

PROGRAM PLANNING COMMITTEE

William C. Eckelman
David M. Goldenberg (*Chairman*)
Edgar Haber
Thomas Hoffman
Steven M. Larson
Stanley E. Order
Howard Sands
Mette Strand

PROGRAM

Introduction to the Second Conference on Radioimmunodetection and Radioimmunotherapy of Cancer.
David M. Goldenberg 778s

SESSION I

Radiochemistry of Antibodies

Chairperson: William C. Eckelman

Development of Radiochemically Pure Antibodies.
W. C. Eckelman 780s

Improving the Tumor Retention of Radioiodinated Antibody: Aryl Carbohydrate Adducts.
Seham A. Ali, Stephen D. Warren, Karen Y. Richter, Christopher C. Badger, Janet F. Eary, Oliver W. Press, Kenneth A. Krohn, Irwin D. Bernstein, and Wil B. Nelp 783s

Stable Bifunctional Chelates of Metals Used in Radiotherapy.
Min K. Moi, Sally J. DeNardo, and Claude F. Meares 789s

Preclinical Evaluation of an "Instant" ^{99m}Tc-labeling Kit for Antibody Imaging.
Hans J. Hansen, Anastasia L. Jones, Robert M. Sharkey, Ruth Grebenau, Nancy Blazejewski, Arthur Kunz, Michael J. Buckley, Edward S. Newman, Frank Ostella, and David M. Goldenberg 794s

^{99m}Tc Labeling of Proteins: Initial Evaluation of a Novel Diaminedithiol Bifunctional Chelating Agent.
Kwamena E. Baidoo, Ursula Scheffel, and Susan Z. Lever 799s

Disulfide Bond-targeted Radiolabeling: Tumor Specificity of a Streptavidin-biotinylated Monoclonal Antibody Complex.
Renato B. del Rosario and Richard L. Wahl 804s

SESSION II

Experimental Studies of Radioimmunodetection

Chairpersons: Howard Sands and Jeffrey Schlom

Experimental Studies of Radioimmunodetection of Cancer: An Overview.
Howard Sands 809s

Physiological Barriers to Delivery of Monoclonal Antibodies and Other Macromolecules in Tumors.
Rakesh K. Jain 814s

Innovations That Influence the Pharmacology of Monoclonal Antibody Guided Tumor Targeting.
Jeffrey Schlom, Patricia Horan Hand, John W. Greiner, David Colcher, Shashi Shrivastav, Jorge A. Carrasquillo, James C. Reynolds, Steven M. Larson, and Andrew Raubitschek 820s

Comparison of Tumor Targeting in Nude Mice by Murine Monoclonal Antibodies Directed against Different Human Colorectal Cancer Antigens.
Robert M. Sharkey, David V. Gold, Rosarito Aninipot, Rae Vagg, Cathy Ballance, Edward S. Newman, Frank Ostella, Hans J. Hansen, and David M. Goldenberg 828s

Pharmacokinetics of ^{99m}Tc-Metallothionein-B72.3 and Its F(ab')₂ Fragment.
Beverly A. Brown, Cynthia B. Dearborn, Cynthia A. Drozynski, and Howard Sands 835s

Mechanisms of Tissue Uptake and Metabolism of Radiolabeled Antibody—Role of Antigen:Antibody Complex Formation.
J. David Beatty, Barbara G. Beatty, Margaret O'Conner-Tressel, Tulan Do, and Raymond J. Paxton 840s

774s

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| Mechanism of Decreasing Liver Uptake of ¹¹¹ In-labeled Anti-Carcinoembryonic Antigen Monoclonal Antibody by Specific Antibody Pretreatment in Tumor Bearing Mice. <i>Barbara G. Beatty, Margaret O'Conner-Tressel, Tulan Do, Raymond J. Paxton, and J. David Beatty</i> | 846s |
| Uptake and Metabolism of ¹¹¹ In-labeled Monoclonal Antibody B6.2 by the Rat Liver. <i>Peter L. Jones, Beverly A. Brown, and Howard Sands</i> | 852s |
| Site-specifically Radioiodinated Antibody for Targeting Tumors. <i>Douglas W. Rea, Michiel E. Ultee, Benjamin A. Belinka, Jr., Daniel J. Coughlin, and Vernon L. Alvarez</i> | 857s |
| Radiolocalization of Monoclonal Antibodies in Hepatic Metastases from Human Colon Cancer in Congenitally Athymic Mice. <i>Kazuhiko Yoshida, Michel Rivoire, Chaitanya Divgi, Sydney Welt, Alfred M. Cohen, and Elin R. Sigurdson</i> | 862s |
| Monoclonal Antibody Targeting of Human Non-Small Cell Carcinoma of the Lung. <i>Rhona Stein, Robert M. Sharkey, and David M. Goldenberg</i> | 866s |
| Carcinoembryonic Antigen and α -Fetoprotein Expression and Monoclonal Antibody Targeting in a Human Hepatoma/ Nude Mouse Model. <i>Zhifu F. Wang, Rhona Stein, Robert M. Sharkey, and David M. Goldenberg</i> | 869s |
| Comparative Pharmacokinetics of a Murine Monoclonal Antibody to a Rat Colon Tumor in Rats and Nude Mice. <i>Jorge Laborda, Jean-Yves Douillard, Elaine F. Lizzio, and Thomas Hoffman</i> | 873s |
| Radioimmunodetection of Hepatic Metastases from Human Colon Cancer in Nude Mice with a Gamma-detecting Probe. <i>Michel Rivoire, Kazuhiko Yoshida, Chaitanya Divgi, Sydney Welt, Alfred Cohen, and Elin R. Sigurdson</i> | 877s |
| Patterns of Antigen Distribution in Human Carcinomas. <i>M. Jules Mattes, Pierre P. Major, David M. Goldenberg, Arnold S. Dion, Robert V. P. Hutter, and Kenneth M. Klein</i> | 880s |
| Use of Whole-Body Autoradiography in Cancer Targeting with Radiolabeled Antibodies. <i>Irwin Fand, Robert M. Sharkey, and David M. Goldenberg</i> | 885s |

SESSION III

Clinical Studies of Radioimmunodetection

Chairpersons: Steven M. Larson and Abass Alavi

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| Clinical Radioimmunodetection, 1978–1988: Overview and Suggestions for Standardization of Clinical Trials. <i>Steven M. Larson</i> | 892s |
| Tumor Immunoscintigraphy by Means of Radiolabeled Monoclonal Antibodies: Multicenter Studies of the Italian National Research Council—Special Project “Biomedical Engineering”. <i>Antonio G. Siccardi</i> | 899s |
| Radioimaging of Melanoma Using ^{99m} Tc-labeled Fab Fragment Reactive with a High Molecular Weight Melanoma Antigen. <i>Lamk M. Lamki, Alexander A. Zukiwski, L. Joy Shanken, Sewa S. Legha, Robert S. Benjamin, Carl E. Plager, Darrell F. Salk, Robert W. Schroff, and James L. Murray</i> | 904s |
| Clinical Studies of Cancer Radioimmunodetection with Carcinoembryonic Antigen Monoclonal Antibody Fragments Labeled with ¹²³ I or ^{99m} Tc. <i>David M. Goldenberg, Hildegard Goldenberg, Robert M. Sharkey, Edith Higginbotham-Ford, Robert E. Lee, Lawrence C. Swayne, Karen A. Burger, Diane Tsai, Jo Ann Horowitz, Thomas C. Hall, Carl M. Pinsky, and Hans J. Hansen</i> | 909s |
| Presurgical Imaging with Indium-labeled Anti-Carcinoembryonic Antigen for Colon Cancer Staging. <i>J. David Beatty, Lawrence E. Williams, David Yamauchi, Blaine A. Morton, L. Robert Hill, Barbara G. Beatty, Raymond J. Paxton, Bruce Merchant, and John E. Shively</i> | 922s |
| Breast Tumor Radioimmunodetection with a ¹¹¹ In-labeled Monoclonal Antibody (MA5) against a Mucin-like Antigen. <i>Pierre P. Major, Arnold S. Dion, Charlene J. Williams, M. Jules Mattes, Taqui Wang, and Leonard Rosenthal</i> | 927s |
| Human Biodistribution of ¹¹¹ In-labeled B72.3 Monoclonal Antibody. <i>Steven J. Harwood, Robert G. Carroll, William B. Webster, Linda M. Zangara, David L. Laven, Michele A. Morrissey, and Barbara J. Sinni</i> | 932s |
| Immunolymphoscintigraphy and Immunoscintigraphy of Ovarian and Fallopian Tube Cancer Using F(ab') ₂ Fragments of Monoclonal Antibody OC 125. <i>Pentti Lehtovirta, Kalevi J. A. Kairemo, Kristian Liewendahl, and Markku Seppälä</i> | 937s |
| Lymphoscintigraphy in Melanoma: Initial Evaluation of a Low Protein Dose Monoclonal Antibody Cocktail. <i>Richard L. Wahl, Monica Liebert, John Headington, Barry S. Wilson, Barry L. Shulkin, Jon W. Johnson, Shirley Mallette, Ronald B. Natale, William Coon, Mary East, Robertson Davenport, M. B. Brown, John T. Niederhuber, and Neil A. Swanson</i> | 941s |
| Immunolymphoscintigraphy with ^{99m} Tc-labeled Monoclonal Antibody (BW 431/26) Reacting with Carcinoembryonic Antigen in Breast Cancer. <i>Kalevi J. A. Kairemo</i> | 949s |

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| Radioimmunodetection in Rhabdo- and Leiomyosarcoma with ¹¹¹ In-Anti-Myosin Monoclonal Antibody Complex. <i>André Planting, Jaap Verweij, Peter Cox, Mike Pillay, and Gerrit Stoter</i> | 955s |
| Detection of Thrombophlebitis with ¹¹¹ In-labeled Anti-Fibrin Antibody: Preliminary Results. <i>Abass Alavi, Naresh Gupta, Harold I. Palevsky, Mark A. Kelley, Allison D. Jatlow, Ann A. Byar, and Harvey J. Berger</i> | 958s |

SESSION IV

Prospects for Therapy, I: Experimental

Chairperson: Mette Strand

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| Radioimmunotherapy in Experimental Animal Models: Principles Derived from Models. <i>David A. Scheinberg and Mette Strand</i> | 962s |
| Biological Considerations for Radioimmunotherapy. <i>Robert M. Sharkey, Rosalyn D. Blumenthal, Hans J. Hansen, and David M. Goldenberg</i> | 964s |
| Current Status of Animal Radioimmunotherapy. <i>Barry W. Wessels</i> | 970s |
| Targeting and Therapy of Human Glioma Xenografts <i>in Vivo</i> Utilizing Radiolabeled Antibodies. <i>Jeffery A. Williams, Barry W. Wessels, James A. Edwards, Kenneth A. Kopher, Philip M. Wanek, Moody D. Wharam, Stanley E. Order, and Jerry L. Klein</i> | 974s |
| Imaging and Therapy of Small Cell Carcinoma Xenografts Using ¹³¹ I-labeled Monoclonal Antibody SWA11. <i>Alan Smith, Peter Groscurth, Robert Waibel, Gerrit Westera, and Rolf A. Stahel</i> | 980s |
| Radioimmunotherapy of Peritoneal Human Colon Cancer Xenografts with Site-specifically Modified ²¹² Bi-labeled Antibody. <i>R. Bruce Simonson, Michiel E. Ultee, Jo A. Hauler, and Vernon L. Alvarez</i> | 985s |
| Radioimmunotherapy of Human Colon Carcinomatosis Xenograft with ⁹⁰ Y-ZCE025 Monoclonal Antibody: Toxicity and Tumor Phenotype Studies. <i>Jose M. Esteban, David M. Hyams, Barbara G. Beatty, Bruce Merchant, and J. David Beatty</i> | 989s |
| Comparative Binding and Preclinical Localization and Therapy Studies with Radiolabeled Human Chimeric and Murine 17-1A Monoclonal Antibodies. <i>Donald J. Buchsbaum, Pamela G. Brubaker, David E. Hanna, Arthur A. Glatfelter, Valeri H. Terry, Dianne M. Guilbault, and Zenon Steplewski</i> | 993s |
| Tumor Spheroid Model for the Biologically Targeted Radiotherapy of Neuroblastoma Micrometastases. <i>K. A. Walker, R. Mairs, T. Murray, T. E. Hilditch, T. E. Wheldon, A. Gregor, and I. M. Hann</i> | 1000s |
| Use of Hematopoietic Growth Factors to Control Myelosuppression Caused by Radioimmunotherapy. <i>R. D. Blumenthal, R. M. Sharkey, L. M. Quinn, and D. M. Goldenberg</i> | 1003s |
| Role of Bone Marrow Transplantation in ⁹⁰ Y Antibody Therapy of Colon Cancer Xenografts in Nude Mice. <i>Blaine A. Morton, Barbara G. Beatty, Angeles P. Mison, Philip M. Wanek, and J. David Beatty</i> | 1008s |

SESSION V

Prospects for Therapy, II: Clinical

Chairperson: Stanley E. Order

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| Radiolabeled Antibodies: Results and Potential in Cancer Therapy. <i>S. E. Order, A. M. Sleeper, G. B. Stillwagon, J. L. Klein, and P. K. Leichner</i> | 1011s |
| Fractionated Radioimmunotherapy of B-Cell Malignancies with ¹³¹ I-Lym-1. <i>Gerald L. DeNardo, Sally J. DeNardo, Lois F. O'Grady, Norman B. Levy, Gregory P. Adams, and Stanley L. Mills</i> | 1014s |
| High Dose Radiolabeled Antibody Therapy of Lymphoma. <i>Irwin D. Bernstein, Janet F. Eary, Christopher C. Badger, Oliver W. Press, Fredrick R. Appelbaum, Paul J. Martin, Kenneth A. Krohn, Wil B. Nelp, Bruce Porter, Darrell Fisher, Richard Miller, Sherrie Brown, Ronald Levy, and E. Donnall Thomas</i> | 1017s |
| Radioimmunotherapy of Human B-Cell Lymphoma with ⁹⁰ Y-conjugated Antiidiotype Monoclonal Antibody. <i>Barbara A. Parker, Artemios B. Vassos, Samuel E. Halpern, Richard A. Miller, Homer Hupf, Diane G. Amox, Joseph L. Simoni, Robin J. Starr, Mark R. Green, and Ivor Royston</i> | 1022s |
| Estimation of Monoclonal Antibody-associated ⁹⁰ Y Activity Needed to Achieve Certain Tumor Radiation Doses in Colorectal Cancer Patients. <i>Lawrence E. Williams, Barbara G. Beatty, J. David Beatty, Jeffrey Y. C. Wong, Raymond J. Paxton, and John E. Shively</i> | 1029s |
| Intraperitoneal Immunoconjugates. <i>Thomas W. Griffin, Jeffrey Collins, Faran Bokhari, Mark Stochl, A. Bertrand Brill, Tsunao Ito, Georgette Emond, and Howard Sands</i> | 1031s |

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| Tumor, Red Marrow, and Organ Dosimetry for ¹³¹ I-labeled Anti-Carcinoembryonic Antigen Monoclonal Antibody. <i>Jeffry A. Siegel, David A. Pawlyk, Robert E. Lee, Norma L. Sasso, Jo Ann Horowitz, Robert M. Sharkey, and David M. Goldenberg</i> | 1039s |
| Dosimetric Model for Antibody Targeted Radionuclide Therapy of Tumor Cells in Cerebrospinal Fluid. <i>W. T. Millar and A. Barrett</i> | 1043s |

SESSION VI

Host Responses and Complications

Chairperson: Thomas Hoffman

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| Anticipating, Recognizing, and Preventing Hazards Associated with <i>in Vivo</i> Use of Monoclonal Antibodies: Special Considerations Related to Human Anti-Mouse Antibodies. <i>Thomas Hoffman</i> | 1049s |
| Immunoglobulin Class and Immunoglobulin G Subclass Analysis of Human Anti-Mouse Antibody Response during Monoclonal Antibody Treatment of Cancer Patients. <i>Herve M. Blottière, J. Y. Douillard, H. Koprowski, and Z. Steplewski</i> | 1051s |
| Human Immune Response to Anti-Carcinoembryonic Antigen Murine Monoclonal Antibodies. <i>Michele J. Losman, Robert L. DeJager, Marc Monestier, Robert M. Sharkey, and David M. Goldenberg</i> | 1055s |
| Author Index | 1059s |

COVER LEGEND



Pictured are five of the scientists who made critical contributions to the development of radioimmunodetection and radioimmunotherapy. Phil Gold (*far left*), codiscoverer of carcinoembryonic antigen, which has served as the prototype cancer marker and target for labeled antibodies, is currently Physician-in-Chief, Montreal General Hospital, Montreal, Canada. David Pressman (*second from left*), deceased, is credited with having made the early and seminal observations of organ and cancer targeting with antibodies against rodent tumors. David M. Goldenberg (*center*), who is President of the Center for Molecular Medicine and Immunology, Newark, New Jersey, organized the first and second conferences and provided the first demonstration in animals and humans of cancer imaging with radiolabeled antibodies against carcinoembryonic antigen, as well as a number of other cancer markers. William F. Bale (*second from right*), deceased, also was an early pioneer of animal studies of tumor localization with radiolabeled antibodies and pursued fibrin clot imaging and tumor therapy with radiolabeled anti-fibrin antibodies. Stanley E. Order (*far right*), who was one of the first proponents and innovators of radioimmunotherapy, is currently Professor and Director of Radiation Oncology, Johns Hopkins Cancer Center, Baltimore, Maryland. This photograph was made at the UICC Workshop on Radioimmunodetection of Cancer, Lexington, Kentucky, July 19–21, 1979.

The publication of the first conference held on the subject of cancer imaging and therapy with radiolabeled antibodies appeared as a supplement to the August 1980 issue of *Cancer Research* and has served as a frequently cited reference for the past 10 years.

Cancer Research

The Journal of Cancer Research (1916–1930) | The American Journal of Cancer (1931–1940)

50 (3 Supplement)

Cancer Res 1990;50:1017s-834s.

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