

DRUG METABOLISM AND DISPOSITION

A Publication of the American Society for Pharmacology and Experimental Therapeutics

April 2023

Vol. 51, No. 4

CONTENTS

MINIREVIEW

50TH ANNIVERSARY CELEBRATION COLLECTION

- Unusual Biotransformation Reactions of Drugs and Drug Candidates. *Emre M. Isin* **413**

MINIREVIEW

- Process and System Clearances in Pharmacokinetic Models: Our Basic Clearance Concepts Are Correct. *Ken Korzekwa and Swati Nagar* **532**

ARTICLES

- Relevance of Human Aldoketoreductases and Microbial β -Glucuronidases in Testosterone Disposition. *Abdul Basit, John K. Amory, Vijaya Saradhi Mettu, Cindy Yanfei Li, Scott Heyward, Parth B. Jariwala, Matthew R. Redinbo, and Bhagwat Prasad* **427**

- Absorption, Metabolism, and Excretion of Taselisib (GDC-0032), a Potent β -Sparing PI3K Inhibitor in Rats, Dogs, and Humans. *Shuguang Ma, Sungjoon Cho, Srikumar Sahasranaman, Weiping Zhao, Jodie Pang, Xiao Ding, Brian Dean, Bin Wang, Jerry Y. Hsu, Joseph Ware, and Laurent Salphati* **436**

- Application of Accelerator Mass Spectrometry to Characterize the Mass Balance Recovery and Disposition of AZD4831, a Novel Myeloperoxidase Inhibitor, following Administration of an Oral Radiolabeled Microtracer Dose in Humans.

Chandrali Bhattacharya, Ann-Sofie Sandinge, Ryan A. Bragg, Maria Heijer, Jingjing Yan, Linda C. Andersson, Ulrik Jurva, Marta Pelay-Gimeno, Wouter H.J. Vaes, Rianne A.F. de Lig, Malin Gränfors, Carl Amilon, Eva-Lotte Lindstedt, Somasekhara R. Menakuru, Pavlo Garkaviy, Lars Weidolf, and V. Sashi Gopaul **451**

- Biotransformation of the Novel Myeloperoxidase Inhibitor AZD4831 in Preclinical Species and Humans. *Ulrik Jurva, Lars Weidolf, Ann-Sofie Sandinge, Carina Leandersson, Anja Ekdahl, Xue-Qing Li, Thomas Antonsson, Johan Sundell, Kristina Westerlund, Carl Amilon, Tord Inghardt, and V. Sashi Gopaul* **464**

- The Unique Human N10-Glucuronidated Metabolite Formation from Olanzapine in Chimeric NOG-TKm30 Mice with Humanized Livers. *Shotaro Uehara, Yuichiro Higuchi, Nao Yoneda, Hiroaki Kato, Hiroshi Yamazaki, and Hiroshi Suemizu* **480**

- CYP3A4 and CYP3A5 Expression is Regulated by CYP3A4*1G in CRISPR/Cas9-Edited HepG2 Cells. *Weihong Yang, Huan Zhao, Yaojie Dou, Pei Wang, Qi Chang, Xiaomeng Qiao, Xiaofei Wang, Chen Xu, Zhe Zhang, and Lirong Zhang* . . . **492**

- Predictive Performance of Physiologically Based Pharmacokinetic Modelling of Beta-Lactam Antibiotic Concentrations in Adipose, Bone, and Muscle Tissues. *Pieter-Jan De Sutter, Pieter De Cock, Trevor N Johnson, Helen Musther, Elke Gasthuys, and An Vermeulen* **499**

☐ Antibiotics-Induced Depletion of Rat Microbiota Induces Changes in the Expression of Host Drug-Processing Genes and Pharmacokinetic Behaviors of CYPs Probe Drugs. *Haijun Yang, Yanjuan Zhang, Rong Zhou, Tianyuan Wu, Peng Zhu, Yujie Liu, Jian Zhou, Yalan Xiong, Yanling Xiong, Honghao Zhou, Wei Zhang, Yan Shu, Xiong Li, and Qing Li* **509**

☐ Biotransformation of Efavirenz and Proteomic Analysis of Cytochrome P450s and UDP-Glucuronosyltransferases in Mouse, Macaque, and Human Brain-Derived In Vitro Systems. *Abigail M. Wheeler, Benjamin C. Orsburn, and Namandjé N. Bumpus* **521**

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

About the cover: Assessing the accuracy of PBPK predicted tissue concentrations. See the article by De Sutter et al. ([dx.doi.org/10.1124/dmd.122.001129](https://doi.org/10.1124/dmd.122.001129)).