



FASEB

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Science Research Conferences

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G Protein-Coupled Receptor Kinases and Arrestins: From Structure to Disease

June 11-16, 2017

Saxtons River, VT

Organizers:

Jeffrey L Benovic

Thomas Jefferson University
Philadelphia, PA

Federico Mayor, Jr.

Universidad Autónoma Madrid
Madrid, Spain

John JG Tesmer

University of Michigan
Ann Arbor, MI

Sunday, June 11, 2017

<u>Title/Topic Event</u>	<u>Time</u>	
Conference Registration	4:00 p.m. – 12.00 a.m.	
Welcome Reception	6:00 p.m. – 7:00 p.m.	
DINNER	7:00 p.m. – 8:00 p.m.	
Keynote Lecture 1 Chairs: Jeffrey Benovic and Federico Mayor, Jr.	8:00 p.m. – 9:30 p.m.	Robert J Lefkowitz (2012 Nobel Prize in Chemistry, Duke University) - <i>A brief history of GRKs and beta-arrestins</i>

Monday, June 12, 2017

<u>Title/Topic Event</u>	<u>Time</u>	
BREAKFAST	7:30 a.m. – 9:00 a.m.	
Scientific Session 1: Insights into GRK and arrestin structure Chair: Vsevolod Gurevich	9:00 a.m. – 9:15 a.m. 9:15 a.m. – 9:45 a.m. 9:45 a.m. – 10:15 a.m. 10:15 a.m. – 10:30 a.m. 10:30 a.m. – 11:00 a.m.	FASEB introduction Vsevolod Gurevich (Vanderbilt University) – <i>Deciphering structural basis of arrestin function</i> Eric Xu (Van Andel Research Institute) – <i>Molecular assembly of rhodopsin with GRK1 and arrestin</i> Daniel Meyer (Paul Scherrer Institute) – <i>The structural basis for recognition of the “phosphorylation barcode” of GPCRs by arrestin</i> FASEB Sponsored Coffee Break

	11:00 a.m. – 11:30 a.m. 11:30 a.m. – 11:45 a.m. 11:45 a.m. – 12:00 p.m. 12:00 p.m. – 12:15 p.m. 12:15 p.m. – 12:30 p.m.	John Tesmer (University of Michigan) – <i>Structure, function, and inhibition of GRKs</i> Bradley Andresen (Western University) – <i>Molecular dynamic simulation indicates that wild-type and polymorphic GRK4 gamma undergoes RH/KD domain separation upon binding to the plasma membrane</i> Naomi Latorraca (Stanford University) – <i>Mechanism of GPCR-mediated arrestin activation</i> Qiuyan Chen (Vanderbilt University) – <i>Structural basis of arrestin-3 activation and signaling</i> Renee Bouley (University of Michigan) – <i>Structural determinants influencing GRK inhibitor selectivity</i>
LUNCH	12:30 p.m. – 1:30 p.m.	
Free time	1:30 p.m. – 3:30 p.m.	
Scientific Session 2: Modulation of GRK and arrestin function Chair: John Tesmer	3:30 p.m. – 4:00 p.m. 4:00 p.m. – 4:30 p.m. 4:30 p.m. – 5:00 p.m. 5:00 p.m. – 5:30 p.m. 5:30 p.m. – 5:45 p.m. 5:45 p.m. – 6:00 p.m.	Carsten Hoffman (University of Wurzburg) - <i>Dynamic activation/deactivation cycle of beta-arrestin</i> Eric Reiter (Université de Tours) – <i>Dissecting the mechanism leading to β-arrestin-mediated control of gene transcription and mRNA translation</i> Louis M Luttrell (Medical University of South Carolina) – <i>Defining parathyroid hormone ligand efficacy at the molecular and systems level</i> Chris P Bailey (University of Bath) – <i>Mu-opioid receptor desensitization and tolerance</i> Philippe Rondard (University of Montpellier) – <i>Prokineticin receptors 1 and 2 recruit beta-arrestins through two different mechanisms</i> Sergey Vishnivetskiy (Vanderbilt University) – <i>Functional role of conserved cysteines in visual arrestin-1</i>
DINNER	6:00 p.m. – 7:30 p.m.	
Poster Session 1	7:30 p.m. – 9:30 p.m.	

Tuesday, June 13, 2017

<u>Title/Topic Event</u>	<u>Time</u>	
BREAKFAST	7:30 a.m. – 9:00 a.m.	
Scientific Session 3: Biased signaling and allosteric modulators Chair: Laura Bohn	9:00 a.m. – 9:30 a.m. 9:30 a.m. – 10:00 a.m. 10:00 a.m. – 10:30 a.m. 10:30 a.m. – 11:15 a.m. 11:15 a.m. – 11:45 a.m. 11:45 a.m. – 12:00 p.m. 12:00 p.m. – 12:15 p.m.	Laura Bohn (Scripps Research Institute, Florida) – <i>Biased opioid agonists and their effects in vivo</i> Andrew Tobin (University of Glasgow) – <i>Genetic and chemical genetic approaches to the study of GPCR signaling bias</i> Justin English (UNC Chapel Hill) – <i>Evolving GPCR signaling modulators in mammalian cells</i> *Group Photo and FASEB Sponsored Coffee Break Arthur Christopoulos (Monash University) - <i>Exploiting allostery at G protein-coupled receptors</i> Dmitry Veprintsev (Paul Scherrer Institute) - <i>The inner workings of a GPCR: Molecular basis for biased G protein activation and β-arrestin recruitment</i> Minjung Choi (Duke University) – <i>GPCR kinase</i>

	12:15 p.m. – 12:30 p.m.	<i>orchestrates biased agonism at β2-adrenergic receptor</i> Robert Cameron (University of Arizona) – <i>The role of $G\beta\gamma$-dependent signaling in formoterol-induced mitochondrial biogenesis</i>
LUNCH and Meet the Experts Session	12:30 p.m. – 1:30 p.m.	
Free time	1:30 p.m. – 3:30 p.m.	
Scientific Session 4: G protein-coupled receptor trafficking Chair: Mark von Zastrow	3:30 p.m. – 4:00 p.m. 4:00 p.m. – 4:30 p.m. 4:30 p.m. – 5:00 p.m. 5:00 p.m. – 5:30 p.m. 5:30 p.m. – 5:45 p.m. 5:45 p.m. – 6:00 p.m.	Mark von Zastrow (UCSF) – <i>Recent insights from cell biological studies of β-arrestins</i> Sudha Shenoy (Duke University) – <i>Trafficking of GPCRs: Role(s) of DUBs and β-arrestin</i> Joann Trejo (UC San Diego) – <i>ARRDC3 and GPCRs in breast cancer</i> Adriano Marchese (Medical College of Wisconsin) – <i>Beta-arrestin-1 regulates trafficking and signaling of the chemokine receptor CXCR4</i> Oliver Hartley (University of Geneva) – <i>Potent anti-HIV chemokine analogs: Linking ligand-directed post-endocytic sorting of CCR5 to selective recruitment of arrestin isoforms</i> Kelsie Eichel (UCSF) – <i>Activation cycle of β-arrestin allowing independent trafficking and signaling functions</i>
DINNER	6:00 p.m. – 7:30 p.m.	
Poster Session 2	7:30 p.m. – 9:30 p.m.	

Wednesday, June 14, 2017

<u>Title/Topic Event</u>	<u>Time</u>	
BREAKFAST	7:30 a.m. – 9:00 a.m.	
Scientific Session 5: GRKs and arrestins in cardiovascular pathology and metabolism Chair: Walter J Koch	9:00 a.m. – 9:30 a.m. 9:30 a.m. – 10:00 a.m. 10:00 a.m. – 10:30 a.m. 10:30 a.m. – 11:00 a.m. 11:00 a.m. – 11:30 a.m. 11:30 a.m. – 11:45 a.m. 11:45 a.m. – 12:00 p.m. 12:00 p.m. – 12:15 p.m.	Walter J Koch (Temple University) – <i>GRK2 as target in heart failure</i> Howard Rockman (Duke University) – <i>AT1R β-arrestin-biased signaling by mechanoactivation</i> Pedro Jose (George Washington University) – <i>Genetics and pharmacogenetics of hypertension: Role of G protein-coupled receptor kinase 4</i> <i>FASEB Sponsored Coffee Break</i> Cristina Murga (Universidad Autónoma de Madrid) – <i>Involvement of GRK2 in diet induced metabolic alterations</i> Jonathan Willets (University of Leicester) – <i>The putative GRK2 inhibitor paroxetine attenuates UTP-induced desensitization of arterial contractions</i> Anastasios Lymperopoulos (Nova Southeastern University College of Pharmacy) – <i>Differential roles of GRK2 and GRK5 in cardiac aldosterone signaling</i> Laurel Grisanti (Temple University) – <i>β-arrestin-biased β2-adrenergic receptor activation confers</i>

	12:15 p.m. – 12:30 p.m.	<i>cardioprotection in ischemia/reperfusion injury</i> Ursula Quitterer (ETH Zurich) – <i>The AT1-B2 receptor heteromer promotes symptoms of preeclampsia in an animal model</i>
LUNCH	12:30 p.m. – 1:30 p.m.	
Career Development Workshop	1:30 p.m. – 2:30 p.m.	
Free time	2:30 p.m. – 3:30 p.m.	
Scientific Session 6: Non-canonical functions of GRKs and arrestins Chair: Jeffrey Benovic	3:30 p.m. – 4:00 p.m. 4:00 p.m. – 4:30 p.m. 4:30 p.m. – 5:00 p.m. 5:00 p.m. – 5:15 p.m. 5:15 p.m. – 5:30 p.m. 5:30 p.m. – 5:45 p.m. 5:45 p.m. – 6:00 p.m.	Katherine DeFea (UC Riverside) – <i>PAR2 signaling through beta-arrestins: The good, the bad and the proinflammatory</i> Julia Walker (Duke University) – <i>Beta-arrestin dependent signaling in asthma pathogenesis</i> Philip Wedegaertner (Thomas Jefferson University) – <i>Mechanism of localization of the GRK4-6 family</i> Melanie Philipp (Ulm University) – <i>GRK4 controls kidney function through cilia</i> David Hipfner (McGill University) – <i>Smo activates distinct signaling mechanisms in response to PKA and GRK phosphorylation in Drosophila</i> Nicole Perry (Vanderbilt University) – <i>Regulation of the binding of the ASK1-MKK4/7-JNK3 cascade components to arrestin-3 kinase activation and ATP</i> Pierre-Yves Jean-Charles (Duke University) – <i>Mdm2 regulates cardiac GRK2 levels to promote β1AR-induced cardiac contractility</i>
DINNER	6:00 p.m. – 7:30 p.m.	
Poster Session 3	7:30 p.m. – 9:30 p.m.	

Thursday, June 15, 2017

<u>Title/Topic Event</u>	<u>Time</u>	
BREAKFAST	7:30 a.m. – 9:00 a.m.	
Scientific Session 7: GRKs and arrestins in neuronal function Chair: Eugenia Gurevich	9:00 a.m. – 9:30 a.m. 9:30 a.m. – 10:00 a.m. 10:00 a.m. – 10:30 a.m. 10:30 a.m. – 11:00 a.m. 11:00 a.m. – 11:15 a.m. 11:15 a.m. – 11:30 a.m. 11:30 a.m. – 11:45 a.m.	Eugenia Gurevich (Vanderbilt University) – <i>Nipping dyskinesia in the bud: Arrestin3-derived peptides as anti-dyskinetic agents</i> Hai-Ying Cheng (University of Toronto) – <i>G protein-coupled receptor kinase 2 (GRK2): Putting the brakes on the circadian clock</i> Marc Caron (Duke University) – <i>GRK and arrestin-based bias in the neuronal function of D2 dopamine receptors</i> <i>FASEB Sponsored Coffee Break</i> Nikhil Urs (University of Florida) – <i>Exploiting beta-arrestin biased dopamine receptor pharmacology for the treatment of Parkinson's disease motor symptoms</i> Elke Miess (Jena University Hospital) – <i>Differential recruitment of G protein-coupled receptor kinases and beta-arrestins to activated mu-opioid receptors</i> Karsten Melcher (Van Andel Research Institute) – <i>Wnt5a promotes Frizzled-4 signalosome assembly by stabilizing cysteine-rich domain dimerization</i>

	11:45 a.m. – 12:00 p.m.	Martha Sommer (Charite Medical University) – <i>Structural dynamics of arrestin-GPCR interactions</i>
Business Meeting	12:00 p.m. – 12:30 p.m.	
LUNCH and Meet the Experts Session	12:30 p.m. – 1:30 p.m.	
Free time	1:30 p.m. – 6:00 p.m.	
DINNER	6:00 p.m. - 7:30 p.m.	
Keynote Lecture 2 Chairs: John Tesmer and Jeffrey Benovic	7:30 p.m. – 9:00 p.m.	Brian K Kobilka (2012 Nobel Prize in Chemistry, Stanford University) - <i>Structural insights into the dynamic process of G protein-coupled receptor signaling</i>

Friday, June 15, 2017

<u>Title/Topic Event</u>	<u>Time</u>	
BREAKFAST	7:30 a.m. – 9:00 a.m.	
<i>Scientific Session 8: GRKs and arrestins in cancer and inflammation</i> Chair: Federico Mayor, Jr.	9:00 a.m. – 9:30 a.m. 9:30 a.m. – 10:00 a.m. 10:00 a.m. – 10:30 a.m. 10:30 a.m. – 11:00 a.m. 11:00 a.m. – 11:15 a.m. 11:15 a.m. – 11:30 a.m.	Federico Mayor, Jr. (Universidad Autónoma de Madrid) – <i>GRK2 as a signaling hub in cancer progression</i> Yehia Daaka (University of Florida) – <i>Beta-arrestin1 regulation of androgen receptor function</i> Laura Rosanò (National Cancer Institute, Rome) – <i>Endothelin-1 receptor/β-arrestin1 pathway orchestrates the invasive protrusions in high-grade serous ovarian cancer metastatic dissemination</i> <i>FASEB Sponsored Coffee Break</i> Catalina Ribas (Universidad Autónoma de Madrid) – <i>GRK2 acts as tumor suppressor in squamous cell carcinomas</i> Claudio de Lucia (Temple University) – <i>GRK5-mediated exacerbation of ischemic heart failure involves cardiac immune and inflammatory responses</i>
LUNCH to Go and DEPARTURES	12:00 p.m.	

END OF CONFERENCE

For additional information contact:
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