# PROGRAM

## I. Epidemiological Factors, Hormones, and Cancer

An Overview of Hormone-associated Cancers.

*Anthony B. Miller* ................................................. 3985

Role of Exogenous Female Hormones in Altering the Risk of Benign and Malignant Neoplasms in Humans.

*David B. Thomas* .................................................. 3991

A Critique of the Statistical Evidence Associating Estrogens with Endometrial Cancer.

*Alvan R. Feinstein and Ralph I. Horwitz* ......................... 4001

Plasma Hormone Profiles of Young Women at Risk for Familial Breast Cancer.


Impeding Estrogens and the Etiology of Breast Cancer.

*Herbert H. Wotiz, Sati C. Chattoraj, Michele Kudisch, and R. Enzio Müller* ............................................. 4012

Menstrual Cycle Patterns and Breast Cancer Risk Factors.

*Robert B. Wallace, Barry M. Sherman, Judy A. Bean, James P. Leeper, and Alan E. Treloar* ......................... 4021

Relationship between Urine and Plasma Estrogen Ratios.

*Christopher Longcope and J. Howard Pratt* ....................... 4025

Androgen-Estrogen Production Rates in Postmenopausal Women with Breast Cancer.

*Marvin A. Kirschner, Frederick B. Cohen, and Catherine Ryan* ............................................. 4029

Adrenal Dehydroepiandrosterone and Human Mammary Cancer.

*John B. Adams, Lesley Archibald, and Christine Clarke* .................. 4036

## II. Hormones and Regulation of Normal and Malignant Mammary Epithelium

A Proposed Coupling of Chromatin Replication, Hormone Action, and Cell Differentiation.

*Gerald C. Mueller, Kazuto Kajiwara, Uh Hee Kim, and Joyce Graham* ............................................. 4041

Role of Hormones in Mammary Neoplasia.

*S. Nandi* ............................................................. 4046

Effect of Parity on Recovery of Inapparent Nodule-transformed Mammary Gland Cells in Vivo

*K. B. DeOme, Marilyn J. Miyamoto, Rebecca C. Osborn, Raphael C. Guzman, and Kenneth Lum* ............................................. 4050

Prolactin and the Development and Progression of Early Neoplastic Mammary Gland Lesions.

*Clifford W. Welsch* .................................................. 4054

A Difference between Mammary Epithelial Cells from Mature Virgin and Primiparous Mice.

*B. K. Vonderhaar, G. H. Smith, R. J. Pauley, J. M. Rosen, and Y. J. Topper* ............................................. 4059

Mesenchyme-mediated Effect of Testosterone on Embryonic Mammary Epithelium.

*Heidelinde Dürnberger, Barbara Heuberger, Peter Schwartz, Gertraud Wasner, and Klaus Kratochwil* ................. 4066

Antagonistic Action between Cyclic Adenosine 3':5'-Monophosphate and Estrogen in Rat Mammary Tumors Growth Control.

*Yoon Sang Cho-Chung* ............................................... 4071

Regulatory Interrelationships for Insulin and Estrogen Action in Mammary Tumors.

*Russell Hill, Paul J. Hissin, and Samir M. Shafie* .................. 4076

Isolation and Purification of Rat Mammary Tumor Peroxidase.

*Eugene R. DeSombre and C. Richard Lyttle* ......................... 4086

Unsaturated Fatty Acid Requirements for Growth and Survival of a Rat Mammary Tumor Cell Line.

*William R. Kidwell, Marie E. Monaco, Max S. Wicha, and Gilbert S. Smith* ............................................. 4091

Vasopressin Stimulation of Acetate Incorporation into Lipids in a Dimethylbenz(a)anthracene-induced Rat Mammary Tumor Cell Line.

*M. E. Monaco, M. E. Lippman, R. Knazek, and W. R. Kidwell* ............................................. 4101

Specificity of Arrest, Survival, and Growth of Selected Metastatic Variant Cell Lines.

*Garth L. Nicolson, Kenneth W. Brunson, and Isaiah J. Fidler* ............................................. 4105

Hormonal Induction of Mammary Tumor Viruses and Its Implications for Carcinogenesis.

*Charles M. McGrath and Richard F. Jones* ......................... 4112

Combined Effects of Testosterone and Estradiol on Rat Ventral Prostate in Organ Culture.

*Thérèse Feyel-Cabanes, Jean Secchi, Paul Robel, and Étienne-Emile Baulieu* ............................................. 4126

Multiple Sensitivities of Mammary Tumor Cells in Culture.

*Jean Yates and Roger J. B. King* .................................... 4135

Role of Prostaglandins in Production of Hypercalcemia by Tumors.

*Armen H. Tashjian, Jr.* ............................................... 4138
III. Steroid Hormone Action and Cancer

Unique Steroid Congeners for Receptor Studies.
Tiiu Ojasoo and Jean-Pierre Raynaud ............................................. 4186

Structure of Chick Progesterone Receptors.
William T. Schrader and Bert W. O’Malley .......................... 4199

Receptor and Centriole Pathways of Steroid Action in Normal and Neoplastic Cells.
Italo Nenci ................................................................. 4204

Investigation of Hormone-Receptor Interactions by Means of Fluorescence Labeling.
Walter B. Dandliker, R. James Brawn, Mao-Lin Hsu, Peter N. Brawn, Jacques Levin, Cal Y. Meyers, and Vera M. Kolb ............................. 4212

Estriadiol Receptor Analysis in Human Breast Cancer Tissue by Isoelectric Focusing in Polyacrylamide Gel.
Jan-Ake Gustafsson, Sven A. Gustafsson, Bo Nordenskjold, Sam Okret, Claes Silfversward, and Örjan Wrange ........................................... 4225

Comparison between Different Forms of Estrogen Cytosol Receptor and the Nuclear Receptor Extracted by Micrococcal Nuclease.
Henri Rochefort and Jean André .................................................. 4229

Effects of Ethidium Bromide on the Extractability of Nuclear Receptor-Estrogen Complex.
R. Enzio Müller, Joyce E. Meader, and Herbert H. Wotiz ......................... 4233

Metabolism of 17β-Estradiol during Receptor-mediated Nuclear Migration in Breast Cancer Cells.
S. C. Brooks, E. R. Locke, and L. Horn ........................................ 4238

Restoration by Adrenalectomy of Weight and Binding Capacity of Glucocorticoid Receptors of the Thymus in AH 130 Tumor-bearing Rats.
Fumihide Isohashi, Kazue Tsukanaka, Masako Terada, Yoko Nakanishi, Sadanao Tani, and Yukiya Sakamoto. 4243

IV. Hormone Action and Specific Disease States

Specific Binding of Estrogens in Different Fetal Tissues of Guinea Pig during Fetal Development.
J. R. Pasqualini, C. Sumida, C. Gelly, B. L. Nguyen, and J. Tardy ................................................................. 4246

Clinical Implications of Glucocorticoid Receptors in Human Leukemia.
Marc E. Lippman, Geraldine Konior Yarbro, and Brigid G. Leventhal ............................................................. 4251

Discrepancies between in Vivo and in Vitro Effects of Glucocorticoids in Myelomonocytic Leukemic Cells with Steroid Receptors.
Stefano Iacobelli, Franco O. Ranelletti, Paola Longo, Riccardo Riccardi, and Renato Mastrangelo ................................. 4257

Prognostic Value of Steroid Receptor Determination in Leukemia.
D. Duval and F. Homo ............................................................... 4263

Glucocorticoid Receptors and Sensitivity of Isolated Human Leukemia and Lymphoma Cells.
Gerald R. Crabtree, Kendall A. Smith, and Allan Munck ........................ 4268

Use of a Human Lymphoid Cell Line to Evaluate Interactions between Prednisolone and Other Chemotherapeutic Agents.
M. R. Norman, J. M. Harmon, and E. B. Thompson ............................. 4273

Glucocorticoid Resistance in Murine Lymphoma and Thymoma Lines.
Suzanne Bourgeois, Ronald F. Newby, and Marianne Huet ........................ 4279

Regulation of S49 Lymphoma Cell Growth by Cyclic Adenosine 3′:5′-Monophosphate.
Philip Coffino and Joe W. Gray .................................................. 4285

Steroid Receptors in Human Breast Cancer.
William L. McGuire ................................................................. 4289

Estrogen Receptor Assay in Primary Breast Cancer and Early Recurrence of the Disease.
P. V. Maynard, R. W. Blamey, C. W. Elston, J. L. Haybittle, and K. Griffiths .............................................. 4292

Prognostic Value of Estrogen Receptor Determinations in Patients with Breast Cancer.
An Association between Steroid Hormone Receptors and Response to Cytotoxic Chemotherapy in Patients with Metastatic Breast Cancer.

Joseph C. Allegra, Marc E. Lippman, E. B. Thompson, and Richard Simon ........................................... 4299

Some Comments on the Necessity of Receptor Determination in Human Breast Cancer.

Walter Jonat and Heinrich Maass ............................................................................................................. 4305

Molecular Heterogeneity of Cytosolic Forms of Estrogen Receptors from Human Breast Tumors.

Timothy E. Kute, Peter Heidemann, and James L. Wittliff ..................................................................... 4307

Relation between Steroid Receptor Content and the Response to Hormone Addition in Isolated Human Breast Cancer Cells in Short-Term Culture.

Nicole Israel and Simone Saez .............................................................................................................. 4314

α-Lactalbumin in Human and Subhuman Primate Normal Mammary Tissue and in Human Breast Cancer as a Marker for Prolactin Activity.

David L. Kleinberg and Jean Todd ....................................................................................................... 4318

Role of Pituitary Hormones in the Growth of Human Breast Cancer.

Olof H. Pearson, Andrea Manni, Mark Chambers, Jerald Brodkey, and James S. Marshall ..................... 4323

Human Breast Carcinoma Cells in Continuous Culture: A Review.

Linda W. Engel and Nathaniel A. Young ................................................................................................. 4327

Human Renal Cell Carcinoma as a Hormone-dependent Tumor.

Giuseppe Concolino, Antonietta Marocchi, Carlo Conti, Raffaele Tenaglia, Franco Di Silverio, and Ulrico Bracci .......................................................... 4340

Correlation between Clinical Response to Hormone Therapy and Steroid Receptor Content in Prostatic Cancer.

Jan-Ake Gustafsson, Peter Ekman, Marek Snochowski, Anders Zetterberg, Åke Pousette, and Bertil Högberg . 4345

Dihydrotestosterone Concentration in Prostate Cancer Tissue as a Predictor of Tumor Differentiation and Hormonal Dependency.

Jack Geller, Jerry Albert, Daniel de la Vega, Debra Loza, and Woods Stoeltzing ..................................... 4349

Animal Models of the Hormone-sensitive and -insensitive Prostatic Adenocarcinomas, Dunning R-3327-H, R-3327-HI, and R-3327-AT.

John T. Isaacs, Warren D. W. Heston, Robert M. Weissman, and Donald S. Coffey ................................. 4353

Steroid Hormones and Endometrial Cancer.

Pentti K. Siiteri ............................................................................................................................................. 4360

Human Endometrial Cancer Cell Cultures for Hormonal Studies.

P. G. Satyaswaroop, Honorée Fleming, Robert S. Bressler, and Erlio Gurpide ......................................... 4367