MINIREVIEW
Topology of Class A G Protein-Coupled Receptors: Insights Gained from Crystal Structures of Rhodopsins, Adrenergic and Adenosine Receptors
Debarshi Mustafi and Krzysztof Palczewski

PERSPECTIVE
Functional Selectivity of GPCR Ligand Stereoisomers: New Pharmacological Opportunities
Roland Seifert and Stefan Dove

ARTICLES
An Intracellular Loop 2 Amino Acid Residue Determines Differential Binding of Arrestin to the Dopamine D_2 and D_3 Receptors
Hongxiang Lan, Martha M. Teeter, Vsevolod V. Gurevich, and Kim A. Neve

Hydrogen Sulfide Inhibits Rotenone-Induced Apoptosis via Preservation of Mitochondrial Function
Li-Fang Hu, Ming Lu, Zhi-Yuan Wu, Peter T.-H. Wong, and Jin-Song Bian

Overlapping Binding Site for the Endogenous Agonist, Small-Molecule Agonists, and AGo-allosteric Modulators on the Ghrerin Receptor
Birgitte Holst, Thomas M. Frimurer, Jacek Mokrosinski, Tine Halkjaer, Karina B. Cullberg, Christina R. Underwood, and Thue W. Schwartz

Structural Basis of NR2B-Selective Antagonist Recognition by N-Methyl-d-aspartate Receptors
Laetitia Mony, Lucie Krzaczkowski, Manuel Leonetti, Anne Le Goff, Karine Alarcon, Jacques Neyton, Hughes-Olivier Bertrand, Francine Acher, and Pierre Paoletti

The □ symbols in the table of contents identify articles discussed in the Perspective.
Imatinib Mesylate (STI571)-Induced Cell Edge Translocation of Kinase-Active and Kinase-Defective Abelson Kinase: Requirements of Myristoylation and src Homology 3 Domain
Akiko Fujita, Tomoyuki Shishido, Yunfeng Yuan, Eiji Inamoto, Shuh Narumiya, and Naoki Watanabe

Flow Cytometry-Based Binding Assay for GPR40 (FFAR1; Free Fatty Acid Receptor 1)
Takafumi Hara, Akira Hirasawa, Qi Sun, Taka-aki Koshimizu, Chisato Itsubo, Keiko Sadakane, Takeo Awaji, and Gozoh Tsujimoto

Inhibition of P-Glycoprotein-Mediated Paclitaxel Resistance by Reversibly Linked Quinine Homodimers
Marcos M. Pires, Dana Emmert, Christine A. Hrycyna, and Jean Chmielewski

Phenylephrine-Induced Cardiomyocyte Injury Is Triggered by Superoxide Generation through Uncoupled Endothelial Nitric-Oxide Synthase and Ameliorated by 3-[2-[4-(3-Chloro-2-methylphenyl)-1-piperazinyl]ethyl]-5,6-dimethoxyindazole (DY-9836), a Novel Calmodulin Antagonist
Ying-Mei Lu, Feng Han, Norifumi Shioda, Shigeki Moriguchi, Yasufumi Shirasaki, Zheng-Hong Qin, and Kohji Fukunaga

A Dopamine D2 Receptor Mutant Capable of G Protein-Mediated Signaling but Deficient in Arrestin Binding
Hongxiang Lan, Yong Liu, Michal I. Bell, Vsevolod V. Gurevich, and Kim A. Neve

90-kDa Heat Shock Protein Inhibition Abrogates the Topoisomerase I Poison-Induced G2/M Checkpoint in p53-Null Tumor Cells by Depleting Chk1 and Wee1
Archie N. Tse, Tahir N. Sheikh, Ho Alan, Ting-Chao Chou, and Gary K. Schwartz

Thiophenecarboxylate Suppressor of Cyclic Nucleotides Discovered in a Small-Molecule Screen Blocks Toxin-Induced Intestinal Fluid Secretion
Lukmanee Tradtrantip, Buranee Yangthara, Prashant Padmawar, Christopher Morrison, and A. S. Verkman

Short-Chain Ubiquitination Is Associated with the Degradation Rate of a Cell-Surface-Resident Bile Salt Export Pump (BSEP/ABCB11)
Hisamitsu Hayashi and Yuichi Sugiyama

Vanillin Inhibits Matrix Metalloproteinase-9 Expression through Down-Regulation of Nuclear Factor-kB Signaling Pathway in Human Hepatocellular Carcinoma Cells
Ji-An Liang, Shih-Lu Wu, Hsin-Yi Lo, Chien-Yun Hsiang, and Tin-Yun Ho

Stereochemistry of an Agonist Determines Coupling Preference of β2-Adrenoceptor to Different G Proteins in Cardiomyocytes
Anthony Yu-Ho Woo, Tian-Bing Wang, Xiaokun Zeng, Weizhong Zhu, Darrell R. Abernethy, Irving W. Wainer, and Rui-Ping Xiao

Site Selectivity of Competitive Antagonists for the Mouse Adult Muscle Nicotinic Acetylcholine Receptor
Man Liu and James P. Dilger

Copper Regulation of Hypoxia-Inducible Factor-1 Activity
Wenke Feng, Fei Ye, Wanli Xue, Zhanxiang Zhou, and Y. James Kang

Amitriptyline Activates Cardiac Ryanodine Channels and Causes Spontaneous Sarcoplasmic Reticulum Calcium Release
Nagesh Chopra, Derek Laver, Sean S. Davies, and Björn C. Knollmann

Fibroblast Growth Factor (FGF) and FGF Receptor-Mediated Autocrine Signaling in Non–Small-Cell Lung Cancer Cells
Lindsay Marek, Kathryn E. Ware, Alexa Fritzsche, Paula Hercule, Wallace R. Helton, Jennifer E. Smith, Lee A. McDermott, Christopher D. Coldren, Raphael A. Nemenoff, Daniel T. Merrick, Barbara A. Helfrich, Paul A. Bunn, Jr., and Lynn E. Heasley
YC-1 Stimulates the Expression of Gaseous Monoxide-Generating Enzymes in Vascular Smooth Muscle Cells
Xiao-ming Liu, Kelly J. Peyton, Natalia N. Mendelev, Hong Wang, David A. Tulis, and William Durante

Intracellular Activation and Deactivation of Tasidotin, an Analog of Dolastatin 15: Correlation with Cytotoxicity
Ruoli Bai, Michael C. Edler, Peter L. Bonate, Terry D. Copeland, George R. Pettit, Richard F. Ludueña, and Ernest Hamel

Opposing Effects of Platelet-Activating Factor and Lyso-Platelet-Activating Factor on Neutrophil and Platelet Activation
Emily J. Welch, Ram P. Naikawadi, Zhenyu Li, Phoebe Lin, Satoshi Ishii, Takao Shimizu, Chinnaswamy Tiruppathi, Xiaoping Du, Papasani V. Subbaiah, and Richard D. Ye

The G4 and G12 Families of Heterotrimeric G Proteins Report Functional Selectivity
Li Zhang, Lawrence F. Brass, and David R. Manning

Inhibition of Arachidonic Acid and Iron-Induced Mitochondrial Dysfunction and Apoptosis by Oltipraz and Novel 1,2-Dithiole-3-thione Congeners
Sang Mi Shin and Sang Geon Kim

ERRATA
Correction to “The NR1 M3 Domain Mediates Allosteric Coupling in the N-Methyl-D-aspartate Receptor” 254
Correction to “Inhibitors of GlyT1 Affect Glycine Transport via Discrete Binding Sites” 258
Correction to Table of Contents (Volume 74, Number 6, December 2008) 258

Supplemental material is available online at http://molpharm.aspetjournals.org.

About the cover: Structural comparison between opsin and rhodopsin illustrating a pathway for retinal exchange. See the article by Mustafi et al. on page 1 of this issue.