The Journal of Pharmacology and Experimental Therapeutics
A Publication of the American Society for Pharmacology and Experimental Therapeutics

July 2012 Vol. 342, No. 1

Contents

HIGHLIGHTED PAPERS

1

PERSPECTIVES IN PHARMACOLOGY

Revisiting the Isobole and Related Quantitative Methods for Assessing Drug Synergism
Ronald J. Tallarida

Cigarette Smoking, Coffee Drinking, and Ingestion of Charcoal-Broiled Beef as Potential Modifiers of Drug Therapy and Confounders of Clinical Trials
A. H. Conney and M. M. Reidenberg

BEHAVIORAL PHARMACOLOGY

Effects of Alterations in Cannabinoid Signaling, Alone and in Combination with Morphine, on Pain-Elicited and Pain-Suppressed Behavior in Mice

Cocaine Dose and Self-Administration History, but Not Initial Cocaine Locomotor Responsiveness, Affects Sensitization to the Motivational Effects of Cocaine in Rats
Bruce H. Mandt, Emily Gomez, Nickie L. Johnston, Nancy R. Zahniser, and Richard M. Allen

CARDIOVASCULAR

Polyethylene Glycol-Modified Pigment Epithelial-Derived Factor: New Prospects for Treatment of Retinal Neovascularization
Yu-Jing Bai, Lv-Zhen Huang, Xiao-Lei Xu, Wei Du, Ai-Yi Zhou, Wen-Zhen Yu, and Xiao-Xin Li

CHEMOTHERAPY, ANTIBIOTICS, AND GENE THERAPY

Combining Doublecortin-Like Kinase Silencing and Vinca Alkaloids Results in a Synergistic Apoptotic Effect in Neuroblastoma Cells
Carla S. Verissimo, Sou Cheng, Jordi C. Puigvert, Yu Qin, Anne Vroon, Judith van Deutekom, Leo S. Price, Erik H. J. Danen, Bob van de Water, Carlos P. Fitzsimons, and Erno Vreugdenhil

DRUG DISCOVERY AND TRANSLATIONAL MEDICINE

The β₂-Adrenoceptor Agonist Formoterol Stimulates Mitochondrial Biogenesis
Lauren P. Wills, Richard E. Trager, Gyda C. Beeson, Christopher C. Lindsey, Yuri K. Peterson, Craig C. Beeson, and Rick G. Schnellmann

The Novel Reversible Fatty Acid Amide Hydrolase Inhibitor ST4070 Increases Endocannabinoid Brain Levels and Counteracts Neuropathic Pain in Different Animal Models
Antonio Caprioli, Roberto Coccarello, Cinzia Rapino, Stefano Di Serio, Monia Di Tommaso, Mario Vertechy, Valentina Vaccu, Natalia Battista, Flaminia Pavone, Mauro Maccarrone, and Franco Borsini

Arginine Attenuates Methylglyoxal- and High Glucose-Induced Endothelial Dysfunction and Oxidative Stress by an Endothelial Nitric-Oxide Synthase-Independent Mechanism
Indu Dhar, Arti Dhar, Lingyun Wu, and Kaushik Desai

Repeated Administration of a Mutant Cocaine Esterase: Effects on Plasma Cocaine Levels, Cocaine-Induced Cardiovascular Activity, and Immune Responses in Rhesus Monkeys
MLR-1023 Is a Potent and Selective Allosteric Activator of Lyn Kinase In Vitro That Improves Glucose Tolerance In Vivo
Michael S. Saporito, Alexander R. Ochman, Christopher A. Lipinski, Jeffrey A. Handler, and Andrew G. Reaume

The Lyn Kinase Activator MLR-1023 Is a Novel Insulin Receptor Potentiator that Elicits a Rapid-Onset and Durable Improvement in Glucose Homeostasis in Animal Models of Type 2 Diabetes
Alexander R. Ochman, Christopher A. Lipinski, Jeffrey A. Handler, Andrew G. Reaume, and Michael S. Saporito

The Dipeptidyl Peptidase-4 Inhibitor Linagliptin Attenuates Inflammation and Accelerates Epithelialization in Wounds of Diabetic ob/ob Mice
Christoph Schürmann, Andreas Linke, Kerstin Engelmann-Pilger, Cornelia Steinmetz, Michael Mark, Josef Pfeilschifter, Thomas Klein, and Stefan Frank

Nonsteroidal Anti-Inflammatory Drug-Activated Gene-1 Plays a Role in the Impairing Effects of Cyclooxygenase Inhibitors on Gastric Ulcer Healing
Roccina Colucci, Luca Antonioli, Nunzia Bernardini, Chiara Ippolito, Cristina Segnani, Oriana Avwad, Marco Tuccori, Corrado Blandizzi, Carmelo Scarpignato, and Matteo Fornai

Effects of Ritobegron (KUC-7483), a Novel Selective β3-Adrenoceptor Agonist, on Bladder Function in Cynomolgus Monkey
Itaru Murayama, Satoshi Tatemichi, Yoshiaki Goi, Kazuyasu Maruyama, Yuji Hoyano, Yoshinobu Yamazaki, and Hiroshi Kusama

Carnosol and Carnosic Acids from Salvia officinalis Inhibit Microsomal Prostaglandin E2 Synthase-1
Julia Bauer, Susanne Kuehnl, Judith M. Rollinger, Olga Scherer, Hinnak Northoff, Hermann Stuppner, Oliver Werz, and Andreas Koeberle

Impact of P-Glycoprotein (ABCB1) and Breast Cancer Resistance Protein (ABCG2) on the Brain Distribution of a Novel BRAF Inhibitor: Vemurafenib (PLX4032)
Rajendar K. Mittapalli, Shruthi Vaidhyananthan, Ramola Sane, and William F. Elmquist

Morphine Activates the E Twenty Six-Like Transcription Factor-1/Serum Response Factor Pathway via Extracellular Signal-Regulated Kinases 1/2 in F11 Cells Derived from Dorsal Root Ganglia Neurons
Kathrin Rothe, Hans Jürgen Solinski, Ingrid Boekhoff, Thomas Gadernman, and Andreas Breit

Etodolac, a Cyclooxygenase-2 Inhibitor, Attenuates Paclitaxel-Induced Peripheral Neuropathy in a Mouse Model of Mechanical Allodynia
Sunao Ito, Koyuki Tajima, Masaki Nagawa, Naoki Inoue, Takashi Kyo, Yosuke Takahashi, Takahiro Sasagawa, Akio Nakamura, Takashi Kotera, Makoto Ueda, Yasuhiro Yamashita, and Kouji Banno

Positive Allosteric Modulators Differentially Affect Full versus Partial Agonist Activation of the Glycine Receptor
Dean Kirson, Jelena Todorovic, and S. John Mihic

Pharmacology of JNJ-37822681, a Specific and Fast-Dissociating D2 Antagonist for the Treatment of Schizophrenia
Xavier Langlois, Anton Megens, Hilde Lavreysen, John Attack, Miroslav Cik, Paula te Riele, Luc Peeters, Ria Wouters, Jef Vermeire, Herman Hendricks, Gregor Macdonald, and Marcel De Bruyn

Pyroglutamyl Peptidase II Inhibition Enhances the Analectic Effect of Thyrotropin-Releasing Hormone in the Rat Medial Septum
Ivan Lazcano, Rosa María Uribe, Erick Martínez-Chávez, Miguel Ángel Vargas, Magdalini Matziari, Patricia Joseph-Bravo, and Jean-Louis Charli

Resveratrol Inhibits Paraquat-Induced Oxidative Stress and Fibrogenic Response by Activating the Nuclear Factor Erythroid 2-Related Factor 2 Pathway
Xiaqing He, Liping Wang, Grazyna Szklarz, Yongyi Bi, and Qiang Ma