

Keystone Symposia: G Protein-Coupled Receptors

April 7–12, 2010 • Beaver Run Resort • Breckenridge, Colorado • USA

Scientific Organizers: Brian K. Kobilka, Martin J. Lohse and Thue W. Schwartz

PROGRAM FACULTY & TALKS

Annette G. Beck-Sickinger, University of Leipzig, Germany
Peptides and Antibodies as GPCR Drugs

Nigel J.M. Birdsall, National Institute for Medical Research, UK
Single Molecule Imaging of GPCR Monomers and Oligomers in Living Cells

Tom L. Blundell, University of Cambridge, UK
Application of Protein Crystallography to Drug Discovery

Michael F. Brown, University of Arizona, USA
The Role of Lipids in GPCR Structure and Function

Shaun R. Coughlin*, University of California, San Francisco, USA
*The Long Road from GPCR Cloning to a Drug:
Lessons from Protease-Activated Receptor-1 (PAR1)*

Lakshmi A. Devi, Mount Sinai School of Medicine, USA
Impact of Heterodimerization of GPCRs in Drug Discovery

Oliver P. Ernst, Institut für Medizinische Physik und Biophysik, Germany
Crystal Structure of Bovine Opsin

Vsevolod V. Gurevich, Vanderbilt University, USA
Structure and Activation of Arrestins

Philip J. Hajduk, Abbott Laboratories, USA
Fragment-Based Approaches to Drug Discovery

Heidi E. Hamm, Vanderbilt University School of Medicine, USA
Rhodopsin Activation of Transducin

Robert Harvey, University of Nevada, Reno, USA
Compartmentation of cAMP Signaling in Cardiac Myocytes: A Computational Study

Carsten Hoffmann, University of Würzburg, Germany
Investigating Ligand-Specific Conformational Changes of GPCRs in Living Cells

Miles Houslay, University of Glasgow, UK
Compartmentation of cAMP Signaling by PDE4 Phosphodiesterases

Terry P. Kenakin, GlaxoSmithKline, USA
Importance of Efficacy in GPCR Drug Discovery

Thomas Klabunde, Sanofi-Aventis Pharma Deutschland GmbH, Germany
Chemogenomics Approaches to G-Protein Coupled Receptor Lead Finding

Robert J. Lefkowitz, Howard Hughes Medical Institute at Duke University
Medical Center, USA
Arrestin Signaling and Arrestin Biased Ligands for GPCRs

Martin J. Lohse, Universität Würzburg, Germany
Real-Time Monitoring of Compartmentalized GPCR Signaling in Living Cells

Leonardo Pardo, Universidad Autònoma Barcelona, Spain
Deciphering Mechanisms of GPCR Activation

Gang Pei, Tongji University, China
Arrestin Signaling and Diseases

Thue W. Schwartz, University of Copenhagen, Denmark
Evidence for a Concerted Action Allosteric Mechanism for GPCR Activation

Brian K. Shoichet, University of California, San Francisco, USA
Ligand Docking and in Silico Screening

Steven O. Smith, Stony Brook University, USA
Activation of GPCRs: Insights from Solid-State NMR Spectroscopy

Jurgen Wess, National Institutes of Health, USA
Mapping the Receptor-G Protein Interface

Wolfgang Wurst, Helmholtz Zentrum München, Germany
Silencing Genes by RNA Interference

H. Eric Xu, Van Andel Research Institute, USA
Ligand Recognition by Family B GPCRs



The large family of GPCRs includes many potential therapeutic targets, yet successful development of new drugs for GPCRs has been disappointing in spite of having access to all GPCR sequences in the genome, as well as physiologic insights from gene modification technology, larger more diverse compound libraries and advances in high-throughput screening technologies. The goal of this meeting is to examine the challenges facing GPCR drug discovery, to explore the application of structural biology, genomics and proteomics to GPCR target selection, and to lead identification and optimization.

PROGRAM PLENARY SESSIONS:

- Ligand Efficacy and Compartmentalized Signaling
- Approaches for Identifying and Validating GPCR Targets
- GPCR Structure and Activation I and II
- Structure-Based Drug Discovery as Applied to Soluble Proteins
- G Proteins, Arrestins and Other Signaling Molecules Activated by GPCRs
- Computational Approaches to GPCR Structure and Signaling
- New Topics in GPCR Drug Development

DEADLINES:

Abstract & Scholarship: December 7, 2009

Late-Breaking Abstract: January 5, 2010

Early Registration: February 5, 2010

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*Keynote speaker. Program subject to change. Current as of November 5, 2009.