

Chemistry in Cancer Research:
A Vital Partnership in Cancer Drug Discovery and Development
*A joint conference presented by the American Association for Cancer Research
and the American Chemical Society*

February 8-11, 2009 • Westin New Orleans Canal Place • New Orleans, LA

Conference Chairperson:

John T. Hunt, Bristol-Myers Squibb, Princeton, NJ

Scientific Committee:

Matthew A. Marx, Pfizer, San Diego, CA

Brent R. Stockwell, Columbia University, New York, NY

David A. Wink, National Cancer Institute, Bethesda, MD

Cheryl L. Zimmerman, University of Minnesota College of Pharmacy, Minneapolis, MN

February 8

6:30-8:00 p.m.

Keynote Lectures

Introduction of Dr. Larry J. Marnett

John T. Hunt, Bristol-Myers Squibb, Princeton, NJ

Cyclooxygenase Inhibitors in Cancer Detection, Prevention, and Treatment

Larry J. Marnett, Vanderbilt University, Nashville, TN

Introduction of Dr. Gregory L. Verdine

Brent R. Stockwell, Columbia University, New York, NY

Interrogation, Recognition, and Repair of Damaged Bases in DNA

Gregory L. Verdine, Harvard University, Cambridge, MA

8:00 – 9:00 p.m.

Welcome Dessert Reception

February 9

7:00 – 8:00 a.m.

Continental Breakfast

8:00 – 9:45 a.m.

Session 1: Chemistry in Support of Cancer Target ID and Validation

Session Chair: Brent R. Stockwell, Columbia University, New York, NY

Probing Cell Death with Small Molecules

Brent R. Stockwell

Multi-dimensional Chemical Genetics in Cancer
Alexis Borisy, CombinatoRx, Inc., Cambridge, MA

Title to be announced
Benjamin F. Cravatt, Scripps, La Jolla, CA

**Disrupting the Rb-Raf-1 Protein-protein Interaction: A New Strategy for Anticancer Drug Design*
Nicholas J. Lawrence, Moffitt Cancer Center and Research Institute, Tampa, FL

9:45-10:15 a.m.

Coffee Break

10:15 a.m.-12:00 p.m.

Session 2: Chemistry in Support of Lead Discovery/Chemical Libraries

Session Chair: Michael Foley, Broad Institute, Cambridge, MA

Natural Product-based Libraries for Chemical Biology and Drug Discovery

Derek S. Tan, Memorial Sloan-Kettering Cancer Center, New York, NY

Build-couple-pair Strategy for Diversity-oriented Synthesis Yields Small Molecule that Binds Hedgehog and Blocks Its Signaling in Human Cells

Michael Foley

Achieving Synthetic Control When Nature Abandon Selectivity
Scott A. Snyder, Columbia University, New York, NY

** Establishment of Novel Antitumor Drugs Screening Method by Using Chemical Array*

Siro Simizu, RIKEN, Wako, Saitama, Japan

12:00 – 1:30 p.m.

Lunch on own or Professional Advancement Session

1:30 – 3:15 p.m.

Session 3: Chemistry in Support of Lead Discovery/Screening, Hit Validation and Natural Products

Session Chairperson: Steven E. Hall, Lync Pharma, Research Triangle Park, NC

Self-Selecting Drug Discovery: Nucleotide Affinity Resin-Based Screening for Simultaneous Hit and Target Identification

Steven E. Hall

Beyond Natural Products: Function Oriented Synthesis and New Leads for Cancer and Overcoming Cancer Resistance

Paul A. Wender, Stanford University, Stanford, CA

Concise Synthetic Analogs of FR901464: Anti-tumor Compounds Targeting the Spliceosome

Thomas R. Webb, St. Jude Children's Research Hospital,
Memphis, TN

** Carteriosulfonic Acids A-C: Inhibitors of GSK3- β Identified
From a Wnt Signaling Assay*
Malcolm W. McCulloch, University of Utah, Salt Lake City, UT

3:15 – 3:45 p.m.

Coffee Break

3:45 – 5:30 p.m.

**Session 4: Chemistry in Support of Lead
Discovery/Chemoinformatics**

*Session Chairperson: Patrick Zarrinkar, Ambit Biosciences, San
Diego, CA*

*High Throughput Kinase Profiling: A New Approach to Lead
Discovery*
Patrick Zarrinkar

A Systems Approach to Therapeutic Discovery
John Westwick, Odyssey Thera, San Ramon, CA

*In silico Discovery of Small Molecules Targeting Transcription
Factors in Cancer and Inflammation*
Alan C. Rigby, Harvard Medical School, Boston, MA

**3D QSAR Analysis of Pyrazole Derivatives and the Design of
Novel Benzimidazole Derivatives*
Leyte L. Winfield, Spelman College, Atlanta, GA

5:30 – 7:30 p.m.

Poster Session A and Cocktail Reception

February 10

7:00 – 8:00 a.m.

Continental Breakfast

8:00 – 9:45 a.m.

**Session 5: Chemistry in Support of Lead Optimization/Case
Histories I**

Session Chair: Matthew A. Marx, Pfizer, San Diego, CA

*The Discovery of BMS-641988: A Novel Androgen Receptor
Antagonist for the Treatment of Prostate Cancer*
Aaron Balog, Bristol-Myers Squibb, Princeton, NJ

*GDC-0449: A Small Molecule Antagonist of the Hedgehog
Pathway*
James C. Marsters, Jr., Genentech, Inc., South San Francisco, CA

*Discovery of Eltrombopag, a Small-Molecule, Oral
Thrombopoietin Receptor Agonist: From Screening to the Clinic*
Juan I. Luengo, GlaxoSmithKline, Collegeville, PA

**Synthesis and Anti-Tumor Properties of Pyrazolopyrimidines: Potent, ATP Competitive, and Selective Inhibitors of the Mammalian Target of Rapamycin (mTOR)*
David J. Richard, Wyeth Discovery Medicinal Chemistry, Pearl River, NY

9:45-10:15 a.m.

Coffee Break

10:15 a.m.-12:00 p.m.

Session 6: Chemistry in Support of Cancer Drug Discovery I/Case Histories II

Session Chairperson: Danzhou Yang, University of Arizona, Tucson, AZ

DNA G-quadruplexes as Potential Anticancer Drug Targets
Danzhou Yang

The Discovery and Development of Diaryl-acylsulfonamide (Tasisulam Sodium, ASAP): A Novel Class of Antitumor Agents for Solid Tumors

Chuan Joe Shih, Eli Lilly Research Laboratories, Indianapolis, IN

From HTS to Clinic: Discovery of PF-4217903 as Potent and Exquisitely Selective c-Met Inhibitor

Jean Cui, Pfizer Global R & D, San Diego, CA

** DNA Ligase Inhibitors Identified by Computer Aided Drug Design as Novel Cancer Therapeutics*

Xi Chen, University of Maryland, Baltimore, MD

12:00 - 2:00 p.m.

Poster Session B and Light Lunch

2:00 – 3:45 p.m.

Session 7: Chemistry in Support of Cancer Drug Targeting, Drug Delivery and Drug Disposition I

Session Chairperson: Frederick W. Goldberg, AstraZeneca, Inc., Macclesfield, United Kingdom

Antibody-Drug Conjugates for Cancer Therapy

Peter D. Senter, Seattle Genetics, Inc., Bothel, WA

Chemical Modifications for Making Drugs out of RNA Interference
Kallanthottathil G. Rajeev, Alnylam, Cambridge, MA

Use of Phosphate Prodrugs to Improve Solubility: Development of AZD1152, a Soluble and Selective Aurora B Kinase Inhibitor

Frederick W. Goldberg

**New Chemical Probes for Site-Directed Targets Generated by Focused Ultrasound*

Daniel Lee, The Methodist Hospital Research Institute, Houston, TX

3:45 – 4:15 p.m.

Coffee Break

4:15 – 6:00 pm.

Session 8: Chemistry in Support of Cancer Drug Targeting, Drug Delivery and Drug Disposition II

Session Chairperson: Cheryl L. Zimmerman, University of Minnesota, Minneapolis, MN

Multifunctional Nanotherapeutics for Cancer Treatment
Tamara Minko, Rutgers University, New Brunswick, NJ

Surface-functionalization of Nanoparticles for Multi-targeted Drug Delivery

Jayanth Panyam, University of Minnesota, Minneapolis, MN

Folate Targeted Therapies for Cancer

Christopher P. Leamon, Endocyte, West Lafayette, IN

**Protein-passivated Fe₃O₄ Nanoparticles: Low Toxicity and Rapid Heating for Thermal Therapy*

Haoheng Yan, University of Massachusetts, Amherst, MA

February 11

7:00 – 8:00 a.m.

Continental Breakfast

8:00 – 9:45 a.m.

Session 9: Chemistry in Support of Cancer Drug Discovery and Development I

Session Chairperson: David A. Wink, Jr., National Cancer Institute, Bethesda, MD

Molecular Imaging Studies in Cancer

Murali C. Krishna, National Cancer Institute, Bethesda, MD

Role of Hyperpolarized ¹³C Spectroscopic Imaging in Drug Development

John Kurhanewicz, University of California, San Francisco, San Francisco, CA

Measuring Spatial and Temporal Molecular Changes in Tissues Using Imaging Mass Spectrometry

Richard M. Caprioli, Vanderbilt University, Nashville, TN

**Semi-Synthesis of a Hydrocarbon-Stabilized Transcription Factor, Max*

Eileen J. Kennedy, Harvard University, Cambridge, MA

9:45 – 10:15 a.m.

Coffee Break

10:15 a.m. - 12:00 p.m.

Session 10: Chemistry in Support of Cancer Drug Development II

Session Chairperson: John T. Hunt, Bristol-Myers Squibb, Princeton, NJ

ABT-869: Process Development on a VEGF Inhibitor for the Treatment of Cancer

Albert Kruger, Abbott Laboratories, North Chicago, IL

Microheterogeneity and Analytical Approaches to Macromolecules

Randal B. Bass, Amgen, Inc., Seattle, WA

Systems and Controls for Handling Potent Anticancer Agents

Rebecca Ahn, Ash Stevens, Inc., Detroit, MI

**V-PROLI/NO: A Liver Selective Nitric Oxide Prodrug*

Sam Hong, National Cancer Institute, Frederick, MD

Departure

* - *Short talk from proffered paper*