

The Journal of
PHARMACOLOGY

And Experimental Therapeutics

A Publication of the American Society for Pharmacology and Experimental Therapeutics

August 2014

Vol. 350, No. 2

Contents

HIGHLIGHTED PAPERS

188

PERSPECTIVES IN PHARMACOLOGY

Repurposing Miltefosine for the Treatment of Immune-Mediated Disease?

189

Auke P. Verhaar, Manon E. Wildenberg, Maikel P. Peppelenbosch, Daniel W. Hommes, and Gijs R. van den Brink

Animal Models That Best Reproduce the Clinical Manifestations of Human Intoxication with Organophosphorus Compounds

313

Edna F. R. Pereira, Yasco Aracava, Louis J. DeTolla, Jr., E. Jeffrey Beecham, G. William Basinger, Jr., Edgar J. Wakayama, and Edson X. Albuquerque

BEHAVIORAL PHARMACOLOGY

Prolonged Monoacylglycerol Lipase Blockade Causes Equivalent Cannabinoid Receptor Type 1 Receptor-Mediated Adaptations in Fatty Acid Amide Hydrolase Wild-Type and Knockout Mice

196

Joel E. Schlosburg, Steven G. Kinsey, Bogna Ignatowska-Jankowska, Divya Ramesh, Rehab A. Abdullah, Qing Tao, Lamont Booker, Jonathan Z. Long, Dana E. Selley, Benjamin F. Cravatt, and Aron H. Lichtman

Further Characterization of Quinpirole-Elicited Yawning as a Model of Dopamine D₃ Receptor Activation in Male and Female Monkeys

205

Susan E. Martelle, Susan H. Nader, Paul W. Czoty, William S. John, Angela N. Duke, Pradeep K. Garg, Sudha Garg, Amy H. Newman, and Michael A. Nader

AZD9272 and AZD2066: Selective and Highly Central Nervous System Penetrant mGluR5 Antagonists Characterized by Their Discriminative Effects

212

Michael D. B. Swedberg and Patrick Raboisson

Different Contributions of Dopamine D1 and D2 Receptor Activity to Alcohol Potentiation of Brain Stimulation Reward in C57BL/6J and DBA/2J Mice

322

Eric W. Fish, Jeffrey F. DiBerto, Michael C. Krouse, J. Elliott Robinson, and C. J. Malanga

Differential Substitution for the Discriminative Stimulus Effects of 3,4-Methylenedioxymethamphetamine and Methylphenidate in Rats

403

Tomohisa Mori, Naoki Uzawa, Haruyo Kazawa, Hirohiko Watanabe, Ayano Mochizuki, Masahiro Shibasaki, Kazumi Yoshizawa, Kimio Higashiyama, and Tsutomu Suzuki

CARDIOVASCULAR

Prediction and Modeling of Effects on the QTc Interval for Clinical Safety Margin Assessment, Based on Single-Ascending-Dose Study Data with AZD3839

469

Erik Sparve, Angelica L. Quartino, Maria Lüttgen, Karin Tunblad, Anna Teiling Gårdlund, Johanna Fälting, Robert Alexander, Jens Kågström, Linnea Sjödin, Alexander Bulgak, Ahmad Al-Saffar, Matthew Bridgland-Taylor, Chris Pollard, Michael D. B. Swedberg, Torbjörn Vik, and Björn Paulsson

CELLULAR AND MOLECULAR

Mouse Monoclonal Antibodies to Transient Receptor Potential Ankyrin 1 Act as Antagonists of Multiple Modes of Channel Activation

223

Ki Jeong Lee, Weiya Wang, Rupa Padaki, Vivian Bi, Cherylene A. Plewa, and Narender R. Gavva

DRUG DISCOVERY AND TRANSLATIONAL MEDICINE

- Novel Synthetic Toll-Like Receptor 4/MD2 Ligands Attenuate Sterile Inflammation 330
Tomoko Hayashi, Brian Crain, Shiyin Yao, Christa D. Caneda, Howard B. Cottam, Michael Chan, Maripat Corr, and Dennis A. Carson
- 3,3'-Diindolylmethane Ameliorates Experimental Autoimmune Encephalomyelitis by Promoting Cell Cycle Arrest and Apoptosis in Activated T Cells through MicroRNA Signaling Pathways 341
Michael Rouse, Roshni Rao, Mitzi Nagarkatti, and Prakash S. Nagarkatti
- Pharmacologic Profile of the Adnectin BMS-962476, a Small Protein Biologic Alternative to PCSK9 Antibodies for Low-Density Lipoprotein Lowering 412
Tracy Mitchell, Ginger Chao, Doree Sitkoff, Fred Lo, Hossain Monshizadegan, Daniel Meyers, Simon Low, Katie Russo, Rose DiBella, Fabienne Denhez, Mian Gao, Joseph Myers, Gerald Duke, Mark Witmer, Bowman Miao, Siew P. Ho, Javed Khan, and Rex A. Parker

ENDOCRINE AND DIABETES

- Effect of LX4211 on Glucose Homeostasis and Body Composition in Preclinical Models 232
David R. Powell, Christopher M. DaCosta, Melinda Smith, Deon Doree, Angela Harris, Lindsey Buhning, William Heydorn, Amr Nouraldeen, Wendy Xiong, Padmaja Yalamanchili, Faika Mseeh, Alan Wilson, Melanie Shadoan, Brian Zambrowicz, and Zhi-Ming Ding
- The Novel GLP-1–Gastrin Dual Agonist ZP3022 Improves Glucose Homeostasis and Increases β -Cell Mass without Affecting Islet Number in *db/db* Mice 353
Louise S. Dalbøge, Dorthe L. C. Almholt, Trine S. R. Neerup, Niels Vrang, Jacob Jelsing, and Keld Fosgerau
- Maternal-Fetal Disposition of Glyburide in Pregnant Mice Is Dependent on Gestational Age 425
Diana L. Shuster, Linda J. Risler, Chao-Kang J. Liang, Kenneth M. Rice, Danny D. Shen, Mary F. Hebert, Kenneth E. Thummel, and Qingcheng Mao

GASTROINTESTINAL, HEPATIC, PULMONARY, AND RENAL

- Blocking Sirtuin 1 and 2 Inhibits Renal Interstitial Fibroblast Activation and Attenuates Renal Interstitial Fibrosis in Obstructive Nephropathy 243
Murugavel Ponnusamy, Xiaoxu Zhou, Yanli Yan, Jinhua Tang, Evelyn Tolbert, Ting C. Zhao, Rujun Gong, and Shougang Zhuang
- Agonism of the 5-Hydroxytryptamine 1F Receptor Promotes Mitochondrial Biogenesis and Recovery from Acute Kidney Injury 257
Sara M. Garrett, Ryan M. Whitaker, Craig C. Beeson, and Rick G. Schnellmann

INFLAMMATION, IMMUNOPHARMACOLOGY, AND ASTHMA

- Inhibitory Effect of Baicalin on Collagen-Induced Arthritis in Rats through the Nuclear Factor- κ B Pathway 435
Hong-Zhi Wang, Hai-He Wang, Shi-Shun Huang, Hong Zhao, Yong-Gang Cao, Guang-Zhi Wang, Dong Wang, Zhi-Gang Wang, and Yan-Hong Liu
- Antiallergic and Antiasthmatic Effects of a Novel Enhydrizinone Ester (CEE-1): Inhibition of Activation of Both Mast Cells and Eosinophils 444
Charles I. Ezeamuzie, Ahmed Z. El-Hashim, Waleed M. Renno, and Ivan O. Edafiogho

METABOLISM, TRANSPORT, AND PHARMACOGENOMICS

- Modeling and Simulation to Probe the Pharmacokinetic Disposition of Pomalidomide R- and S-Enantiomers 265
Yan Li, Simon Zhou, Matthew Hoffmann, Gondi Kumar, and Maria Palmisano

NEUROPHARMACOLOGY

- Novel *N*-Phenyl-Substituted Thiazolidinediones Protect Neural Cells against Glutamate- and tBid-Induced Toxicity 273
Sina Oppermann, Florian C. Schrader, Katharina Elsässer, Amalia M. Dolga, Anna Lena Kraus, Nunzianna Doti, Christof Wegscheid-Gerlach, Martin Schlitzer, and Carsten Culmsee
- Sigma-1 Receptor Antagonism Restores Injury-Induced Decrease of Voltage-Gated Ca^{2+} Current in Sensory Neurons 290
Bin Pan, Yuan Guo, Wai-Meng Kwok, Quinn Hogan, and Hsiang-en Wu
- Casein Kinase II Regulates *N*-Methyl-D-Aspartate Receptor Activity in Spinal Cords and Pain Hypersensitivity Induced by Nerve Injury 301
Shao-Rui Chen, Hong-Yi Zhou, Hee Sun Byun, Hong Chen, and Hui-Lin Pan
- Potassium 2-(1-Hydroxypentyl)-Benzoate Improves Memory Deficits and Attenuates Amyloid and τ Pathologies in a Mouse Model of Alzheimer's Disease 361
Ying Peng, Yanli Hu, Shaofeng Xu, Xianfang Rong, Jiang Li, PingPing Li, Ling Wang, Jinghua Yang, and Xiaoliang Wang

- The [¹⁸F]FDG μ PET Readout of a Brain Activation Model to Evaluate the Metabotropic Glutamate Receptor 2 Positive Allosteric Modulator JNJ-42153605 375
Tine Wyckhuys, Leonie wyffels, Xavier Langlois, Mark Schmidt, Sigrid Stroobants, and Steven Staelens
- Characterization of RO5126946, a Novel α_7 Nicotinic Acetylcholine Receptor–Positive Allosteric Modulator 455
Sunil Sahdeo, Tanya Wallace, Ryoko Hirakawa, Frederic Knoflach, Daniel Bertrand, Hans Maag, Dinah Misner, Geoffrey C. Tombaugh, Luca Santarelli, Ken Brameld, Marcos E. Milla, and Donald C. Button

TOXICOLOGY

- Mass Spectrometric Characterization of Circulating Covalent Protein Adducts Derived from a Drug Acyl Glucuronide Metabolite: Multiple Albumin Adductions in Diclofenac Patients 387
Thomas G. Hammond, Xiaoli Meng, Rosalind E. Jenkins, James L. Maggs, Anahi Santoyo Castelazo, Sophie L. Regan, Stuart N. L. Bennett, Caroline J. Earnshaw, Guruprasad P. Aithal, Ira Pande, J. Gerry Kenna, Andrew V. Stachulski, B. Kevin Park, and Dominic P. Williams

Supplemental material is available at <http://jpet.aspetjournals.org>.

About the cover: Illustration of the interplay between NMDAR, mGluR, and energization. See the article by Wyckhuys et al. (dx.doi.org/10.1124/jpet.114.213959).