

RAYMOND W. RUDDON, JR., M.D., Ph.D.

EDUCATION

B.S. Chemistry Summa Cum Laude	University of Detroit Detroit, Michigan, 1958
Ph.D. Pharmacology	University of Michigan Ann Arbor, Michigan, 1964
M.D.	University of Michigan Ann Arbor, Michigan, 1967

BACKGROUND

2006-present	Professor Emeritus, Department of Pharmacology University of Michigan Medical School
2004 - 2006	Senior Associate Dean for Research and Graduate Studies, University of Michigan Medical School
2003 - 2004	Distinguished Fellow, Corporate Office of Science & Technology, Johnson & Johnson
2000 - 2003	Corporate Vice President, Science & Technology, and Chief Scientific Officer, Johnson & Johnson
1997 - 2000	Corporate Director, Science & Technology, Johnson & Johnson Corporate Office of Science & Technology
1998 - 2004	Adjunct Professor of Pharmacology, UMDNJ-Robert Wood Johnson Medical School
1993 - 1997	Director, UNMC/Eppley Cancer Center
1990 - 1997	Director and Eppley Professor of Oncology, Eppley Institute for Research in Cancer and Allied Diseases, University of Nebraska Medical Center
1988 - 1990	Maurice H. Seevers Professor of Pharmacology, University of Michigan Medical School
1986 - 1990	Associate Director for Basic Science Research, University of Michigan Comprehensive Cancer Center
1981 - 1990	Professor and Chairman, Department of Pharmacology, University of Michigan Medical School
Sept. - Dec. 1987	Visiting Professor of Biology, Williams College
1976 - 1981	Director, Biological Markers Program, National Cancer Institute, Frederick Cancer Research Center
1974 - 1976	Professor of Pharmacology, University of Michigan Medical School

RAYMOND W. RUDDON, JR., M.D., Ph.D.

BACKGROUND (cont'd)

1969 - 1974	Associate Professor of Pharmacology, University of Michigan Medical School
1969 - 1972	Head, Laboratory of Pharmacology, Department of Oral Biology, University of Michigan School of Dentistry (concurrent appointment with above)
1967 - 1969	Assistant Professor of Pharmacology, University of Michigan Medical School
1964 - 1967	Instructor of Pharmacology, University of Michigan Medical School
1959 - 1964	USPHS NIH Predoctoral Research Fellow in Pharmacology, University of Michigan
1958 - 1959	Teaching Fellow in Chemistry, University of Detroit

AWARDS, HONORS, SPECIAL RECOGNITION

- Alpha Sigma Nu Scholarship Award, 1958
- American Chemical Society Award, 1958
- Alpha Epsilon Delta, National Premedical Honor Society, 1956
- Phi Beta Kappa, University of Michigan, 1964
- NIH Fellowship in Pharmacology, 1959-1964
- Postdoctoral Scholar of the American Cancer Society, 1964-1967
- Keynote Lecturer, 8th International Congress of Endocrinology, Satellite Symposium on Placental Protein Hormones, Kobe, Japan, July 1988
- Sterling-Sullivan Visiting Professor of Pharmacology, Morehouse School of Medicine, 1988
- Distinguished Faculty Achievement Award, The University of Michigan, 1988
- Invited Faculty Member, International Symposium on Glycoprotein Hormones, Newport Beach, CA, March 1989
- Keynote Lecturer, International Symposium on Structure-Function Relationship of Gonadotropins, Paris, France, May 1989
- Invited Lecturer, EMBO Workshop on Protein Folding in the Cell, University of Kent, Canterbury, England, September 1989
- Invited Lecturer, Basic Science Seminar Series, Reproductive Endocrine Unit, Massachusetts General Hospital, January 1990

RAYMOND W. RUDDON, JR., M.D., Ph.D.

AWARDS, HONORS, SPECIAL RECOGNITION (cont'd)

Board of Directors, American Cancer Society, Nebraska Division, 1991-1997

Co-Chair, International Serono Symposium on Glycoprotein Hormones: Structure, Function, and Clinical Applications, Santa Barbara, CA, March 1993

Outstanding Alumni Award, Department of Pharmacology, University of Michigan Medical School, 1993

Editor, Chemotherapy Chapters, ninth edition of Goodman and Gilman's The Pharmacological Basis of Therapeutics

Associate Editor, Pharmacological Reviews, 1994-2000.

Invited Lecturer, Cancer Foundation of Santa Barbara Workshop; Growth and Form: Cancer as an Evolutionary Phenomenon, Santa Barbara, CA, January 1997 and January 1998

Invited Lecturer, Keystone Symposium on Molecular and Cellular Biology: Protein Folding, Modification, and Transport in the Early Secretory Pathway, Taos, NM, March 1997

Distinguished Achievement Award, Univ. of Michigan Medical Center Alumni Society, 2002

MEMBERSHIPS

American Society for Biochemistry and Molecular Biology

American Society for Pharmacology and Experimental Therapeutics

American Association for the Advancement of Science

American Association for Cancer Research

The Endocrine Society

OTHER RESPONSIBILITIES AND COMMITTEE ASSIGNMENTS

National/State

National Commission on Digestive Diseases, Workgroup on Digestive Diseases Detection, Screening, and Prevention, 1980

National Pancreatic Cancer Project, Subcommittee on Tumor Markers, 1979-80

International Conference on Biological Markers of Neoplasia: Basic and Applied Aspects, Chairman, 1978

Drug Decision Network Committee, Division of Cancer Treatment, National Cancer Institute, Advisor, 1976-81

Biochemical Endocrinology Study Section, Ad hoc member, National Institutes of Health, 1983-86

RAYMOND W. RUDDON, JR., M.D., Ph.D.

OTHER RESPONSIBILITIES AND COMMITTEE ASSIGNMENTS (cont'd)

Nominating Committee, American Association for Cancer Research, 1987

Program Committee, American Society for Pharmacology & Experimental Therapeutics, 1982-88

National Cancer Institute, Frederick Cancer Research Facility Advisory Committee, 1989-93

National Cancer Institute, Study Section on SPORE grants in prostate cancer, 1992

External Advisory Committee, Meyer L. Prentis Comprehensive Cancer Center of Metropolitan Detroit, 1991-1996

External Advisory Committee, University of Alabama at Birmingham Comprehensive Cancer Center, 1992

National Cancer Institute, Cancer Center Support Review Committee, ad hoc member, 1993

Public Education Committee, American Association for Cancer Research, 1994-97

Chair, Gertrude B. Elion Cancer Research Award Committee, American Association for Cancer Research, 1998

Co-chair, ASPET Symposium on "Implications of Combinatorial Chemistry for Pharmacological Sciences", FASEB Annual Meeting, 1998

National Institute of Dental Research, NIH, Member Parent Review Panel for Comprehensive Oral Health Research Centers, 1998-99

External Advisory Board, University of Medicine & Dentistry of New Jersey Comprehensive Cancer Center, 1998-present

Board of Associate Members, Whitehead Institute for Biomedical Research, 1998-2000

Scientific Advisory Board, Center for Advanced Biotechnology and Medicine, Rutgers University, 2000-

National Cancer Institute, Kidney/Bladder Cancers Progress Review Group, co-chair section on Experimental Model Systems, 2001

Human Proteome Organization, Executive Committee, 2002-

National Dialog on Cancer, Working Group on Surrogate Endpoints, 2002 -

Board of Overseers, University of Medicine & Dentistry of New Jersey - Robert Wood Johnson Medical School, 2003 -

Co-chair, Workshop on Building Innovative Partnerships in Translational Research, The Governor's Conference on Effective Partnering in Cancer Research 2003: Leading the Way to Innovation & Discovery, sponsored by the Cancer Institute of New Jersey, April 27-29, 2003

CEO Roundtable on Cancer, Task Force on Speeding Drug Discovery: Dedicated to Cancer Patients, February 23-24, 2004.

RAYMOND W. RUDDON, JR., M.D., Ph.D.

OTHER RESPONSIBILITIES AND COMMITTEE ASSIGNMENTS (cont'd)

Frederick Cancer Research Center

Science Council, 1976-80

Manager, Specimen Repository, 1976-81

University of Michigan

Graduate Programs Committee, Department of Pharmacology, 1970-72

Committee on Appointments and Promotions, Department of Oral Biology, 1971-72

Animal Care Committee, School of Dentistry, 1969-72

Human Subjects Committee, School of Dentistry, 1970-72

Committee on Summer Fellows and Minority Group Trainees, School of Dentistry (Chairman),
1970-72

Course Chairman - Interdepartmental Course in Molecular Biology (594), 1972

Graduate Chairman, Department of Pharmacology, 1972-74

Operating Committee, Upjohn Center for Clinical Pharmacology, 1970-76

Medicinal Chemistry Program Committee, 1970-73

The University of Michigan Cancer Research Committee, 1970-76

Program Committee for Cellular and Molecular Biology in the Health Sciences, 1971-75

Committee on Integrated Premedical-Medical Program (Inteflex), 1973-75

Biomedical Research Council of the University of Michigan Medical School, 1974-76 (Vice
Chairman, 1975-76)

Radiation Policy Committee, 1974-76

Rackham Graduate School - Division Board I, 1974-75

Executive Committee, Medical School, 1982-84

Secretary to the Faculty, Medical School, 1983-84

Mental Health Research Institute Advisory Committee, 1982-90

Associate Director, Medical Scientist Training Program, 1983-90

Medical School Task Force, 1983-84

Clinical Research Center Policy Committee, 1983-90

RAYMOND W. RUDDON, JR., M.D., Ph.D.

OTHER RESPONSIBILITIES AND COMMITTEE ASSIGNMENTS (cont'd)

Cell and Molecular Biology Review Committee, 1983-84

Toxicology Program Search Committee, Consultant, 1983-84

Committee on Resources, University of Michigan Medical Center, 1983-88

Biomedical Research Council, 1985-87

Chairman, Search Committee, Dept. of Microbiology & Immunology, 1985-86

External Review Committee, Department of Anatomy & Cell Biology, 1984-85

Executive Committee, Medical School, 1986-89

External Review Committee, Vice-Chairman, Department of Biological Chemistry, 1989-90

University of Nebraska Medical Center

Chancellor's Advisory Committee

Provost's Technical Advisory Committee for the Loren Eiseley Institute

Chancellor Search Committee, 1991-92

Chairman, Cancer Center Planning Task Force, 1991-93

Dean, College of Medicine Search Committee, 1993

Johnson & Johnson

Chair, Oncology Interest Group

Chair, Disease Prevention/Health Promotion Task Force

Co-Chair, Gene-Targeted Therapy Working Group

Chair, Committee on Human Pluripotent Stem Cell Research

PUBLICATIONS

Books

Ruddon R.W., (ed.) Biological Markers of Neoplasia: Basic & Applied Aspects. Elsevier North-Holland, New York, 1978, 590 pages.

Pratt W.B., R.W. Ruddon. The Anticancer Drugs. Oxford University Press, New York, 1979, 323 pages.

Ruddon R.W. Cancer Biology. Oxford University Press, New York, 1981, 344 pages.

Ruddon R.W. Cancer Biology. Oxford University Press, New York, Second Edition, 1987, 530 pages.

RAYMOND W. RUDDON, JR., M.D., Ph.D.

PUBLICATIONS (cont'd)

Pratt W.B., R.W. Ruddon, J. Maybaum, W.D. Ensminger. The Anticancer Drugs. Oxford University Press, New York, Second Edition, 1994, 352 pages.

Lustbader J.W., J.D. Puett, R.W. Ruddon (eds.). Glycoprotein Hormones: Structure, Function, and Clinical Implications, Springer-Verlag, New York, 1994, 381 pages.

Ruddon, R.W., Cancer Biology, Oxford University Press, New York, Third Edition, 1995, 520 pages.

Ruddon, R.W., Cancer Biology, Oxford University Press, New York, Fourth Edition, 2007, 530 pages.

Ruddon, R.W., ed, Molecular Biology of Cancer: Translation to the clinic in Progress in Molecular Biology and Translational Science, Elsevier, 2010, 385 pages.

Publications in Scientific Journals

Ruddon R.W., L.B. Mellett. Distribution of C¹⁴-labeled thioTEPA and its metabolites in normal and tumor-bearing rats. Cancer Chemother. Rep. 39:7-13, 1964.

Johnson J.M., R.W. Ruddon, L.B. Mellett. Stimulatory and depressant effects of nitrogen mustard on protein synthesis in a cell-free system. The University of Michigan Medical Center Journal 33:25-28, 1967.

Johnson J.M., R.W. Ruddon. Interaction of nitrogen mustard with polyribonucleotides, ribosomes, and enzymes involved in protein synthesis in a cell-free system. Mol. Pharmacol. 3:195-203, 1967.

Ruddon R.W., J.M. Johnson. The effect of prostaglandins on protein and nucleic acid synthesis in a cell-free system. Life Sci. 6:1245-1252, 1967.

Ruddon R.W. Alteration of enzyme induction patterns in rats treated with the carcinogen dimethylnitrosamine. Life Sci. 6:2299-2306, 1967.

Ruddon R.W., J.M. Johnson. The effects of nitrogen mustard on DNA template activity in purified DNA and RNA polymerase systems. Mol. Pharmacol. 4: 258-273, 1968.

Wolpert M.K., R.W. Ruddon. A study on the mechanism of resistance to nitrogen mustard (HN2) in Ehrlich ascites tumor cells. Cancer Res. 29:873-879, 1969.

Zedeck M.S., A.C. Sartorelli, J.M. Johnson, R.W. Ruddon. The effects of 6-chloro-8-aza-9-cyclopentylpurine on nucleic acid and protein synthesis in Escherichia coli. In vivo studies. Mol. Pharmacol. 5:263-270, 1969.

Johnson J.M., R.W. Ruddon, M.S. Zedeck, A.C. Sartorelli. The effects of 6-chloro-8-aza-9-cyclopentylpurine on nucleic acid and protein synthesis in Escherichia coli. II. In vitro studies. Mol. Pharmacol. 5:271-285, 1969.

Ruddon R.W., A.M. Cohen. Alteration of enzyme activity in rat liver following the acute and chronic administration of nicotine. Toxicol. Appl. Pharmacol. 16:613-625, 1970.

Carlson G.M., R.W. Ruddon, C.C. Hug, P. Bass. Effects of nicotine on gastric antral and duodenal contractile activity in the dog. J. Pharmacol. Exp. Therapeut. 172:367-376, 1970.

Carlson G.M., R.W. Ruddon, C.C. Hug, S.K. Schmeige, P. Bass. Analysis of the site of nicotine action on gastric antral and duodenal contractile activity. J. Pharmacol. Exp. Therapeut. 172:377-383, 1970.

PUBLICATIONS (cont'd)

RAYMOND W. RUDDON, JR., M.D., Ph.D.

Ruddon R.W., C.H. Rainey, M.S. Zedeck. Inhibition of RNA polymerase and formyltetrahydrofolate synthetase activity by 6-chloro-8-aza-9-cyclopentylpurine. Structure-activity relationships. *FEBS Lett.* 7:119-123, 1970.

Ruddon R.W., C.H. Rainey. Stimulation of nuclear protein synthesis in rat liver after phenobarbital administration. *Biochem. Biophys. Res. Commun.* 40:152-159, 1970.

Cohen A.M., R.W. Ruddon. The metabolism of ribonucleic acid in rat liver after phenobarbital administration. *Mol. Pharmacol.* 6:540-547, 1970.

Lundeen P.B., G.S. Banks, R.W. Ruddon. Effects of the carcinogen methylazoxymethanol acetate on protein synthesis and drug metabolism in rat liver. *Biochem. Pharmacol.* 20:2522-2527, 1971.

Ruddon R.W., C.H. Rainey. Comparison of effects of phenobarbital and nicotine on nuclear protein synthesis in rat liver. *FEBS Lett.* 14:170-172, 1971.

Cohen A.M., R.W. Ruddon. Stability of polyribosomes from rat liver after phenobarbital administration. *Mol. Pharmacol.* 7:484-489, 1971.

Marquez V.E., J.W. Cranston, R.W. Ruddon, L.B. Kier, J.H. Burckhalter. Mechanism of action of amodiaquine. Synthesis of its indoloquinoline analog. *J. Med. Chem.* 15:36-39, 1972.

Ruddon R.W., S.L. Anderson. Presence of multiple protein kinase activities in rat liver nuclei. *Biochem. Biophys. Res. Commun.* 46:1499-1508, 1972.

Weisenthal L.M., R.W. Ruddon. Characterization of human leukemia and Burkitt lymphoma cells by their acidic nuclear protein profiles. *Cancer Res.* 3:1009-1017, 1972.

Cranston J.W., R.W. Ruddon. The inhibition of RNA polymerase from *Escherichia coli* by 6-chloro-8-aza-9-cyclopentylpurine. *Mol. Pharmacol.* 9:81-92, 1973.

Ruddon R.W., D.E. Lundeen, L.E. Rikans. Induction of aryl hydrocarbon hydroxylase in mouse 3T3 cells: Relationship to state of cell proliferation and guanosine cyclic 3',5'-monophosphate. *Mol. Pharmacol.* 9:686-691, 1973.

Weisenthal L.M., R.W. Ruddon. Catabolism of nuclear proteins in control and phytohemagglutinin-stimulated human lymphocytes, leukemic leukocytes, and Burkitt lymphoma cells. *Cancer Res.* 33:2923-2935, 1973.

Rikans L.E., R.W. Ruddon. Role of 3',5'-cyclic AMP in the control of nuclear protein kinase activity. *Biochem. Biophys. Res. Commun.* 54:387-394, 1973.

Marquez V.E., J.W. Cranston, R.W. Ruddon, J.H. Burckhalter. Binding to DNA and inhibition of RNA polymerase by analogs of chloroquine. *J. Med. Chem.* 17:856-862, 1974.

Ruddon R.W., L.M. Weisenthal, D.E. Lundeen, W. Bessler, I.J. Goldstein. Stimulation of mitogenesis in normal and leukemic human lymphocytes by divalent and tetravalent lima bean lectins. *Proc. Natl. Acad. Sci. U.S.A.* 71:1848-1851, 1974.

Wheeler R.H., F.E. Bull, R.W. Ruddon. The effect of heparin on the cytotoxicity and uptake of antineoplastic drugs in cultured Burkitt lymphoma cells. *Cancer Res.* 34:3215-3219, 1974.

RAYMOND W. RUDDON, JR., M.D., Ph.D.

PUBLICATIONS (cont'd)

Rikans L.E., R.W. Ruddon. Partial purification and properties of a chromatin-associated phosphoprotein kinase from rat liver nuclei. *Biochim. Biophys. Acta.* 442:73-86, 1976.

Lazo J.S., K. Prasad, R.W. Ruddon. Synthesis and phosphorylation of chromatin-associated proteins in cyclic AMP-induced "differentiated" neuroblastoma cells. *Exptl. Cell Res.* 100:41-46, 1976.

Bittner M.A., R.W. Ruddon. Induction and decay of aryl hydrocarbon hydroxylase activity in mouse 3T3 cells. *Mol. Pharmacol.* 12:966-976, 1976.

Lazo, J.S., R.W. Ruddon. Neurite extension and malignancy of murine neuroblastoma cells after treatment with prostaglandin E₁ and papaverine. *J. Natl. Cancer Inst.* 59:137-143, 1977.

Lau A.F., R.W. Ruddon. Proteins of transcriptionally active and inactive chromatin from Friend erythroleukemia cells. *Exptl. Cell Res.* 107:35-46, 1977.

Lau, A.F., R.W. Ruddon, M.S. Collett, A.J. Faras. Distribution of the globin gene in active and inactive chromatin fractions from Friend erythroleukemia cells. *Exptl. Cell Res.* 111:269-276, 1978.

Ruddon R.W., C. Anderson, K.S. Meade, P.H. Aldenderfer, P.D. Neuwald. Content of gonadotropins in cultured human malignant cells and effects of sodium butyrate treatment on gonadotropin secretion by HeLa cells. *Cancer Res.* 39:3885-3892, 1979.

Ruddon R.W., C.A. Hanson, N.J. Addison. Synthesis and processing of human chorionic gonadotropin subunits in cultured choriocarcinoma cells. *Proc. Natl. Acad. Sci. U.S.A.* 76:5143-5147, 1979.

Neuwald P.D., C. Anderson, W.O. Salivar, P.H. Aldenderfer, W.C. Dermody, B.D. Weintraub, S.W. Rosen, W.A. Nelson-Rees, R.W. Ruddon. Expression of oncodevelopmental gene products by human tumor cells in culture. *J. Natl. Cancer Inst.* 64:447-459, 1980.

Ruddon R.W., C.A. Hanson, A.H. Bryan, G.J. Putterman, E.L. White, F. Perini, K.S. Meade, P.A. Aldenderfer. Synthesis and secretion of human chorionic gonadotropin subunits by cultured human malignant cells. *J. Biol. Chem.* 255:1000-1007, 1980.

Ruddon R.W., A.H. Bryan, K.S. Meade-Cobun, V.A. Pollack. Production of human chorionic gonadotropin and its subunits by human tumors growing in nude mice. *Cancer Res.* 40:4007-4012, 1980.

Waalkes T.P., M.D. Abeloff, K.B. Woo, D.S. Ettinger, R.W. Ruddon, P. Aldenderfer. Carcinoembryonic antigen for monitoring patients with small cell carcinoma of the lung during treatment. *Cancer Res.* 40:4420-4427, 1980.

Ruddon R.W., C. Anderson, K.S. Meade-Cobun. Stimulation of synthesis and secretion of chorionic gonadotropin subunits by eutopic and ectopic hormone-producing human cell lines. *Cancer Res.* 40:4519-4523, 1980.

Ruddon R.W., A.H. Bryan, C.A. Hanson, F. Perini, L.M. Ceccorulli, B.P. Peters. Characterization of the intracellular and secreted forms of the glycoprotein hormone chorionic gonadotropin produced by human malignant cells. *J. Biol. Chem.* 256:5189-5196, 1981.

Boothby M., R.W. Ruddon, C. Anderson, D. McWilliams, I. Boime. A single gonadotropin α -subunit gene in normal tissue and tumor-derived cell lines. *J. Biol. Chem.* 256:5121-5127, 1981.

RAYMOND W. RUDDON, JR., M.D., Ph.D.

PUBLICATIONS (cont'd)

Ruddon R.W., R.J. Hartle, B.P. Peters, C. Anderson, R.I. Huot, K. Stromberg. Biosynthesis and secretion of chorionic gonadotropin subunits by organ cultures of first trimester human placenta. *J. Biol. Chem.* 256:11389-11392, 1981.

Ruddon R.W. Tumor markers in the recognition and management of poorly differentiated neoplasms and cancers of unknown primary, *in* Poorly Differentiated Neoplasms and Cancers of Unknown Primary Site, M.F. Fer, F.A. Greco, and R.K. Oldham (eds.), *Seminars in Oncology*, Grune and Stratton, New York, 9:416-426, 1983.

Cole L.A., R.J. Hartle, J.J., LaFerla, R.W. Ruddon. Detection of the free β subunit of human chorionic gonadotropin (hCG) in cultures of normal and malignant trophoblast cells, pregnancy sera, and sera of patients with choriocarcinoma. *Endocrinology* 113:1176-1178, 1983.

Peters B.P., M. Brooks, R.J. Hartle, R.F. Krzesicki, F. Perini, R.W. Ruddon. The use of drugs to dissect the pathway for secretion of the glycoprotein hormone chorionic gonadotropin by cultured human trophoblastic cells. *J. Biol. Chem.* 258:14505-14515, 1983.

Wheeler R.H., D.J. Clauw, R.B. Natale, R.W. Ruddon. The cytokinetic and cytotoxic effects of ICRF-159 and ICRF-187 *in vitro* and ICRF-187 in human bone marrow *in vivo*. *Invest. New Drugs* 1:283-295, 1983.

Cole L.A., T.G. Kroll, R.W. Ruddon, R.O. Hussa. Differential occurrence of free beta and free alpha subunits of human chorionic gonadotropin (hCG) in pregnancy sera. *J. Clin. Endocrinol. Metab.* 58:1200-1202, 1984.

Cole L.A., F. Perini, S. Birken, R.W. Ruddon. An oligosaccharide of the O-linked type distinguishes the free from the combined form of hCG- α subunit. *Biochem. Biophys. Res. Commun.* 122:1260-1267, 1984.

Aroney R.S., W.C. Dermody, P. Aldenderfer, P. Parsons, K. McNitt, P.J. Marangos, M.Y. Whitacre, R.W. Ruddon, P.H. Wiernik, J. Aisner. Multiple sequential biomarkers in monitoring patients with carcinoma of the lung. *Cancer Treatment Reports* 68:859-866, 1984.

Peters B.P., R.F. Krzesicki, R.J. Hartle, F. Perini, R.W. Ruddon. A kinetic comparison of the processing and secretion of the $\alpha\beta$ dimer and the uncombined α and β subunits of chorionic gonadotropin synthesized by human choriocarcinoma cells. *J. Biol. Chem.* 259:15123-15130, 1984.

Peters B.P., R.J. Hartle, R.F. Krzesicki, T.G. Kroll, F. Perini, J. Balun, I.J. Goldstein, R.W. Ruddon. The biosynthesis, processing, and secretion of laminin by human choriocarcinoma cells. *J. Biol. Chem.* 260:14732-14742, 1985.

Peters B.P., R.F. Krzesicki, F. Perini, R.W. Ruddon. The effect of carbonyl cyanide trifluoromethoxyphenylhydrazone and methylamine on the processing and secretion of the glycoprotein hormone chorionic gonadotropin by human choriocarcinoma cells. *Endocrinology* 119:416-428, 1986.

Hussa R.O., H.G. Fein, R.A. Pattillo, S.B. Nagelberg, S.W. Rosen, B.D. Weintraub, F. Perini, R.W. Ruddon L.A. Cole. A distinctive form of human chorionic gonadotropin β -subunit-like material produced by cervical carcinoma cells. *Cancer Research* 46:1948-1954, 1986.

Gebhart A.M., R.W. Ruddon. What regulates secretion of non-stored proteins by eukaryotic cells? *Bio Essays* 4:213-218, 1986.

RAYMOND W. RUDDON, JR., M.D., Ph.D.

PUBLICATIONS (cont'd)

Fligiel S.E.G., K.A. Laybourn, B.P. Peters, R.W. Ruddon, J.C. Hiserodt, J. Varani. Laminin production by murine melanoma cells: Possible involvement in cell motility. *Clin. Expl. Metastasis* 4:259-272, 1986.

Saccuzzo J.E., R.F. Krzesicki, F. Perini, R.W. Ruddon. Phosphorylation of the secreted free α subunit of human chorionic gonadotropin. *Proc. Natl. Acad. Sci. USA.* 88:9493-9496, 1986.

Ruddon R.W., R.F. Krzesicki, S.E. Norton, J. Saccuzzo-Beebe, B.P. Peters, F. Perini. Detection of a glycosylated, incompletely folded form of chorionic gonadotropin β subunit that is a precursor of hormone assembly in trophoblastic cells. *J. Biol. Chem.* 262:12533-12540, 1987.

Frenette G.P., T.E. Carey, J. Varani, D.R. Schwartz, S.E.G. Fligiel, R.W. Ruddon, B.P. Peters. Biosynthesis and secretion of laminin and laminin-associated glycoproteins by nonmalignant and malignant human keratinocytes: A comparison of cell lines from primary and secondary tumors in the same patient. *Cancer Res.* 48:5193-5202, 1988.

Ruddon R.W., R.F. Krzesicki, J. Saccuzzo Beebe, L. Loesel, F. Perini, B.P. Peters. Conformational intermediates in the production of the combinable form of the β subunit of chorionic gonadotropin. *Endocrinology* 124:862-869, 1989.

Frenette G.P., R.W. Ruddon, R.F. Krzesicki, J.A. Naser, B.P. Peters. Biosynthesis and deposition of a noncovalent laminin-HSPG complex and other basal lamina components by a human malignant cell line. *J. Biol. Chem.* 264:3078-3088, 1989.

Peters B.P., R.F. Krzesicki, F. Perini, R.W. Ruddon. O-Glycosylation of the α subunit does not limit the assembly of chorionic gonadotropin $\alpha\beta$ dimer in human malignant and nonmalignant trophoblast cells. *Endocrinology* 124:1602-1612, 1989.

Saccuzzo Beebe J., R.F. Krzesicki, S.E. Norton, F. Perini, B.P. Peters, R.W. Ruddon. Identification and characterization of sub-populations of the free α subunit that vary in their ability to combine with chorionic gonadotropin- β . *Endocrinology* 124:1613-1624, 1989.

Saccuzzo Beebe J., K. Mountjoy, R.F. Krzesicki, F. Perini, R.W. Ruddon. Role of disulfide bond formation in the folding of human chorionic gonadotropin β subunit into an $\alpha\beta$ dimer assembly-competent form. *J. Biol. Chem.* 265:312-317, 1990.

Saccuzzo Beebe J., J.R. Huth, R.W. Ruddon. Combination of the chorionic gonadotropin free β -subunit with α . *Endocrinology* 126:384-391, 1990.

Martell R.E., R.W. Ruddon. Patterns of human chorionic gonadotropin expression in untreated and 8-bromoadenosine-treated JAR choriocarcinoma cells. *Endocrinology* 126:2757-2764, 1990.

Huth J.R., K. Mountjoy, F. Perini, R.W. Ruddon. Intracellular folding pathway of human chorionic gonadotropin β subunit. *J. Biol. Chem.* 267:8870-8879, 1992.

Bedows E., J.R. Huth, R.W. Ruddon. Kinetics of folding and assembly of human chorionic gonadotropin β subunit in transfected Chinese hamster ovary cells. *J. Biol. Chem.* 267:8880-8886, 1992.

Huth J.R., K. Mountjoy, F. Perini, E. Bedows, R.W. Ruddon. Domain dependent protein folding is indicated by the intracellular kinetics of disulfide bond formation of human chorionic gonadotropin β subunit. *J. Biol. Chem.* 267:21396-21403, 1992.

RAYMOND W. RUDDON, JR., M.D., Ph.D.

PUBLICATIONS (cont'd)

Ruddon R.W., S.E. Norton. Use of biological markers in the diagnosis of cancers of unknown primary tumor. *Seminars in Oncology*. 20:251-260, 1993.

Bedows E., J.R. Huth, N. Saganuma, C.F. Bartels, I. Boime, R.W. Ruddon. Disulfide bond mutations affect the folding of the human chorionic gonadotropin (hCG) - β subunit in transfected CHO cells. *J. Biol. Chem.* 268:11655-11662, 1993.

Huth J.R., F. Perini, O. Lockridge, E. Bedows, R.W. Ruddon. Protein folding and assembly *in vitro* parallel intracellular folding and assembly. *J. Biol. Chem.* 268:16472-16482, 1993.

Bayever E., P.L. Iversen, M.R. Bishop, J.G. Sharp, H.K. Tewary, M.A. Arneson, S.J. Pirruccello, R.W. Ruddon, A. Kessinger, G. Zon, J.O. Armitage. Systemic administration of a phosphorothioate oligonucleotide with a sequence complementary to p53 for acute myelogenous leukemia and myelodysplastic syndrome: initial results of a phase I trial. *Antisense Res. Dev.* 3:383-390, 1993.

Bayever E., K.M. Haines, P.L. Iversen, R.W. Ruddon, S.J. Pirruccello, C.P. Mountjoy, M.A. Arneson, L.J. Smith. Selective cytotoxicity to human leukemic myeloblasts produced by oligodeoxyribonucleotide phosphorothioates complementary to p53 nucleotide sequences. *Leukemia and Lymphoma*. 12:223-231, 1994.

Gwilt, P.R., C.L. Lear, M.A. Tempero, D.D. Birt, A.C. Grandjean, R.W. Ruddon, D.L. Nagel. The effect of garlic extract on human metabolism of acetaminophen. *Cancer Epidemiology, Biomarkers, and Prevention*. 3:155-160, 1994.

Huth, J.R., W. Feng, R.W. Ruddon. Redox conditions for stimulation of *in vitro* folding and assembly of the glycoprotein hormone chorionic gonadotropin. *Biotechnology and Bioengineering*. 44:66-72, 1994.

Kroll, T.G., B.P. Peters, C.M. Hustad, P.A. Jones, P.D. Killen, R.W. Ruddon. Expression of laminin chains during myogenic differentiation. *J. Biol. Chem.* 269:9270-9277, 1994.

Bedows, E. Norton, S.E., Huth, J.R., Saganuma, N., Boime, I., Ruddon, R.W. Misfolded human chorionic gonadotropin β subunits are secreted from transfected Chinese hamster ovary cells. *J. Biol. Chem.* 269: 10574-10580, 1994.

Huth, J.R., S. Norton, O. Lockridge, T. Shikone, A. Hsueh, and R. Ruddon. Bacterial expression and In Vitro folding of the β subunit of human chorionic gonadotropin and functional assembly of recombinant hCG- β with hCG- α . *Endocrinology*. 135:911-918, 1994.

Feng, W., J.R. Huth, S.E. Norton, and R.W. Ruddon. Asparagine-linked oligosaccharides facilitate human chorionic gonadotropin β subunit folding but not assembly of prefolded β with α . *Endocrinology*, 136:52-61, 1995.

Feng, W., M. M. Matzuk, K. Mountjoy, E. Bedows, R.W. Ruddon, and I. Boime. The asparagine-linked oligosaccharides of the human chorionic gonadotropin β subunit facilitate correct disulfide bond pairing. *J. Biol. Chem.*, 270:11851-11859, 1995.

Sherman, S.A., W.H. Gmeiner, L. Kirnarskiy, F. Perini, and R.W. Ruddon. A linear 23-residue peptidereveals a propensity to form an unusual native-like conformation. *J. Biomol. Structure and Dynamics*, 13:441-446, 1995.

Ruddon, R.W., S.A. Sherman, and E. Bedows. Protein folding in the endoplasmic reticulum: Lessons from the human chorionic gonadotropin β subunit. *Protein Science*, 5:1443-1452, 1996.

RAYMOND W. RUDDON, JR., M.D., Ph.D.

PUBLICATIONS (cont'd)

Feng, W., E. Bedows, S.E. Norton, and R.W. Ruddon. Novel covalent chaperone complexes associated with human chorionic gonadotropin β subunit folding intermediates. *J. Biol. Chem.*, 271:18543-18548, 1996.

Ruddon, R.W. Super hormones. *Nature Biotechnology*, 14:1224, 1996.

Bishop, M.R., P.L. Iversen, E. Bayever, J.G. Sharp, T. Greiner, B.L. Copple, R.W. Ruddon, G. Zon, J. Spinolo, M. Arneson, J.O. Armitage, and A. Kessinger. Phase I Trial of an Antisense Oligonucleotide OL (1) p53 in Hematologic Malignancies. *J Clin Oncol* 14:1320-1326, 1996.

Ruddon, R.W. and E. Bedows. Assisted Protein Folding. *J. Biol. Chem.*, 272:3125-3128, 1997.

Miller-Lindholm, A. K., C.J. LaBenz, J. Ramey, E. Bedows, and R. W. Ruddon. Human Chorionic Gonadotropin- β Gene Expression in First Trimester Placenta. *Endocrinology*, 138:5459-5465, 1997.

Muyan, M., R. W. Ruddon, S. E. Norton, I. Boime, and E. Bedows. Dissociation of Early Folding Events from Assembly of the Human Lutropin β -Subunit. *Molecular Endocrinology*, 12:1640-1649, 1998.

Sherman, S., L. Kirnarsky, O. Prakash, H.M. Rogers, R.A.G.D. Silva, T.A. Keiderling, D.D. Smith, A.M. Hanly, F. Perini, and R.W. Ruddon. In Search of the Earliest Events of hCG β Folding: Structural Studies of the 60-87 Peptide Fragment. *Proceedings of 15th American Peptide Symposium*, 416-417, 1999.

Miller-Lindholm, A.K., E. Bedows, C. F. Bartels, J. Ramey, V. Maclin, and R. W. Ruddon. A Naturally Occurring Genetic Variant in the Human Chorionic Gondotropin- β Gene is Assembly Inefficient. *Endocrinology*, 140: 3496-3506, 1999.

Darling, R. J., R. W. Ruddon, F. Perini, E. Bedows. Cystine knot mutations affect the folding of the glycoprotein hormone α -subunit. *J. Biol. Chem.*, 275:15413-15421, 2000

Darling, R. J., J. A. Wilken, R. W. Ruddon, and E. Bedows. Intracellular folding pathway of the cystine knot-containing glycoprotein hormone α -subunit. *Biochemistry*. 40:577-585, 2001

Darling, R. J., J. A. Wilken, A. K. Miller-Lindholm, T. M. Urlacher, R. W. Ruddon, S. A. Sherman, and E. Bedows. Functional contributions of non-cysteine residues within the cystine knots of human chorionic gonadotropin subunits. *J. Biol. Chem.* 276:10692-10699, 2001

Kelloff, G.J., R.C. Bast, Jr., D.S. Coffey, A.V. D'Amico, R.S. Kerbel, J.W. Park. R.W. Ruddon, G.J.S. Rustin, R.L. Schilsky, C.C. Sigman, G.F. Vande Woude. Biomarkers, surrogate end points, and the acceleration of drug development for cancer prevention and treatment: An update. *Clinical Cancer Research* 10:3881-3884, 2004.

Park, J.W., R.S. Kerbel, G.J. Kelloff, J.C. Barrett, B.A. Chabner, D.R. Parkinson, J. Peck, R.W. Ruddon, C.C. Sigman, D. J. Slamon. Rationale for biomarkers and surrogate endpoints in mechanism-driven oncology drug development. *Clinical Cancer Research* 10:3885-3896, 2004.

Vande Woude, G.F., G.J. Kelloff, R.W. Ruddon, H.M. Koo, C.C. Sigman, J.C. Barrett, R.W. Day, A. P. Dicker, R.S. Kerbel, D.R. Parkinson, W.J. Slichenmyer. Reanalysis of cancer drugs: old drugs, new tricks. *Clinical Cancer Research* 10:3897-3907, 2004.

Rustin, G.J.S., R.C. Bast, Jr., G.J. Kelloff, J.C. Barrett, S.K. Carter, P.D. Nisen, D.R. Parkinson, R.W. Ruddon. Use of CA-125 in clinical trial evaluation of new therapeutic drugs for ovarian cancer. *Clinical Cancer Research* 10:3919-3926, 2004.

RAYMOND W. RUDDON, JR., M.D., Ph.D.

PUBLICATIONS (cont'd)

Chapters in Books

Ruddon R.W. Role of biological markers in cancer diagnosis and treatment, in *Biological Markers of Neoplasia: Basic & Applied Aspects*. R.W. Ruddon (ed.), Elsevier North-Holland, New York, pp. 1-7, 1978.

Ruddon R.W., C.A. Hanson, A.H. Bryan, C. Anderson. Synthesis, processing, and secretion of human chorionic gonadotropin subunits by cultured human cells, in *Chorionic Gonadotropin*. S.J. Segal (ed.), Plenum Press, New York, pp. 295-315, 1980.

Ruddon R.W. Protein degradation products associated with malignant disease, in *Biologic Markers in Cancer Diagnosis and Treatment*. E.D. Holyoke (ed.), Current Problems in Cancer Monograph Series, Vol. 6, No. 2, Year Book Medical Publishers, Inc., Chicago, pp. 43-49, August, 1981.

Ruddon R.W. Marker expression by cultured cancer cells, in *Oncodevelopmental Markers: Biologic, Diagnostic and Monitoring Aspects*. W.H. Fishman (ed.), Academic Press, New York, pp. 87-108, 1983.

Ruddon R.W. Immunologic and biochemical markers in the diagnosis and management of poorly differentiated neoplasms and cancers of unknown primary in *Poorly Differentiated Neoplasms and Tumors of Unknown Origin*. M.F. Fer, F.A. Greco, and R.K. Oldham (eds.), Grune and Stratton, Inc., Orlando, pp. 75-100, 1985.

Ruddon R.W. Clinical Evaluation: Biochemical Methods, in *Clinical Evaluation of Anti-Tumor Therapy*. F.M. Muggia and M. Rozenweiz (eds.), Martinus Nijhoff, Boston, pp. 85-115, 1987.

Ruddon R.W. Chemical mutagenesis in *Principles of Drug Action: The Basis of Pharmacology*. W.B. Pratt and P. Taylor (eds.), Chapter 11, Third Edition, Churchill Livingstone, New York, pp. 691-733, 1990.

Ruddon R.W. Chemical carcinogenesis. Ibid. Chapter 12, pp. 735-773.

Ruddon R.W. Chemical teratogenesis. Ibid. Chapter 13, pp. 775-795.

Ruddon R.W., R.F. Krzesicki, L. Loesel, J. Saccuzzo Beebe, B.P. Peters, F. Perini. Biosynthesis and combination of chorionic gonadotropin subunits in human cells, in *Placental Protein Hormones*. M. Mochizuki and R. Hussa (eds.), Excerpta Medica, Elsevier Science Publishers, Amsterdam, pp. 75-85, 1988.

Ruddon R.W., J. Saccuzzo Beebe, R.F. Krzesicki, L. Loesel, F. Perini. Conformational changes in beta subunit that regulate assembly of hCG dimer, in *Glycoprotein Hormones: Structure, Synthesis, and Biological Function*. W. Chin and I. Boime (eds.), Serono Symposia, USA, Norwell, MA, pp. 137-149, 1990.

Ruddon R.W., J. Saccuzzo Beebe, J. Huth, R.F. Krzesicki, K. Mountjoy, F. Perini. Regulatory steps in assembly of the $\alpha\beta$ dimer of hCG in trophoblastic cells, in *Structure-Function Relationships of Gonadotropins*. D. Bellet and J.-M. Bidart (eds.), Raven Press, New York, pp. 95-105, 1989.

Ruddon R.W., J.R. Huth, E. Bedows, K. Mountjoy, F. Perini. Folding of the β subunit of hCG and its role in assembly of the $\alpha\beta$ heterodimer, in *Glycoprotein Hormones: Structure, Function and Clinical Implications*. J.W. Lustbader, J.D. Puett and R.W. Ruddon (eds.), Springer-Verlag, New York, pp. 137-155, 1994.

Ruddon R.W. Molecular and genetic events in neoplastic transformation, in *Cancer Epidemiology and Prevention*. D. Schottenfeld and J.F. Fraumeni (eds.), Second Edition, Oxford University Press, pp. 80-100, 1996.

PUBLICATIONS (cont'd)

RAYMOND W. RUDDON, JR., M.D., Ph.D.

Ruddon, R.W. Biochemistry of Cancer, in Cancer Medicine, 5th edition, J.F. Holland E. Frei III, R.C. Bast, Jr., D.W. Kufe, R.E. Pollock, and R.R. Weichselbaum (eds.), B.C. Decker, Inc. Hamilton, Ontario, pp. 108-120, 2000.

Ruddon, R.W. Biochemistry of Cancer, in Cancer Medicine, 6th edition, D.W. Kufe, R.E. Pollock, R.R. Weichselbaum, R.C. Bast, Jr., T. S. Gansler, J.F. Holland, and E. Frei III, (eds.) B.C. Decker, Inc. Hamilton, Ontario, pp. 137-149, 2003.

Ruddon, R.W., Kufe, D.W., and Hait, W.N. Biochemistry of Cancer, in Holland –Frei Cancer Medicine, 7th edition, 2006

Ruddon, R.W. and Kufe, D.W. Biochemistry of Cancer, in Holland-Frei Cancer Medicine, 8th edition, 2010.

Ruddon, R.W. Introduction to the Molecular Biology of Cancer: Translation to the clinic, in Molecular biology of Cancer: Translation to the Clinic, Elsevier, pp 1-8, 2010.

ABSTRACTS

Ruddon R.W., L.B. Mellett. Analysis of the reaction of nitrogen mustard (HN2) with DNA and RNA. Fed. Proc. 23:1185, 1964.

Ruddon R.W., L.B. Mellett. The effects of nitrogen mustard (HN2) on the nucleic acids of rat tissues. The Pharmacologist 6:128, 1964.

Johnson J.M., R.W. Ruddon, L.B. Mellett. Depression and stimulation of protein synthesis by nitrogen mustard in a cell-free system. Pharmacologist 7:249, 1965.

Johnson J.M., R.W. Ruddon. Effects of nitrogen mustard on nucleic acid and protein synthesis in a cell-free system. Fed. Proc. 25:1175, 1966.

Ruddon R.W., J.M. Johnson. Inhibition of DNA template activity by nitrogen mustard in cell-free system. Fed. Proc. 26:2397, 1967.

Johnson J.M., R.W. Ruddon. Action of nalidixic acid (NegGram) on cell-free synthesis of nucleic acid and protein. Pharmacologist 9:58, 1967.

Carlson G.M., R.W. Ruddon, P. Bass. Inhibitory effect of nicotine upon upper gastrointestinal contractile activity in the dog. Fed. Proc. 27:1306, 1968.

Wolpert M.K., R.W. Ruddon. Differential uptake of nitrogen mustard (HN2) into sensitive and resistant Ehrlich ascites cells: A potential mechanism for the development of drug resistance. Pharmacologist 10:88, 1968.

Zedek M.S., A.C. Sartorelli, J.M. Johnson, R.W. Ruddon. Effects of 6-chloro-8-aza-9-cyclopentylpurine on the in vivo and in vitro synthesis of the nucleic acids and proteins in E. coli. Bacteriol. Proc., 1968.

ABSTRACTS (cont'd)

Ruddon R.W., A.M. Cohen. Alteration of enzyme activity in rat liver after nicotine administration. Fed. Proc. 28:901, 1969.

RAYMOND W. RUDDON, JR., M.D., Ph.D.

PUBLICATIONS (cont'd)

Cohen A.M., R.W. Ruddon. The role of gene activation in phenobarbital induction of hepatic drug-metabolizing enzymes. *Pharmacologist* 11:313, 1969.

Johnson J.M., R.W. Ruddon. Correlation of cellular uptake of nitrogen mustard (HN2) with sensitivity of mouse ascites neoplasms to drug treatment. *Fed. Proc.* 29:2452, 1970.

Cohen A.M., R.W. Ruddon. Effects of phenobarbital on ribosomal RNA formation and polyribosome distribution in rat liver. *Pharmacologist* 12:428, 1970.

Cranston J.W., R.W. Ruddon. Mechanisms involved in the inhibition of RNA polymerase by 6-chloro-8-aza-9-cyclopentylpurine. *Pharmacologist* 12:537, 1970.

Marquez V.E., J.H. Burckhalter, J.W. Cranston, R.W. Ruddon. Binding to DNA and inhibition of RNA polymerase by analogs of chloroquine and amodiaquine. *Pharmacologist* 12:538, 1970.

Cranston J.W., R.W. Ruddon. Inhibition of *E. coli* RNA polymerase by 6-chloro-8-aza-9-cyclopentylpurine (689). *Fed. Proc.* 30:2425, 1971.

Damle S.P., R.W. Ruddon. Ribonucleic acid polymerase of L-1210 leukemic cells: Lack of inhibition by α -amanitin and rifampicin. *Pharmacologist* 13:99, 1971.

Weisenthal L.M., R.W. Ruddon. Content of acidic nuclear proteins in human leukemic cells, Burkitt lymphoblasts, and phytohemagglutinin-stimulated leukemic lymphocytes. *Fed. Proc.* 31:2341, 1972.

Ruddon R.W., D.E. Lundeen, L.E. Rikans. Effect of cell proliferation rate on the inducibility of aryl hydrocarbon hydroxylase in mouse 3T3 fibroblasts. *Pharmacologist* 15:12, 1973.

Lazo J.S., M.R. Vasko, R.W. Ruddon. Morphological differentiation and acetylcholine content in neuroblastoma cells. *Pharmacologist* 16:330, 1974.

Bittner M.A., R.W. Ruddon. Effect of plating density and feeding schedule on the inducibility of aryl hydrocarbon hydroxylase in mouse 3T3 cells. *Pharmacologist* 16:502, 1974.

Ruddon R.W., D.E. Lundeen. Induction of aryl hydrocarbon hydroxylase (AHH) and binding of polycyclic aromatic hydrocarbons (PAH) in mouse 3T3 cells. 6th International Congress of Pharmacology, Helsinki, 1975.

Lau A.F., R.W. Ruddon. The globin gene in chromatin fractions from murine erythroleukemia cells. *Proc. Amer. Assoc. Cancer Res.* 17:222, 1976.

Woo K.B., C. Sullivan, R.W. Ruddon. Kinetic analysis of B16-F1 and B16-F10 melanoma cell proliferation *in vitro*. *Cell and Tissue Kinetics* 11:691, 1978.

Waalkes T.P., K.B. Woo, M. Abeloff, R. Ruddon, D. Ettinger, P. Aldenderfer. Monitoring treatment by sequential CEA levels for patients with small cell carcinoma of the lung (SC). *Proc. Amer. Soc. Clin. Oncol.* 20:C-523, 1979.

Neuwald P.D., C. Anderson, W.O. Salivar, P.H. Aldenderfer, W.C. Dermody, R.W. Ruddon, W.A. Nelson-Rees. Discordant synthesis of biological markers by human tumor cells in culture. *Proc. Amer. Assoc. Cancer Res.* 20:237, 1979.

RAYMOND W. RUDDON, JR., M.D., Ph.D.

ABSTRACTS (cont'd)

Wheeler R.H., R.B. Natale, D. Clauw, R.W. Ruddon. The cytotoxic and cytokinetic effects of ICRF-187 and ICRF-159 in vitro, and ICRF-187 in human bone marrow in vivo. Proc. Amer. Soc. Clinical Oncol. 1:C-51, 1982.

Ruddon R.W., L.A. Cole, R.A. Pattillo, R.O. Husa. A large hCG-beta-like molecule unique to cervical carcinoma cells. The Endocrine Society. Abstr. 173, 1983.

Cole L.A., R.W. Ruddon. Production of beta subunit is not limiting for the formation of hCG in trophoblast cells. The Endocrine Society. Abstr. 753, 1983.

Peters B.P., R.F. Krzesicki, F. Perini, R.W. Ruddon. Monovalent cation gradients are linked to the intracellular translocation and processing of chorionic gonadotropin in JAR choriocarcinoma cells. Fed. Proc. 43:1361, 1984.

Cole L.A., F. Perini, R.W. Ruddon. Presence of an O-linked oligosaccharide on the large free α -subunit of human chorionic gonadotropin (hCG). 7th International Congress of Endocrinology, 1984.

Peters B.P., R.F. Krzesicki, F. Perini, R.W. Ruddon. Post-translational modifications that limit the assembly of the hCG $\alpha\beta$ dimer in choriocarcinoma cells. 8th International Symposium on Glycoconjugants, Houston, Texas, September 1985.

Peters B.P., T. Kroll, R.W. Ruddon. A comparison of laminin biosynthesis by cultured human malignant cells. International Biochemistry Meeting, Amsterdam, Aug. 1985.

Kothary, P.C., R. Krzesicki, A.I. Vinik, R.W. Ruddon. Biosynthesis and secretion of gastrins. American Gastroenterological Association Meeting, San Francisco, May 1986.

Saccuzzo-Beebe J.E., R.F. Krzesicki, F. Perini, S.E. Norton, R.W. Ruddon. Post-translational modifications of hCG subunits that modulate dimer formation in JAR choriocarcinoma cells. The Endocrine Society. Abstr. 700, 1987.

Peters B.P., T.G. Kroll, R.W. Ruddon. Cultured human melanoma cells biosynthesize a novel form of laminin that lacks the $M_r=400$ kDA subunit. Fed. Proc. 46:395, 1987.

Frenette G.P., H. B. Grossman, J.A. Naser, R.W. Ruddon, B.P. Peters. Biosynthesis and deposition of basal lamina components by cultured human cells. Fed. Proc. 2:7498, 1988.

Saccuzzo-Beebe J.E., R.F. Krzesicki, R.W. Ruddon. Combination of hCG subunits in JAR choriocarcinoma cells is limited by post-translational modifications. Satellite Symposium on Placental Protein Hormones; International Congress of Endocrinology, Kobe, Japan, 1988.

Frenette G.P., Ruddon R.W., Stow J.L., Grossman H.B., Peters B.P. Rapid intracellular assembly of a noncovalent complex between laminin and heparan sulfate proteoglycan core protein. Proc. Amer. Assoc. Cancer Res. 30, 1989.

Kroll T.G., R.W. Ruddon. The differential biosynthesis of laminin subunits in myogenesis initiated with 5-Azadeoxycytidine. Society for Complex Carbohydrates, Ann Arbor, MI, 1989. Glycoconjugate Journal 6(3):448, 1989.

Kroll T.G., B.P. Peters and R.W. Ruddon. Laminin isoforms are developmentally expressed during C3H 10T_{1/2} Myogenesis. UCLA Symposium on Molecular and Cellular Biology: Molecular Basis of Cellular Adhesion, January, 1990. Journal of Cellular Biochemistry (Supp.) 14A:154, 1990.

RAYMOND W. RUDDON, JR., M.D., Ph.D.

ABSTRACTS (cont'd)

Kroll T.G. and R.W. Ruddon. Myogenesis initiated by transcriptional regulator Myo D1 is accompanied by an increased biosynthesis of the laminin A subunit chain. Proceedings of the 81st annual meeting of the American Association for Cancer Research, Volume 31:33, 1990.

Huth J.R. and R.W. Ruddon. The human chorionic gonadotropin β subunit: A model of protein folding in vivo. American Society for Biochemistry and Molecular Biology. FASEB J. 4:1224, 1990.

Huth J.R., E. Bedows, R.W. Ruddon. In vivo folding intermediates of human chorionic gonadotropin (hCG) purified by HPLC. FASEB J. 5:341, 1991.

Dicke K.A., E. Bayever, Y. Yao, K. Haines, P. Iversen, K. Cornish, M.A. Arneson, C. Mountjoy, R. Ruddon, L.J. Smith. Antisense p53 oligonucleotides: potential antileukemic agents. The American Society of Hematology, 33rd Annual Meeting, 1991.

Huth J.R., E. Bedows, K. Mountjoy, F. Perini, R.W. Ruddon. In vivo folding pathway of the β subunit of human chorionic gonadotropin (hCG). FASEB J. 6:2684, 1992.

Bedows E., J.R. Huth, R.W. Ruddon, N. Saganuma, I. Boime. The role of disulfide bonds in human chorionic gonadotropin (hCG) β subunits folding in transfected CHO cells. FASEB J. 6:1971, 1992.

Huth J.R., E. Bedows, R.W. Ruddon. Requirement of cellular proteins to reconstitute a defined intracellular folding pathway. American Society for Biochemistry and Molecular Biology, Keystone Symposium, Molecular Chaperones: Functions in Protein Folding and Cellular Metabolism, October, 1992.

Ruddon, R.W., Huth, J.R., Bedows, E., Mountjoy, K., Perini, F. Folding of the β subunit of hCG and its role in assembly of the $\alpha\beta$ heterodimer. Sero International Symposium on Glycoprotein Hormones: Structure, Function and Clinical Implications, 1993.

Bedows E., J.R. Huth, N. Saganuma, I. Boime, R.W. Ruddon. Disulfide bond mutations affect the folding of hCG- β in transfected CHO cells. Sero International Symposium on Glycoprotein Hormones, Structure, Function and Clinical Implications, 1993.

Huth J.R., F. Perini, E. Bedows, R.W. Ruddon. The in vitro, protein disulfide isomerase (PDI)-catalyzed, and intracellular hCG- β folding/hCG subunit assembly pathways are indistinguishable. Sero International Symposium on Glycoprotein Hormones: Structure, Function and Clinical Implications, 1993.

Sherman S., W. Gmeiner, R.W. Ruddon. Method for detecting the earliest pathway signals of protein folding. American Society for Biochemistry and Molecular Biology, Keystone Symposium, March, 1993.

Gmeiner W.H., J. Sharpe, S. Sherman, F. Perini, R. Ruddon. NMR conformational analysis of hCG- β peptides containing the early forming disulfide bond 38-57. American Chemical Society Annual Meeting, 1993.

Gwilt P., C. Lear, D. Birt, M. Tempero, A. Grandjean, R. Ruddon, D. Nagel. Modulation of human acetaminophen metabolism by garlic extract. Proc. Am. Assoc. Cancer Res., 34:3313, 1993.

Gmeiner W.H., F. Perini, R.W. Ruddon, S.A. Sherman. NMR structural investigations of the hCG- β folding pathway. American Chemical Society NMR Symposium, 1994.

Gmeiner W.H., P. Sahasrabudhe, S.A. Sherman, F. Perini, and R.W. Ruddon. Identification of nucleation sites for folding of hCG- β from analysis of peptides by molecular dynamics, NMR, and CD spectroscopy. Keystone NMR Meeting, 1995.

RAYMOND W. RUDDON, JR., M.D., Ph.D.

ABSTRACTS (cont'd)

Ruddon, R.W., E. Bedows, W. Feng, J.R. Huth, and I. Boime. Regulation of the intracellular and in vitro folding of human chorionic gonadotropin β subunit and its assembly with α . Satellite Meeting on Protein Folding, American Society for Biochemistry and Molecular Biology and Division of Biological Chemistry - American Chemical Society, Abstract #P61, May, 1995.

Feng, W., M.M. Matzuk, K. Mountjoy, E. Bedows, R.W. Ruddon, and I. Boime. The asparagine-linked oligosaccharides of the human chorionic gonadotropin (hCG) β subunit facilitate correct disulfide bond pairing. The Endocrine Society, Abstract #P3-518, June, 1995.

Kirnarsky, L., W.H. Gmeiner, F. Perini, R. Ruddon, and S. Sherman. Structural determinants of the unusual long loop from the β -subunit of human chorionic gonadotropin (hCG β). Protein Folding and Design, An International Conference, National Institutes of Health, Bethesda, MD, April 23-26, 1996.

Miller-Lindholm, A.K., O. Lockridge, C. Bartels, V. Scholten, V., Maclin, J. Ramey, and R.W. Ruddon. Identification of polymorphisms in human chorionic gonadotropin gene 5. 10th international Congress of Endocrinology (ICE '96), San Francisco, CA, USA, June 12-15, 1996.

Maclin, V., A. Miller-Lindholm, V. Scholten, J. Ramey, and R.W. Ruddon. DNA polymorphism of the human chorionic gonadotropin (hCG- β) gene 5. Society for Gynecologic Investigation, 1996.

Miller-Lindholm, A., C.J. LaBenz, J. Ramey, and R.W. Ruddon. Human Chorionic Gonadotropin Beta (hCG- β) Gene Expression in First Trimester Placenta and Spontaneously Aborted Placenta. 79th Annual Meeting of The Endocrine Society, Abstract # P2-450, June, 1997.

Darling, R. J., R. W. Ruddon, F. Perini, and E. Bedows. The Role of Disulfide Bond Formation in the Folding of the Glycoprotein Hormone. 80th Annual Meeting of The Endocrine Society, Abstract # P3-579, New Orleans, LA, USA, June 24-27, 1998.

ABSTRACTS (cont'd)

Darling, R. J., R. W. Ruddon, F. Perini, and E. Bedows. Cystine knot mutations in the glycoprotein hormone α -subunit result in inefficient folding and differential secretion of partially folded intermediates. Keystone Meeting on Protein Folding, April, 1999.

INVITED PRESENTATIONS

Cancer chemotherapy. St. Mary's Hospital, Grand Rapids, MI, April 24, 1967.

The molecular pharmacology of the antineoplastic alkylating agents. The University of Minnesota, Minneapolis, MN, April 2, 1968.

Alteration of enzyme activity in rat liver following acute and chronic administration of nicotine. American Medical Association Research Council, Annual Meeting. Scottsdale, Az, May 6, 1970.

Types of labeled precursors for macromolecular synthesis and incorporation studies with in vivo, in vitro, and cell-free systems. Workshops on the Use of Radioisotopes in Biologic Experiments. The University of Michigan, Ann Arbor, MI, June 2, 1970.

Nuclear protein synthesis and RNA metabolism in rat liver after phenobarbital administration. Mental Health Research Institute, The University of Michigan, Ann Arbor, MI, October 30, 1970.

RAYMOND W. RUDDON, JR., M.D., Ph.D.

INVITED PRESENTATIONS (cont'd)

Nuclear control of "differentiation" in cultured malignant cells. Michigan Branch-Tissue Culture Association Symposium. Detroit, MI, April 23, 1976.

Clues for new markers of malignant disease. The Medical Society of the District of Columbia, Washington DC, April 27, 1977.

Development of tumor markers. Gastrointestinal Tumor Study Group, National Cancer Institute, Mayo Clinic, Rochester, MN, September 9, 1977.

Development of markers for neoplastic disease. Georgetown University Medical Center, Washington, DC, October 26, 1977.

Biological markers in lung cancer. Lung Cancer Study Group, National Cancer Institute, Vanderbilt University, Nashville, TN, February 2, 1978.

Role of biological markers in cancer diagnosis and treatment. International Conference on Biological Markers of Neoplasia, Leesburg, VA, May 23, 1978.

Development of new cancer markers. National Cancer Institute, Bethesda, MD, October 20, 1978.

Oncodevelopmental gene products as tumor markers: hCG production by cultured human cell lines. Bioassay Group, National Cancer Institute, Bethesda, MD, May 24, 1979.

Synthesis, processing and secretion of hCG subunits by cultured human malignant cells. Clinical Endocrinology Branch, NIAMDD, Bethesda, MD, July 17, 1979.

Biological markers of cancer: Production of human chorionic gonadotropin by cultured malignant cells. The University of Michigan's 26th Annual Cancer Retreat, Ann Arbor, MI, October 6, 1979.

Synthesis, processing, and secretion of human chorionic gonadotropin subunits by cultured human cells. Rockefeller Foundation Symposium on Chorionic Gonadotropin, Lake Como, Italy, November 15, 1979.

Human chorionic gonadotropin as a marker of neoplastic cells. The University of Michigan, Ann Arbor, MI, December 3, 1979.

Biological markers of cancer: Glycoprotein hormones and plasma protein degradation products. American Cancer Society Lecture, Fifth Annual Symposium on Advances in Cancer Treatment Research, University of Maryland, College Park, MD, March 6, 1980.

Research of the Biological Markers Program, Division of Cancer Treatment, Board of Scientific Counselors, National Cancer Institute, March 24, 1980.

Cancer chemotherapy: Historical perspectives and future prospects. Hospice Group of Frederick County, Frederick, MD, April 29, 1980.

Biological markers of cancer: Production of hCG by human cancer cells. Midwest Radioassay Society, Ann Arbor, MI, May 8, 1980.

Tumor markers. New England Cancer Society, Bethesda, MD, June 6, 1980.

Advances in tumor marker research. Helige/Bionetics Technology Assessment Workshop, Freiburg, Germany, September 24, 1980.

RAYMOND W. RUDDON, JR., M.D., Ph.D.

INVITED PRESENTATIONS (cont'd)

Research trends in cancer markers. Cancer Marker Seminar, American Dade, Miami, FL, February 20, 1981.

Tumor markers in Clinical Oncology: Advances in Diagnosis, Care and Treatment of the Cancer Patient. Postgraduate Medicine course, The University of Michigan, Ann Arbor, MI, November 13, 1981.

Production of hCG by cultured human cancer cells. Department of Environmental and Industrial Health, The University of Michigan, Ann Arbor, MI, April 16, 1982.

Regulation of chorionic gonadotropin secretion by human trophoblastic cells. Michigan State University, East Lansing, MI, October 26, 1982.

Regulation of chorionic gonadotropin secretion by human trophoblastic cells. Yale University, New Haven, CT, March 10, 1983.

Controversy in chemotherapy: To clone or not to clone? A question in anticancer drug development. FASEB Annual Meeting, Chicago, IL, April 14, 1983.

Biosynthesis, oligosaccharide processing, and secretion of hCG subunits by human choriocarcinoma cells in Minisymposium on Glycoprotein Hormones: Biosynthesis and Assembly of Subunits. Amer. Soc. Biol. Chemists Annual Meeting, San Francisco, CA, June 6, 1983.

hCG subunit combination, processing and secretion: Why are there uncombined subunits? Yale University, New Haven, CT, May 21, 1984.

Potential therapeutic value of oligosaccharide processing inhibitors. McNeil Laboratories, Spring House, PA, October 1, 1984.

hCG production by trophoblastic and non-trophoblastic tumors. Society for Gynecologic Investigation, Annual Meeting, Phoenix, AZ, March 22, 1985.

Subunit combination, processing, and secretion of the glycoprotein hormone hCG by human cells in culture. University of Virginia, Charlottesville, VA, October 4, 1985.

Biosynthesis and secretion of hCG by normal and malignant trophoblastic cells. Grand Rounds of the Department of Obstetrics and Gynecology, The University of Michigan, November 7, 1985.

Biosynthesis and secretion of the glycoprotein hormone hCG by cultured human cells. Department of Biological Chemistry, The University of Michigan, February 7, 1986.

Production of free and combined hCG subunits by cultured choriocarcinoma cells in Glycoprotein Hormones: Structure and Synthesis. Howard Hughes Medical Institute Symposium, Miami, FL, February 24-26, 1986.

Sterling-Sullivan Visiting Professor of Pharmacology Lecture: Biosynthesis and subunit combination of placental hormone chorionic gonadotropin in human cells. Morehouse School of Medicine, Atlanta, GA., April 14, 1988.

Biosynthesis and combination of chorionic gonadotropin subunits in human cells. 8th International Congress of Endocrinology, Satellite Meeting on Placental Protein Hormones, Kobe, Japan, July 14-15, 1988.

RAYMOND W. RUDDON, JR., M.D., Ph.D.

INVITED PRESENTATIONS (cont'd)

Conformational changes in beta subunit that regulate assembly of hCG dimer. Sero International Symposium on Glycoprotein Hormones, Newport Beach, CA, March 20-24, 1989.

Regulatory steps in the assembly of the $\alpha\beta$ dimer of hCG in trophoblastic cells. International Symposium on Structure-Function Relationships of Gonadotropins, Paris, France, May 8-9, 1989.

Role of protein folding in the assembly of the $\alpha\beta$ dimer of chorionic gonadotropin. EMBO Workshop on Protein Folding in the Cell, University of Kent at Canterbury, England, September 25-28, 1989.

Role of protein folding in the assembly of the $\alpha\beta$ dimer of hCG in trophoblast cells. Department of Biochemistry, Mayo Clinic and Medical School, October 17, 1989.

Regulation of hCG $\alpha\beta$ dimer assembly in trophoblast cells. Reproductive Endocrinology Unit, Massachusetts General Hospital, January 12, 1990.

Outstanding Alumni Award Lectureship, Department of Pharmacology, University of Michigan Medical School, October 1, 1993.

Folding and assembly of human chorionic gonadotropin (hCG): A model for protein folding with clinical implications for cancer, Dartmouth Medical School, July 24, 1995.

Folding and assembly of human chorionic gonadotropin (hCG): A model for protein folding with clinical implications for cancer, Grand Rounds, University of Wisconsin Comprehensive Cancer Center, October 16, 1996.

Folding and assembly of human chorionic gonadotropin (hCG): Implications for cancer, Dept. of Pharmacology, UMDNJ-Robert Wood Johnson Medical School, September 9, 1998.

Panelist, "Leaders in Research and Technology Face the Nation: Aiming for Quantum Leaps in Medical and Health Research," Research! America National Forum, March 18, 2003.

Role of Genomics & Proteomics in Drug Development and Impact on the Practice of Medicine, Molecular and Cellular Pharmacology Program, University of Wisconsin-Madison, June 4, 2003.

Role of Genomics & Proteomics in Diagnosis and Treatment, University of Nebraska Medical Center-Eppley Cancer Center, October 3, 2003.

Revised 10/26/11