

# DRUG METABOLISM AND DISPOSITION

A Publication of the American Society for Pharmacology and Experimental Therapeutics

Founded by Kenneth C. Leibman—1973

**Xinxin Ding, Editor**

## ASSOCIATE EDITORS

Wayne L. Backes, Deepak K. Dalvie, Robert S. Foti, Nina Isoherranen,  
Hyunyoung Jeong, Yurong Lai, J. Steven Leeder, R. Scott Obach, Mary Paine, David S. Riddick,  
John D. Schuetz, Aiming Yu, and Xiao-bo Zhong

## MINIREVIEWS EDITORS

Yurong Lai and Xiao-bo Zhong

## VIRTUAL SPECIAL SECTION (VSS) EDITOR

Hyunyoung Jeong

## SCIENTIFIC ADVISORY BOARD

M.W. Anders, Frederick P. Guengerich, James R. Halpert, Magnus Ingelman-Sundberg, Eric F. Johnson,  
Anthony Y. Lu, Bettie Sue Masters, Edward T. Morgan, and Paul R. Ortiz De Montellano

## EDITORIAL BOARD MEMBERS

Lauren Aleksunes	Julia Cui	Hiroyuki Kusuvara	Bhagwat Prasad	Joanne Wang
Shelby Anderson	D. Fernando Estrada	Lawrence H. Lash	Diane Ramsden	Ronald E. White
Pieter P.J. Annaert	Raymond Evers	Elaine Leslie	Brooke Rock	Baojian Wu
Upendra Argikar	Aleksandra Galetin	Chuan Li	Luc Rougee	Fang Xie
Samuel L. Arnold	Guang-bo Ge	Xiaochao Ma	Aarti Sawant-Basak	Wen Xie
Thomas Baillie	Kerry Goralski	Kazuya Maeda	Daniel Scotcher	Hiroshi Yamazaki
Huichang Bi	Raj Govindarajan	Don Mager	Emily E. Scott	Shinji Yamazaki
Michael Cameron	Jingkai Gu	José J.G. Marín	Michael Sinz	Maciej Zamek-Gliszczyński
Matthew A. Cerny	Bruno Hagenbuch	Donald Mercante	Raju Subramanian	Su Zeng
Eric Chan	Min Huang	Grover P. Miller	Yun K. Tam	Donglu Zhang
Thomas K.H. Chang	W. Griffith Humphreys	Swati Nagar	Ikumi Tamai	Jiang Zheng
Cuiping Chen	Klarissa Jackson	Miki Nakajima	Mitchell E. Taub	Haojie Zhu
Nathan Cherrington	Margaret O. James	Baitang Ning	Rommel Tirona	Michael Zientek
Uwe Christians	Hyunyoung Jeong	K. Sandy Pang	Brad Urquhart	
Xiaoyan Chu	Amit S. Kalgutkar	Micheline Piquette-Miller	Jan Wahlstrom	

## PUBLICATIONS COMMITTEE

Kenneth D. Tew, *Chair*; Laura Bohn, Lynette Daws, Xinxin Ding, Beverley Greenwood-Van Meerveld, Michael F. Jarvis, Adriano Marchese, Gary O. Rankin, John J. G. Tesmer, Susan Wood, Ai-Ming Yu; and Mohamed Ghonim, *ex officio Young Scientist Representative*

**ASPET EXECUTIVE OFFICER:** Dave Jackson

*Publications Director:* Maria Pasho *Journal Operations Manager:* Tracey Kirkbride *Peer Review Coordinator:* Kristine Styron

**Drug Metabolism and Disposition** (ISSN 1521-009X) is published monthly (one volume per year) online only by the American Society for Pharmacology and Experimental Therapeutics, 1801 Rockville Pike, Suite 210, Rockville, MD 20852-1633. E-mail: [subscriptions@aspet.org](mailto:subscriptions@aspet.org). ASPET web site: [aspet.org](http://aspet.org). Journal web site: [dmd.aspetjournals.org](http://dmd.aspetjournals.org). Subscription rates at [aspetjournals.org/site/subscriptions/index.xhtml](http://aspetjournals.org/site/subscriptions/index.xhtml). GST Tax Number for Canadian subscribers: BN: 13489 2330 RT.

**Indexed or abstracted by:** *Biochemistry & Biophysics Citation Index*®, *Biological Abstracts*, *BIOSIS Previews Database*, *Bio-Sciences Information Services*, *Current Awareness in Biological Sciences*, *Current Contents*®/*Life Sciences*, *EMBASE/Excerpta Medica*, *Index Medicus*, *International Pharmaceutical Abstracts*, *Medical Documentation Service*®, *Reference Update*®, *Research Alerts*®, *Science Citation Index*®, *SciSearch*®, and *SIC Data Bases*.

**Journal and ASPET office:** 1801 Rockville Pike, Suite 210, Rockville, MD 20852-1633. Telephone: 301-634-7060. Fax: 301-634-7061. E-mail: [dmd@aspet.org](mailto:dmd@aspet.org). ASPET web site: [aspet.org](http://aspet.org). Journal web site: [dmd.aspetjournals.org](http://dmd.aspetjournals.org).

**Editorial matters** should be addressed to Dr. Xinxin Ding, Editor, *Drug Metabolism and Disposition*, at the above address.

**Instructions to Authors:** See [dmd.aspetjournals.org](http://dmd.aspetjournals.org) for the Instructions to Authors and information on ASPET Authorship Responsibility, Financial Disclosure, and Chemical Structure policies.

**Subscriptions:** Contact the ASPET Subscriptions Dept., 1801 Rockville Pike, Suite 210, Rockville, MD 20852-1633. Telephone: 301-634-7782. Fax: 301-634-7061. E-mail: [subscriptions@aspet.org](mailto:subscriptions@aspet.org). See [aspetjournals.org/site/subscriptions/index.xhtml](http://aspetjournals.org/site/subscriptions/index.xhtml) for rates.

**Change of IP addresses:** ASPET will help institutional subscription administrators update IP address ranges as requested. Subscription administrators can make these changes at the journal site using their account user name and password.

**Reprints of individual articles** are available from the journal web site using the pay-per-view option for nonsubscribers.

**Reprints in large quantities** for commercial or academic use may be purchased from ASPET. For information and prices, call 301-634-7063.

**Copyright information:** *Drug Metabolism and Disposition* is copyrighted by the American Society for Pharmacology and Experimental Therapeutics. All permissions requests are processed through the Copyright Clearance Center (CCC), Inc. at <https://www.copyright.com/get-permissions>. Photocopying or printing articles beyond that permitted by Sections 107 and 108 of the U.S. Copyright Law is allowed, provided that the \$35.00-per-copy fee is paid through the CCC. Classroom photocopying is permitted at no fee, provided that students are not charged more than the cost of duplication. This consent does not extend to other kinds of copying. Reproduction of any portion of an article for subsequent republication requires permission of ASPET.

**Disclaimer:** The statements and opinions contained in the articles of *Drug Metabolism and Disposition* are solely those of the individual authors and contributors and not of the American Society for Pharmacology and Experimental Therapeutics. The appearance of advertisements in the journal is not a warranty, endorsement, or approval of the products or their safety. The American Society for Pharmacology and Experimental Therapeutics disclaims responsibility for any injury to persons or property resulting from any ideas or products referred to in any article or advertisement.

**Copyright** © 2024 by the American Society for Pharmacology and Experimental Therapeutics. All rights reserved.