CONTENTS

MINIREVIEW


ARTICLES

Development and Characterization of MDR1 (Mdr1a/b) CRISPR/Cas9 Knockout Rat Model. Chenmeizi Liang, Junfang Zhao, Jian Lu, Yuanjin Zhang, Xinrun Ma, Xuyang Shang, Yongmei Li, Xueyun Ma, Mingyao Liu, and Xin Wang ................................................................. 71

Serotonin Receptors of 5-HT2 Type in the Hypothalamic Arcuate Nuclei Positively Regulate Liver Cytochrome P450 via Stimulation of the Growth Hormone-Releasing Hormone/Growth Hormone Hormonal Pathway. Ewa Bromek, Marta Rysz, Anna Haduch, and Władysław A. Daniel ......................................................... 80

Berberine Directly Affects the Gut Microbiota to Promote Intestinal Farnesoid X Receptor Activation. Yuan Tian, Jingwei Cai, Wei Gui, Robert G. Nichols, Imhoo Koo, Jingtao Zhang, Mallappa Anitha, and Andrew D. Patterson .... 86

Extrapolation of In Vivo Hepatic Clearance from In Vitro Uptake Clearance by Suspended Human Hepatocytes for Anionic Drugs with High Binding to Human Albumin: Improvement of In Vitro-to-In Vivo Extrapolation by Considering the “Albumin-Mediated” Hepatic Uptake Mechanism on the Basis of the “Facilitated-Dissociation Model”. Soo-Jin Kim, Kyeong-Ryoon Lee, Seiji Miyaochi, and Yuichi Sugiyama ................................................................. 94

Characterization of Stereoselective Metabolism, Inhibitory Effect on Uric Acid Uptake Transporters, and Pharmacokinetics of Lesinurad Atropisomers. Chun Yang, Dongmei Zhou, Zancong Shen, David M. Wilson, Matthew Renner, Jeffrey N. Miner, Jean-Luc Girardet, and Caroline A. Lee ......................................................... 104


Bioavailability, Biotransformation, and Excretion of the Covalent Bruton Tyrosine Kinase Inhibitor Acalabrutinib in Rats, Dogs, and Humans. Terry Podoll, Paul G. Pearson, Jerry Everts, Tim Ingallinera, Elena Bibikova, Hao Sun, Mark Gohdes, Kristen Cardinal, Mitesh Sanghvi, and J. Greg Slatter ................................................................. 145

Altered Hepatobiliary Disposition of Tolvaptan and Selected Tolvaptan Metabolites in a Rodent Model of Polycystic Kidney Disease. James J. Beaudoin, Jacqueline Bezençon, Yanguang Cao, Katsuhiko Mizuno, Sharin E. Roth, William J. Brock, and Kim L. R. Brouwer ................................................................. 155

Continued on next page
SHORT COMMUNICATION

Identification of 19-(S/R)Hydroxyeicosatetraenoic Acid as the First Endogenous Noncompetitive Inhibitor of Cytochrome P450 1B1 with Enantioselective Activity. Sherif M. Shoieb, Ahmed A. El-Sherbeni, and Ayman O. S. El-Kadi... 67

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

About the cover: Remodeling of the gut microbiota by BBR leads to a change in the composition of bile acids and associated activation of FXR signaling. See the article by Tian et al. (dx.doi.org/10.1124/dmd.118.083691).