DRUG METABOLISM AND DISPOSITION
A Publication of the American Society for Pharmacology and Experimental Therapeutics

October 2015 Vol. 43, No. 10

CONTENTS

SPECIAL SECTION ON DRUG METABOLISM AND THE MICROBIOME

Drug Metabolism by the Host and Gut Microbiota: A Partnership or Rivalry?. Hollie I. Swanson ............... 1499

Review: Mechanisms of How the Intestinal Microbiota Alters the Effects of Drugs and Bile Acids. Curtis D. Klaassen and Julia Yue Cui ................ 1505

Indole and Tryptophan Metabolism: Endogenous and Dietary Routes to Ah Receptor Activation. Troy D. Hubbard, Iain A. Murray, and Gary H. Perdew ...................... 1522

Aryl Hydrocarbon Receptor Activity of Tryptophan Metabolites in Young Adult Mouse Colonocytes. Yating Cheng, Un-Ho Jin, Clint D. Allred, Arul Jayaraman, Robert S. Chapkin, and Stephen Safe ................................ 1536

Importance of Large Intestine in Regulating Bile Acids and Glucagon-Like Peptide-1 in Germ-Free Mice. Felcy Pavithra Selwyn, Iván L. Csanaky, Youcai Zhang, and Curtis D. Klaassen. ...................... 1544

Microbiome Disturbances and Autism Spectrum Disorders. Cheryl S. Rosenfeld ............... 1557

RNA-Seq Quantification of Hepatic Drug Processing Genes in Germ-Free Mice. Felcy Pavithra Selwyn, Julia Yue Cui, and Curtis D. Klaassen ........... 1572


Intestinal Absorption and Metabolism of Epimedium Flavonoids in Osteoporosis Rats. Jing Zhou, Yi Hua Ma, Zhong Zhou, Yan Chen, Ying Wang, and Xia Gao ...................... 1590

The Presystemic Interplay between Gut Microbiota and Orally Administered Calycosin-7-O-β-D-Glucoside. Jian-Qing Ruan, Shang Li, Ya-Ping Li, Wen-Jin Wu, Simon Ming-Yuen Lee, and Ru Yan ...................... 1601

Defining the Role of Gut Bacteria in the Metabolism of Deleobuvir: In Vitro and In Vivo Studies. Michelle McCabe, Rucha S. Sane, Monica Keith-Luzzi, Jun Xu, Illeanis King, Andrea Whitcher-Johnstone, Nicholas Johnstone, Donald J. Tweedie, and Yongmei Li ..................... 1612

Investigation of Host–Gut Microbiota Modulation of Therapeutic Outcome. Lian Yee Yip and Eric Chun Yong Chan. ..................... 1619

SHORT COMMUNICATION


ARTICLES

Novel Marmoset Cytochrome P450 2C19 in Livers Efficiently Metabolizes Human P450 2C9 and 2C19 Substrates, S-Warfarin, Tolbutamide, Flurbiprofen, and Omeprazole. Shotaro Uehara, Yasuhiro Uno, Takashi Inoue, Mirai Kawano, Makiko Shimizu, Akiko Toda, Masahiro Utoh, Erika Sasaki, and Hiroshi Yamazaki ..................... 1408

Prediction of Drug-Drug Interactions with Crizotinib as the CYP3A Substrate Using a Physiologically Based Pharmacokinetic Model. Shinji Yamazaki, Theodore R. Johnson, and Bill J. Smith. .............. 1417


Lipid Peroxide–Mediated Oxidative Rearrangement of the Pyrazinone Carboxamide Core of Neutrophil Elastase Inhibitor AZD9819 in Blood Plasma Samples. Chingang Gu, Richard J. Lewis, Andrew S. Wells, Per H. Svensson, Vinayak P. Hosagurahara, Eskil Johnsson, and Gösta Hallström. .............. 1441

Continued on next page
Single-Nucleotide Polymorphisms in Cytochrome P450 2E1 (CYP2E1) 3'-Untranslated Region Affect the Regulation of CYP2E1 by miR-570. Masataka Nakano, Takuya Mohri, Tatsuki Fukami, Masataka Takamiya, Yasuhiro Aoki, Howard L. McLeod, and Miki Nakajima 1450

Role of Specificity Protein 1, Hepatocyte Nuclear Factor 1α, and Pregnane X Receptor in the Basal and Rifampicin-Induced Transcriptional Regulation of Porcine Cytochrome P450 3A46. Linfeng Dong, Qingmei Chen, Xin Liu, Jikai Wen, Jun Jiang, and Yiqun Deng 1458

Inhibition of Human UDP-Glu curonosyltransferase Enzymes by Canagliflozin and Dapagliflozin: Implications for Drug-Drug Interactions. Attarat Pattanawongsa, Nuy Chau, Andrew Rowland, and John O. Miners 1468

Disposition of Basal Insulin Peglispro Compared with 20-kDa Polyethylene Glycol in Rats Following a Single Intravenous or Subcutaneous Dose. Mary Pat Knadler, Bernice B. Ellis, Patricia L. Brown-Augsburger, Anthony T. Murphy, Jennifer A. Martin, and Victor J. Wroblewski 1477

CYP3A Activity and Expression in Nonalcoholic Fatty Liver Disease. Sarah J. Woolsey, Sara E. Mansell, Richard B. Kim, Rommel G. Tirona, and Melanie D. Beaton 1484

In Vitro and In Vivo Characterization of Reactive Intermediates of Corynoline. Xu Mao, Ying Peng, and Jiang Zheng 1491

Human Liver Cytochrome P450 Enzymes and Microsomal Thiol Methyltransferase Are Involved in the Stereoselective Formation and Methylation of the Pharmacologically Active Metabolite of Clopidogrel. Cai Liu, Zhaoqiang Chen, Kan Zhong, Liang Li, Weiliang Zhu, Xiaoyan Chen, and Dafang Zhong 1632

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

About the cover: A representation of the emerging interplay that exists between the gut microbiota and liver in mediating drug metabolism. Lower left image by N.R. Fuller of Sayo-Art LLC. Digestive system image by Alena Hovorkova/Shutterstock.com.