling *Streptomyces fradiae* tylosin resistance and ATP-binding transport. *Gene* 1991 Jun 15;102(1):27-32.
- Rowinsky EK. Current developments in antitumor antibiotics epipodophyllotoxins and vinca alkaloids. *Curr Opin Oncol* 1991;3(6):1060-9.
- Runde V, Aul G, Hoeller A, Heyll A, Schneider W. Multidrug resistance in myelodysplastic syndromes, acute leukemia, and chronic myeloid leukemia [abstract]. *Onkologie* 1991;14 Suppl 2:135.
- Saito Y, Nakada Y, Hotta T, Mikami T, Kurisu K, Yamada K, Kiya K, Kawamoto K, Uozumi T. Cross resistance patterns in ACNU-resistant glioma sublines in culture. *J Neurosurg* 1991;75(2): 277-83.
- Sakata K, Kwok TT, Murphy BJ, Laderoute KR, Gordon GR, Sutherland RM. Hypoxia-induced drug resistance: comparison to P-glycoprotein-associated drug resistance. *Br J Cancer* 1991 Nov; 64(5):809-14.
- Samuels B, Ratain M, Mick R, Vogelzang NJ, Schilsky R, O'Brien S, Harrison H. Phase I trial of multidrug resistance modulation with cyclosporine A [abstract]. Proc Annu Meet Am Assoc Cancer Res 1991;32:A1163.
- Sanchez Fayos J, Prieto E, Roman A, Olavarria E. Mieloma multiple: opciones terapeuticas [The treatment of multiple myeloma]. *An Med Interna* 1992;9(Spec Iss):112-8. (Spa).
- Santostasi G, Kutty RK, Krishna G. Increased toxicity of anthracycline antibiotics induced by calcium entry blockers in cultured cardiomyocytes. *Toxicol Appl Pharmacol* 1991 Mar 15;108(1):140-9.
- Sato W, Yusa K, Naito M, Tsuruo T. Staurosporine, a potent inhibitor of C-kinase, enhances drug accumulation in multidrug-resistant cells. *Biochem Biophys Res Commun* 1990 Dec 31;173(3):1252-7.

- Sauter C. [Interactions of cytostatic agents with other drugs]. *Schweiz Med Wochenschr* 1991 Aug 31; 121(35):1249-53. (Ger).
- Scheck AC, Beikman MK, Korn MC, Shapiro JR. Regional analysis of genes potentially involved in resistance to BCNU in human malignant gliomas [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2125.
- Scheper RJ, Broxterman HJ, Scheffer GL, Baas F, Meijer CJ, Pinedo HM. New mechanism of multidrug resistance is associated with overexpression of 110-KD vesicular protein [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2738.
- Scheper RJ, Broxterman HJ, Scheffer GL, Dalton WS, Dietel M, van Kalken CK, Slovak ML, de Vries EG, van der Valk P, Meijer CJ, et al. Different human multidrug-resistant (MDR) cell lines not expressing P-glycoprotein (P-gp) share a cytoplasmic protein recognized by monoclonal antibody LRP56 [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2198.
- Schott B, Vrignaud P, Ries C, Londos-Gagliardi D, Robert J. Cellular pharmacology of 4' deoxy-4'-iododoxorubicin and its 13 dihydro derivative in a model of wild and multidrug resistant rat glioblastoma cells [abstract]. *Invest New Drugs* 1989;7(4):391.
- Schuetz E, Schaffer D, Flanigan K, Stromm S, Cowan K, Schuetz J. Effect of matrix on expression of multidrug resistance in cultured rat and human hepatocytes [abstract]. *Hepatology* 1989;10(4):606.
- Schuurhuis GJ, Broxterman HJ, Pinedo HM, Ossenkoppele GJ, Baak JP, van Heijningen TH, Kuiper CM, van Kalken CK, Lankelma J. Multidrug-resistance phenotype in acute myeloid leukemia, characterized by altered subcellular drug distribution and decreased drug accumulation, independent of P-glycoprotein [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2715.
- Schwartz GK, Arkin H, Holland JF, Ohnuma T. Protein kinase C (PKC) activity and the effects of staurosporine (STS) in a multidrug-resistant (MDR) human acute lymphoblastic leukemia cell line [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2111.
- Sehested M, Friche E, Jensen PB, Demant E, Skovsgaard T. VP-16 transport and binding in wild type and multidrug-resistant Ehrlich ascites tumor cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1990;31:A2201.
- Seidman AD, Scher HI. The evolving role of chemotherapy for muscle infiltrating bladder cancer. *Semin Oncol* 1991 Dec;18(6):585-95.
- Shalinsky DR, Andreeff M, Howell SB. Modulation of drug sensitivity by dipyrindamole in multidrug resistant tumor cells in vitro. *Cancer Res* 1990 Dec 1;50(23):7537-43.
- Sharma RC, Assaraf YG, Schimke RT. A phenotype conferring selective resistance to lipophilic antifolates in Chinese hamster ovary cells. *Cancer Res* 1991 Jun 1;51(11):2949-59.
- Sharma RC, Assaraf YG, Schimke RT. Verapamil potentiation of trimetrexate cytotoxicity and dihydrofolate reductase gene amplification in CHO cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1990;31:A2012.
- Sherwood SW, Assaraf YG, Molina A, Schimke RT. Flow cytometric characterization of antifolate resistance in cultured mammalian cells using fluoresceinated methotrexate and daunorubicin. *Cancer Res* 1990 Aug 15;50(16):4946-50.
- Shibata H, Furusawa S, Kawauchi H, Sasaki K, Takayanagi Y. [Modulation of anthracycline resistance by reserpine in P388 leukemia cells]. *Nippon Yakurigaku Zasshi* 1991 Jul;98(1):1-6. (Jpn).
- Shiryayeva OA, Semenova NA, Sibel'Dina LA, Goncharova SA, Konovalova NP. [The study of phosphorus-containing metabolites in anthracycline-resistant murine leukemia P388 cells]. *Eksp Onkol* 1989;11(4):70-3. (Rus).
- Shoji Y, Fisher MH, Periasamy A, Herman B, Juliano RL. Verapamil and cyclosporin A modulate doxorubicin toxicity by distinct mechanisms. *Cancer Lett* 1991 May 24;57(3):209-18.
- Shyamala V, Baichwal V, Beall E, Ames GF. Structure-function analysis of the histidine permease and comparison with cystic fibrosis mutations. *J Biol Chem* 1991 Oct 5;266(28):18714-9.
- Siddiqui J, Madhu M, Center M, Glazer R, Dritschilo A, Rahman A. Modulation of multidrug resistance in HL-60 leukemia cells by adriamycin encapsulated in liposomes [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2230.
- Sinha BK, Atwell J, Politi PM. Role of oxygen free radical formation in the mechanism of menogaril resistance in multidrug resistant tumor cells. *Chem Biol Interact* 1990;76(1):89-99.
- Skalski V, Yarosh DB, Batist G, Gros P, Feindel W, Kopriva D, Panasci LC. Mechanisms of resistance to (2-chloroethyl)-3-sarcosinamide-1-nitrosourea (SarCNU) in sensitive and resistant human glioma cells. *Mol Pharmacol* 1990 Sep;38(3):299-305.
- Slapak CA, Daniel JC, Levy SB. Sequential emergence of distinct resistance phenotypes in murine erythroleukemia cells under adriamycin selection: decreased anthracycline uptake precedes increased

- P-glycoprotein expression. *Cancer Res* 1990 Dec 15;50(24):7895-901.
- Slapak CA, Kharbanda S, Kufe DW. Selective loss of jun-B and C-jun induction in multidrug-resistant human leukemia cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1992;33:A2729.
- Slater LM, Sweet P, Hsu TC, Chan PK. Novel nucleolar and nuclear morphology in a vincristine-dependent human leukemia cell line (L100). *Exp Cell Res* 1992 Jan;198(1):170-4.
- Slater LM, Wetzel M, Cho J, Sweet P. Development of cyclosporin A mediated immunity in L1210 leukaemia. *Br J Cancer* 1991 Dec;64(6):1098-102.
- Slovak ML, Coccia M, Meltzer PS, Trent JM. Molecular analysis of two human doxorubicin-resistant cell lines: evidence for differing multidrug resistance mechanisms. *Anticancer Res* 1991 Jan-Feb;11(1):423-8.
- Smith PJ, Morgan SA, Watson JV. Detection of multidrug resistance and quantification of responses of human tumour cells to cytotoxic agents using flow cytometric spectral shift analysis of Hoechst 33,342-DNA fluorescence. *Cancer Chemother Pharmacol* 1991;27(6):445-50.
- Sognier MA, Eberle RL, Zhang Y, Belli JA. Interaction between radiation and drug damage in mammalian cells. V. DNA damage and repair induced in LZ cells by adriamycin and/or radiation. *Radiat Res* 1991 Apr;126(1):80-7.
- Speicher LA, Sheridan VR, Godwin AK, Tew KD. Resistance to the antimetabolic drug estramustine is distinct from the multidrug resistant phenotype. *Br J Cancer* 1991 Aug;64(2):267-73.
- Spies T, DeMars R. Restored expression of major histocompatibility class I molecules by gene transfer of a putative peptide transporter. *Nature* 1991; 351(6324):323-4.
- Stuart N, Houlbrook S, Kirk J, Philip P, Lien E, Harris A, Carmichael J. Tamoxifen as an enhancer of etoposide cytotoxicity in lung cancer: in vitro and clinical effects [abstract]. *Br J Cancer* 1991; 63 Suppl 13:13.
- Sugawara I, Ikeuchi T, Fukuchi K, Yoshikai Y, Sugiyama H, Kodo H, Mori S. Establishment and characterization of a non-T, non-B cell lymphoma cell line with T cell receptor beta- and gamma-chain gene rearrangement and possessing MRK 20 monoclonal antibody-defined 85KD protein. *Hum Cell* 1990 Mar;3(1):57-64.
- Sugawara I, Iwahashi T, Okamoto K, Sugimoto Y, Ekimoto H, Tsuruo T, Ikeuchi T, Mori S. Characterization of an etoposide-resistant human K562 cell line, K/eto. *Jpn J Cancer Res* 1991 Sep;82(9):1035-43.
- Sugawara I, Kodo H, Ohkochi E, Hamada H, Tsuruo T, Mori S. High-level expression of MRK 16 and MRK 20 murine monoclonal antibody-defined proteins (170,000-180,000 P-glycoprotein and 85,000 protein) in leukaemias and malignant lymphomas. *Br J Cancer* 1989 Oct;60(4):538-41.
- Sugawara I, Mizumoto K, Ohkochi E, Hamada H, Tsuruo T, Mori S. Immunocytochemical identification and localization of the Mr 22,000 calcium-binding protein (sorcin) in an adriamycin-resistant myelogenous leukemia cell line. *Jpn J Cancer Res* 1989 May;80(5):469-74.
- Sugimoto Y, Okochi E, Hamada H, Oh-hara T, Tsuruo T. Detection of 300-kilodalton membrane protein in adriamycin-resistant human tumor cells by a monoclonal antibody MRK18. *Biochem Biophys Res Commun* 1990 Jun 15;169(2):686-91.
- Sullivan DM, Webb CD, Cardwell EM, Latham MD, Lock RB. Mechanisms of resistance to DNA topoisomerase II inhibitors [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2067.
- Sunkara PS, Zwolshen JH, Stemerick DM, Edwards ML. 1-(2,5-dimethoxy phenyl)-3-[4(dimethylamino)phenyl]-2-methyl-2-propen-1-one (DDMP, MDL 27,048): novel antimetabolic agent with activity against vinca alkaloid resistant tumors [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A1954.
- Tagger AY, Wright JA. Molecular and cellular characterization of drug resistant hamster cell lines with alterations in ribonucleotide reductase. *Int J Cancer* 1988;42(5):760-6.
- Takeda Y, Nishio K, Sugimoto Y, Kasahara K, Kubo S, Fujiwara Y, Niitani H, Saijo N. Establishment of a human leukemia subline resistant to the growth-inhibitory effect of 12-O-tetradecanoylphorbol 13-acetate (TPA) and showing non-P-glycoprotein-mediated multi-drug resistance. *Int J Cancer* 1991 Jul 30;48(6):931-7.
- Takemura Y, Ohnuma T, Miyachi H, Sekiguchi S. A human leukemia cell line made resistant to two folate analogues, trimetrexate and N10-propargyl-5,8-dideazafoolic acid (CB3717). *J Cancer Res Clin Oncol* 1991;117(6):519-25.
- Tapiero H, Fourcade A, Nishiyama M, Horichi N, Saijo N, Lampidis TJ. Relationship between the accumulation of structurally different anthracyclines, cytotoxicity, DNA damage and repair in dox-sensitve and resistant cells [abstract]. *Anticancer Res* 1990;10(5B):1401-2.
- Taylor CW, Dalton WS, Parrish PR, Gleason MC, Bellamy WT, Thompson FH, Roe DJ, Trent JM.

- Different mechanisms of decreased drug accumulation in doxorubicin and mitoxantrone resistant variants of the MCF7 human breast cancer cell line. *Br J Cancer* 1991 Jun;63(6):923-9.
- Tomida A, Tatsuta T, Suzuki H. Novel mechanism of N-solaneyl-N,N'-bis(3,4-dimethoxybenzyl)ethylenediamine in potentiation of antitumor drug action on multidrug-resistant and sensitive Chinese hamster cells. *Jpn J Cancer Res* 1991 Jan;82(1):127-33.
- Torres-Garcia S, Panasci L, DeMuys JM, Greene D, Lehnert S, Batist G. Enhanced repair mechanism in a melphalan (MLN) resistant human breast cancer cell line, and also in multi-drug resistant (MDR) cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1988;29:A1236.
- Treichel RS, Olken S. The relationship between multi-drug resistance and resistance to natural-killer-cell and lymphokine-activated killer-cell lysis in human leukemic cell lines. *Int J Cancer* 1992 Jan 21; 50(2):305-10.
- Treupel L, Poupon MF, Couvreur P, Puisieux F. [Vectorisation of doxorubicin in nanospheres and reversion of pleiotropic resistance of tumor cells]. *C R Acad Sci III* 1991;313(3):171-4. (Fre).
- Tritton TR. Signal transduction mechanisms in anticancer drug action and resistance [abstract]. *Br J Cancer* 1991;63 Suppl 13:4.
- Tsuruo T. Chemotherapeutic targets for the modulation of multidrug resistance. Paper presented at: 1st International Interface of Clinical and Laboratory Responses to Anticancer Drugs; 1989 Mar 13-15; Villejuif, France.
- Vaughan WP, Bierman PJ, Reed EC, Vose J, Kessinger A, Armitage JO. High-dose hydroxyurea (HU) incorporation into autologous marrow transplant (ABMT) regimens [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1991;10:A344.
- Vera JC, Castillo GR, Rosen OM. A possible role for a mammalian facilitative hexose transporter in the development of resistance to drugs. *Mol Cell Biol* 1991;11(7):3407-18.
- Versantvoort CH, Broxterman HJ, Pinedo HM, de Vries EG, Feller N, Kuiper CM, Lankelma J. Energy-dependent processes involved in reduced drug accumulation in multidrug-resistant human lung cancer cell lines without P-glycoprotein expression. *Cancer Res* 1992 Jan 1;52(1):17-23.
- Verweij J, Herweijer H, Oosterom R, van der Burg ME, Planting AS, Seynaeve C, Stoter G, Nooter K. A phase II study of epidoxorubicin in colorectal cancer and the use of cyclosporin-A in an attempt to reverse multidrug resistance. *Br J Cancer* 1991 Aug;64(2):361-4.
- Vickers PJ, Dufresne MJ, Cowan KH. Relation between cytochrome p-450-1a1 expression and estrogen receptor content of human breast cancer cells. *Mol Endocrinol* 1989;3(1):157-64.
- Wadler S, Wiernik PH. Partial reversal of doxorubicin resistance by forskolin and 1,9-dideoxyforskolin in murine sarcoma S180 variants. *Cancer Res* 1988; 48(3):539-43.
- Wakusawa S, Nakamura S, Aritsuka K, Miyamoto KI, Koshiura R, Hagiwara M, Hidaka H. Effect of protein kinase inhibitors on the drug-efflux system in multidrug-resistant tumor cells [abstract]. *Jpn J Pharmacol* 1990;52 Suppl 1:86P.
- Ward CL, Krouse MW, Gruenert DC, Kopito RR, Wine JJ. Cystic fibrosis gene expression is not correlated with rectifying chloride channels. *Proc Natl Acad Sci U S A* 1991;88(12):5277-81.
- Ward NE, O'Brian CA. Distinct patterns of phorbol-ester-induced downregulation of protein kinase C activity in adriamycin-selected multidrug resistant and parental murine fibrosarcoma cells. *Cancer Lett* 1991;58(3):189-94.
- Warr JR, Atkinson GF. Genetic aspects of resistance to anticancer drugs. *Physiol Rev* 1988;68(1):1-26.
- Watanabe M, Komeshima N, Naito M, Isoe T, Otake N, Tsuruo T. Cellular pharmacology of MX2, a new morpholino anthracycline, in human pleiotropic drug-resistant cells. *Cancer Res* 1991 Jan 1;51(1): 157-61.
- Watanabe Y, Takano H, Kiue A, Kohno K, Kuwano M. Potentiation of etoposide and vincristine by two synthetic 1,4-dihydropyridine derivatives in multidrug-resistant and atypical multidrug-resistant human cancer cells. *Anticancer Drug Des* 1991 Feb;6(1):47-57.
- Waud WR, Harrison SD Jr, Temple CG Jr, Griswold DP Jr. Antitumor drug cross-resistance in vivo in a murine P388 leukemia resistant to ethyl 5-amino-1,2-dihydro-2-methyl-3-phenylpyrido[3,4-b]pyrazin-7-ylcarbamate 2-hydroxyethanesulfonate hydrate (NSC 370,147) 370147. *Cancer Chemother Pharmacol* 1992;29(3):190-4.
- Wellems TE, Panton LJ, Gluzman IY, do Rosario VE, Gwadz RW, Walker-Jonah A, Krogstad DJ. Chloroquine resistance not linked to mdr-like genes in a *Plasmodium falciparum* cross. *Nature* 1990 May 17;345(6272):253-5.
- Wellhoner HH, Neville DM Jr, Srinivasachar K, Erdmann G. Uptake and concentration of bioactive macromolecules by K562 cells via the transferrin

- cycle utilizing an acid-labile transferrin conjugate. *J Biol Chem* 1991 Mar 5;266(7): 4309-14.
- Whelan JS, Phear GA, Rohatiner AZ, Lister TA, Meuth M. DNA sequence determination of CTP synthetase mutations in ara-C-resistant hamster cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2104.
- Wilson WH, Bryant G, Bates S, Fojo T, Stevenson MA, Kohler D, Chabner BA. Infusional etoposide (E), vincristine (O) and adriamycin (H) with cyclophosphamide (C), prednisone (P) (EPOCH) and R-verapamil (RV) in relapsed lymphoma [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1991;10:A956.
- Wishart GC, Plumb JA, Spandidos DA, Kerr DJ. H-RAS transfection in mink lung epithelial cells may induce atypical multidrug resistance. *Eur J Cancer* 1991;27(5):673.
- Workman P, Donaldson J. Membrane-active ether lipid SRI 62-834: in vitro antitumor activity alone or in combination with doxorubicin [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1990;31:A2083
- Wright JA, Chan AK, Choy BK, Hurta RA, McClarty GA, Tagger AY. Regulation and drug resistance mechanisms of mammalian ribonucleotide reductase, and the significance to DNA synthesis. *Biochem Cell Biol* 1990 Dec;68(12):1364-71.
- Wyss PA, Moor MJ, Mathis GA, Bickel MH. Significance of amiodarone (AM) and its metabolites in rat tissues after single dose administration [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2056.
- Yahanda AM, Adler KM, Hardy R, Brophy NA, Halsey J, Sikic BI. A phase I trial of etoposide (E) with cyclosporine (CSA) as a modulator of multidrug resistance (MDR) [abstract]. *Proc Annu Meet Am Soc Clin Oncol* 1991;10:A276.
- Yang KH, Kim SM. [An analysis of plasmid DNA fingerprint of multidrug resistant pseudomonas-aeruginosa]. *J Cathol Med Coll* 1990;43(2):729-40. (Kor).
- Yang KP, Liang YF, Samaan NA. Intrinsic drug resistance in a human medullary thyroid carcinoma cell line: association with overexpression of mdrl gene and low proliferation fraction. *Anticancer Res* 1991;11(3):1065-8.
- Yang LY, Trujillo JM. Biological characterization of multidrug-resistant human colon carcinoma sublines induced/selected by two methods. *Cancer Res* 1990 Jun 1;50(11):3218-25.
- Yeh GC, Chou JY, Jamis-Dow CA, Occhipinti SJ, Myers CE. Genetic and biochemical differences of glucose-6-phosphate dehydrogenase in adriamycin-sensitive and -resistant human breast cancer cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2087.
- Yeh GC, Occhipinti SJ, Myers CE. Biochemical changes of glucose metabolism in adriamycin-sensitive and -resistant human breast cancer MCF-7 cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1990;31:A2235.
- Yin MB, Bankusli I, Rustum YM. Effect of verapamil, DMDP (RO11-2933), a tiapamil analog, and dipyrindamole, a nucleoside transport inhibitor, on the extent and duration of doxorubicin-induced DNA single strand breaks in multidrug-resistant P-388 cells [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1989;30:A2103.
- Yokozaki H, Clair T, Tortora G, Pepe S, Glazer R, Cho-Chung YS. Site-selective camp analogs inhibit the growth of multidrug resistant cell lines and suppress the expression of P-glycoprotein [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2232.
- Yu G, Ahmad S, Aquino A, Fairchild CR, Trepel JB, Ohno S, Suzuki K, Tsuruo T, Cowan KH, Glazer RI. Transfection with protein kinase C alpha confers increased multidrug resistance to MCF-7 cells expressing P-glycoprotein. *Cancer Commun* 1991 Jun;3(6):181-9.
- Zalcborg JR, Krauer K, Hur XF, McKenzie IF, Pietersz G. Anthracycline conjugates bypass cellular mechanisms of resistance in multidrug resistant (MDR) cells [abstract]. Paper presented at: Cancer in the 1990's: is more aggressive treatment better? 17th Annual Scientific Meeting of the Clinical Oncological Society of Australia Inc.; 1990 Nov 26-28; Melbourne, Australia.
- Zhang Y, Sweet K, Sognier MA, Belli JA. Simultaneous reversion of radiation sensitivity and adriamycin resistance does not occur in a multidrug-resistant cell line (LZ) [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A2154.
- Zhen W, Link CJ, O'Connor PM, Bohr VA. Formation and repair of cisplatin lesions in specific genes in cisplatin sensitive and resistant human ovarian cancer cell lines [abstract]. *Proc Annu Meet Am Assoc Cancer Res* 1991;32:A37.

MONOGRAPHS

- Abramson, R.; Bhushan, A.; Dolci, E.; Tritton, T. R. The structure of the multidrug resistance P-glycoprotein and its similarity to other proteins. In: Bristol, J. A., editor. Annual reports in medicinal chemistry. Vol. 25. San Diego (CA): Academic Press, Inc.; 1990. p. 253-60.
- Akiyama, Shin-Ichi; Tisgunyram, Akihiko; Ichikawa, Misako; Sumizawa, Tomoyuki; Furukawa, Tatsuhiko. A molecular basis for multidrug-resistance and reversal of the resistance. In: Tabuchi, Kazuo, editor. Biological aspects of brain tumors. 8th Nikko Brain Tumor Conference; 1990 Nov 6-8; Karatsu-shi, Japan. New York: Springer-Verlag; 1991. p. 63-72.
- Bast, Cheryl Barbati. Chromosomal and molecular alterations associated with fibrosarcoma development in the mouse [dissertation]. [Knoxville (TN)]: University of Tennessee; 1989. 179 p. Available from: University Microforms, Ann Arbor, MI; AAD89-19813.
- Bellamy, William Tracy. Mechanisms of doxorubicin resistance in multidrug resistant human myeloma cells [dissertation]. [Tucson (AZ)]: University of Arizona; 1988. 241 p. Available from: University Microforms, Ann Arbor, MI; AAD88-22419.
- Biedler, J. L.; Meyers, M. B.; Spengler, B. A. Cellular concomitants of multidrug resistance. In: Woolley, P. V. 3rd; Tew, K. D., editors. Mechanisms of drug resistance in neoplastic cells; 1986 Oct 15-16; Washington, DC. San Diego (CA): Academic Press, Inc.; 1988. p. 41-68. (Bristol-Myers cancer symposia; 9).
- Biedler, June L.; Meyers, Marian B. Multidrug resistance (vinca alkaloids, actinomycin D, and anthracycline antibiotics). In: Gupta, Radhey S., editor. Drug resistance in mammalian cells. Vol. 2, Anticancer and other drugs. Boca Raton (FL): CRC Press; 1989. Chapter 4.
- Bourhis, J.; Hartmann, O.; Devathaire, F.; Terrier-Lacombe, M. J.; Boccon-Gibod, L.; Lemerle, J.; Riou, G.; Benard, J. Expression of MDR1 and GST-PI genes in 35 advanced neuroblastomas. In: Evans, A. E., et al., editors. Advances in neuroblastoma research 3. 5th Symposium; 1990 May 28-30; Philadelphia, PA. New York: John Wiley and Sons, Inc.; 1991. p. 127-34. (Progress in clinical and biological research; 366).
- Bruchovsky, Nicholas; Goldie, James H., editors. Drug and hormone resistance in neoplasia. Vol. 1, Basic concepts. Boca Raton (FL): CRC Press; 1983. 191 p.
- Bruchovsky, Nicholas; Goldie, James H., editors. Drug and hormone resistance in neoplasia. Vol. 2, Clinical concepts. Boca Raton (FL): CRC Press; 1983. 167 p.
- Cheng, Heng-Jie. The studies of mechanisms of multidrug resistance in murine pancreatic carcinoma [dissertation]. [Detroit (MI)]: Wayne State University; 1991. 186 p. Available from University Microforms, Ann Arbor, MI; AAD91-27214.
- Chin, Janice Elaine. Structure and expression of the human *mdr* (P-glycoprotein) gene family [dissertation]. [Chicago]: University of Illinois at Chicago, Health Sciences Center; 1989. 148 p. Available from: University Microforms, Ann Arbor, MI; AAD90-03680.
- Choi, Kyunghee. Characterization of the human multidrug resistance (*mdr1*) gene [dissertation]. [Chicago]: University of Illinois at Chicago; 1988. 176 p. Available from: University Microforms, Ann Arbor, MI; AAD89-14125.
- Chou, T. C.; Rideout, D. C., editors. Synergism and antagonism in chemotherapy. New York: Academic Press; 1991. 752 p.
- Collins, Jerry M.; Chabner, Bruce A. Cancer chemotherapy: principles and practice. Philadelphia: Lippincott; 1990. Expansion of: Chabner, Bruce A. Pharmacologic principles of cancer treatment. Philadelphia: Saunders; 1982.
- Deppe, Gunter, editor. Chemotherapy of gynecologic cancer. New York: Wiley-Liss; 1990.
- Desai, Pankaj Bhaskar. Chemical modulation of the cytotoxicity and redox transformations of mitoxantrone [dissertation]. [Columbia (SC)]: University of South Carolina; 1990. 173 p. Available from: University Microforms, Ann Arbor, MI; AAD91-01451.
- Fairchild, C. R.; Goldsmith, M. E.; Cowan, K. H. Molecular biology of antineoplastic drug resistance. In: Cossman, J., editor. Molecular genetics in cancer diagnosis. New York: Elsevier; 1990. p. 113-41.
- Fine, R. L.; Patel J.; Carmichael, J.; Chabner, B. A. Multidrug resistance in human cancer cells: changes in protein phosphorylation and protein kinase. In: Zenser, T.V.; Coe, R. M., editors. Cancer and aging: progress in research and treatment. New York: Springer Publishing; 1989. p. 158-70.
- The 1st International Symposium on Immunobiology of Renal Cell Carcinoma; 1989 Nov 6-7; Cleveland, OH. [Cleveland]: Cleveland Clinic Foundation and Cancer Center; 1989. 128 p.

- Foote, S. J.; Thompson, J. K.; Marshall, V.; Cowman, A. F.; Biggs, B. A.; Brown, G. V.; Kemp, D. J. The multidrug resistance gene of *Plasmodium falciparum*. Does it mediate chloroquine resistance? In: Agabian, N.; Cerami, A., editors. Parasites: molecular biology, drug and vaccine design; proceedings of a UCLA symposium; 1989 Apr 3-10; Keystone, CO. New York: Wiley-Liss; 1990. p. 325-34. (UCLA symposia on molecular and cellular biology; new series, vol. 130).
- Ghione, Mario; Rausa, Luciano, editors. Resistance to antitumor agents: laboratory and clinical studies: proceedings of a course held at the International School of Pharmacology; 1988 Apr 13-18; Ettore Majorana Centre for Scientific Culture, Italy. New York: Harwood Academic Publishers; 1989. 321 p. (Ettore majorana international life sciences series; 7)
- Glazer, Robert I., editor. Developments in cancer chemotherapy. Boca Raton (FL): CRC Press, Inc.; 1984. Multidrug resistance (MDR); p. 133-8.
- Gottesman, M. M.; Pastan, I. The multidrug resistance MDR1 gene as a selectable marker in gene therapy. In: Cohen-Haguenaer, O.; Boiron, M., editors. Transfert de genes chez l'homme [Human gene transfer]. International Workshop; 1991 Apr 11-13; Gouvieux-Chantilly, France. Paris: Editions Inserm; 1991. p. 185-92. (Colloque INSERM; 219).
- Gottesman, M. M.; Pastan, I.; Akiyama, S. I.; Fojo, A. T.; Shen, D. W.; Ueda, K.; Clark, D. P.; Cardarelli, C. O.; Richert, N. D., et al. Expression amplification and transfer of DNA sequences associated with multidrug resistance. In: Woolley, P. V. 3rd; Tew, K. D., editors. Mechanisms of drug resistance in neoplastic cells; 1986 Oct 15-16; Washington, DC. San Diego (CA): Academic Press, Inc.; 1988. p. 242-58. (Bristol-Myers cancer symposia; 9).
- Greenberger, L. M.; Lothstein L.; Horwitz, S. B. Heterogeneous forms of P-glycoprotein in multidrug resistant J774.2 cells. In: Tapiero, H.; Robert, J.; Lampidis, T. J., editors. 1st International Interface of Clinical and Laboratory Responses to Anticancer Drugs; 1989 Mar 13-15; Villejuif, France. Paris: Les Editions Inserm; 1989. p. 263-76. (Colloque INSERM; 191).
- Hall, Thomas C., editor. Cancer drug resistance; proceedings of a workshop held at the 14th International Congress of Chemotherapy; 1985 Jun 23-28; Kyoto, Japan. New York: Alan R. Liss, Inc.; 1986. 235 p. (Progress in clinical and biological research; vol. 223).
- Handler, J. S.; Horio, M.; Willingham, M.; Pastan, I.; Gottesman, M. M. Polar localization of the multidrug resistance transporter in epithelia results in transepithelial transport of substrates. In: Berliner, R. W.; Honda, N.; Ullrich, K. J., editors. The frontiers of nephrology. International Forum; 1989 Aug 24-25; Tokyo, Japan. Amsterdam: Elsevier Science Publishers; 1990. p. 129-38. (International congress series; 877).
- Hedley, D. W. Flow cytometry and drug resistance. In: Carney, D.; Sikora, K., editors. Genes and cancer. New York: Wiley-Liss; 1990. p. 227-34.
- Horwitz, S. B.; Goei, S.; Greenberger, L.; Lothstein, L.; Mellado, W.; Roy, S. N.; Yang, C. P. H.; Zeheb, R. Multidrug resistance in the mouse macrophage-like cell line J774.2. In: Woolley, P. V. 3rd; Tew, K. D., editors. Mechanisms of drug resistance in neoplastic cells; 1986 Oct 15-16; Washington, DC. San Diego (CA): Academic Press, Inc.; 1988. p. 223-42. (Bristol-Myers cancer symposia; 9).
- Jakobsson, Ann-Helene Solveig. Cytogenetic and molecular analysis of drug resistance in interspecific cell hybrids [dissertation]. [Goteborg (Sweden)]: University of Goteborg, Department of Genetics; 1989. 51 p.
- Kessel, David, editor. Resistance to antineoplastic drugs. Boca Raton (FL): CRC Press; 1989. 448 p.
- Lampidis, T. J.; Fourcade, A.; Tapiero, H. Relationship of membrane potential to acquired and intrinsic multiple drug resistance. In: Jacquillat, C.; Weil, M.; Khayat, D., editors. Chimiotherapie neo-adjuvante [Neo-adjuvant chemotherapy]. 2nd International Congress; 1988 Feb 19-21; Paris. Paris: Les Editions Inserm; 1988. p. 655-60. (Colloque INSERM; 169).
- Ling, V.; Juranka, P. F.; Endicott, J. A.; Deuchars, K. L.; Gerlach, J. H. Multidrug resistance and P-glycoprotein expression. In: Woolley, P. V. 3rd; Tew, K. D., editors. Mechanisms of drug resistance in neoplastic cells; 1986 Oct 15-16; Washington, DC. San Diego (CA): Academic Press, Inc.; 1988. p. 197-210. (Bristol-Myers cancer symposia; 9).
- Lobko, Georgii Nikolaevich; Turbin, N. V.; Porubova, Galia Mikhailovna. Immunogeneticheskie osnovy rezistentnosti opukholei. Minsk: Vysheishaia Shkola; 1980. 176 p. (Rus).
- Magrath, I., editor. New directions in cancer treatment. New York: Springer; 1989. Chemotherapy; p. 119-277.

- Medh, Rheem Dineshray. Mammalian glutathione S-transferases: structure, functions, and role in resistance to antitumor agents [dissertation]. [Galveston]: University of Texas Graduate School of Biomedical Sciences at Galveston; 1990. 272 p. Available from: University microforms, Ann Arbor, MI; AAD91-15934.
- Mellado, Wilfredo. Phosphorylation of the multidrug resistant associated glycoprotein (P-glycoprotein): preparation and characterization of 7-acetyltaxol [dissertation]. [New York]: Yeshiva University; 1988. 161 p.
- Mihich, Enrico, editor. Drug resistance: mechanisms and reversal. New York: John Libbey CIC; 1990. 342 p.
- Moore, R.; Hoskins, J.; Deherdt, S.; Bumol, T. Cloning of full-length human *mdr-1* and its use as a probe to study the expression of *mdr-1* in caco-2 calcium carbonate colorectal carcinoma cells [abstract]. In: Hershberger, C. L.; Queener, S. W.; Hegeman, G., editors. Genetics and molecular biology of industrial microorganisms. 4th ASM Conference; 1988; Bloomington, IN. Washington (DC): American Society for Microbiology; 1989. p. 368.
- Munger, Craig Evans. Biochemical components of anthracycline sensitivity and resistance in the H-35 rat hepatoma cell [dissertation]. [Richmond]: Virginia Commonwealth University; 1991. 165 p. Available from: University Microforms, Ann Arbor, MI; AAD91-28600.
- Ozols, Robert F., editor. Drug resistance in cancer therapy. Boston: Kluwer Academic Publishers; 1989. 210 p. (McGuire, William L., editor. Cancer treatment and research; 48).
- Ozols, Robert F., editor. Molecular and clinical advances in anticancer drug resistance. Boston: Kluwer Academic Publishers; 1991. 308 p. (McGuire, William L., editor. Cancer treatment and research; 57).
- Pastan, I.; Gottesman, M. Drug resistance: biological warfare at the cellular level. In: Broder, S., editor. Molecular foundations of oncology. Baltimore: Williams & Wilkins; 1991. p. 83-93.
- Pastan, I. H.; Gottesman, M. M. Molecular biology of multidrug resistance in human cells. In: Devita, V. T., Jr.; Hellman, S.; Rosenberg, S. A., editors. Important advances in oncology, 4. Philadelphia: Lippincott; 1988. p. 3-16.
- Perry, Michael Clinton, editor. The chemotherapy source book. Baltimore: Williams & Wilkins; c1992. 1172 p.
- Potmesil, Milan; Kohn, Kurt W., editors. DNA topoisomerases in cancer. New York: Oxford University Press; 1991. Part IV, Drug resistance and topoisomerases; p. 249-80.
- Progesterin Action and Progesterone Receptors in Breast Cancer; 1989 Apr 6-7; Washington, DC. [Bethesda (MD)]: National Cancer Institute Organ Systems Program; 1989.
- Roninson, Igor B., editor. Molecular and cellular biology of multidrug resistance in tumor cells. New York: Plenum Press; c1991. 406 p.
- Ruiz, Joseph C. Characterization of the initial products of mammalian gene amplification and the mechanisms of their formation [dissertation]. [San Diego]: University of California, San Diego; 1988. 206 p. Available from: University Microforms, Ann Arbor, MI; AAD89-08002.
- Siemann, D. W.; Keng, P. C. Synergistic interactions at the solid tumor level through targeting of therapies against two or more different tumor cell subpopulations. In: Chou, T. C.; Rideout, D. C., editors. Synergism and antagonism in chemotherapy. New York: Academic Press; 1991. p. 689-713.
- Skovsgaard, Torben. Eksperimentel resistens over for anthracykliner og vincaalkaloider: resistensmekanismer og omgæelse af disse på cellulaert niveau. Kbenhavn: Polyteknisk Forlag; 1981. 64 p. (Dan).
- Teeter, Larry Dean. Phenotypic association of gene amplification with multiple drug resistance in vincristine resistant Chinese hamster ovary cells [dissertation]. [Houston (TX)]: University of Texas Health Science Center at Houston School of Biomedical Science; 1987. 174 p. Available from: University Microforms, Ann Arbor, MI; AAD88-00590.
- Thorgeirsson, S. S. Modulation of gene expression during early stages of chemical hepatocarcinogenesis. In: King, C. M., et al., editors. Carcinogenic and mutagenic responses to aromatic amines and nitroarenes. New York: Elsevier; 1988. p. 315-20.
- Tsuruo, Takashi; Ogawa, Makoto, editors. Drug resistance as a biochemical target in cancer chemotherapy. San Diego: Academic Press; 1992. 342 p. (Carter, Stephen K., editor. Bristol-Myers Squibb cancer symposia; 13).
- Veinot-Drebot, L.; Ling, V. The molecular biology of multidrug resistance. In: Sluysers, M., editor. Molecular biology of cancer genes. Chichester (England): Ellis Horwood Ltd.; 1990. p. 263-89.

- Woolley, Paul V.; Tew, Kenneth D., editors.
Mechanisms of drug resistance in neoplastic cells.
San Diego: Academic Press; 1988. 390 p. (Carter,
Stephen K., editor. Bristol-Myers cancer symposia;
13).
- Yang, C. P.; Greenberger, L. M.; Horwitz, S. B.
Reversal of multidrug resistance in tumor cells. In:
Chou, T. C.; Rideout, D. C., editors. Synergism
and antagonism in chemotherapy. New York:
Academic Press; 1991. p. 311-38.
- Zenser, T. V.; Coe, R. M., editors. Cancer and aging:
progress in research and treatment. New York:
Springer Publishing; 1989. 251 p.