

MOLECULAR PHARMACOLOGY

A Publication of the American Society for Pharmacology and Experimental Therapeutics

Founded by Avram Goldstein—1965

Kathryn E. Meier, Editor

John Tesmer, *Deputy Editor*

ASSOCIATE EDITORS

Cecilia Bouzat, Raymond Evers, John R. Hepler, Sridhar Mani,
Andrew Morris, Jeanne Nerbonne, Manojkumar Puthenveedu, and Alan Smrcka

Martin Michel, *Minireview Editor*

David Gewirtz, *Emerging Concepts Editor*

Martin Michel, Harvey J. Motulsky, and T.J. Murphy, *Statistics Editors*

EDITORIAL AND ADVISORY BOARD

Katerina Akassoglou	Frederick J. Ehlert	Peter Houghton	Henry Lester	Cheryl Rockwell
Giuseppe Battaglia	Michael Freissmuth	Hidenori Ichijo	Lian Li	Michael A. Rogawski
Jeffrey L. Benovic	Liwu Fu	Hiroshi Itoh	Sophie Lotersztajn	Bryan L. Roth
Nigel J. M. Birdsall	Yoshiaki Fujii-Kuriyama	Kenneth A. Jacobson	Angeline M. Lyon	Siddhartha Roy
Mary-Ann Bjornsti	Aurelio Galli	Andrew Jenkins	Ken Mackie	Gunnar Schulte
Laura Bohn	Adolfo García-Sáinz	Ralf Jockers	Adriano Marchese	Zhi Shi
Wendy Bollag	Ulrik Gether	Eric F. Johnson	Jeffrey Martens	Shivendra V. Singh
Joan Heller Brown	Alasdair Gibb	Mathew Jones	James O. McNamara	Bruno Stieger
Moritz Bunemann	Frank J. Gonzalez	Thomas Kash	Laurence J. Miller	Gregory Tall
Thomas Burris	Michael M. Gottesman	Marcelo Kazanietz	Graeme Milligan	Andrew Tobin
Meritxell Canals	Patrick Griffin	John Kehrl	Peter Mohler	JoAnn Trejo
William A. Catterall	Grace Guo	Terry Kenakin	Richard R. Neubig	Joanne Wang
Niels Decher	J. Silvio Gutkind	Brian K. Kobilka	Kim A. Neve	David J. Waxman
Mark Dell'Acqua	Randy A. Hall	Evi Kostenis	Eric Ortlund	Jurgen Wess
Jerod Denton	Kasper Hansen	Rakesh Kukreja	Rennolds S. Ostrom	Keith Williams
Lakshmi Devi	Donald Hilgemann	Nevin Lambert	Robert E. Oswald	Wen Xie
Henrik Dohlman	Miwako Kato Homma	Philip Lazarus	Jean-Philippe Pin	Richard D. Ye
George Dubyak		L. M. Fredrik	John J. Reiners, Jr.	Lixia Yue
		Leeb-Lundberg	Michael Robinson	Michael Zhu

BOARD OF PUBLICATIONS TRUSTEES

Emily E. Scott, *Chair*; Eric L. Barker, Jack Bergman, Lynette Daws, Xinxin Ding, Michael F. Jarvis, J. Steven Leeder,
Kathryn E. Meier, Gary O. Rankin, Kenneth D. Tew, Judith A. Siuciak, *ex officio*; and Joseph Jilek,
ex officio Young Scientist Representative

ASPET EXECUTIVE OFFICER: Judith A. Siuciak

Journals Director: Richard Dodenhoff *Senior Peer Review Manager*: Jacqueline Perry *Peer Review Assistant*: Pierce Hengst

Molecular Pharmacology (ISSN 1521-0111) is published monthly online only (two volumes per year beginning in January and July) by the American Society for Pharmacology and Experimental Therapeutics, 1801 Rockville Pike, Suite 210, Rockville, MD 20852-1633. E-mail: subscriptions@aspet.org. ASPET web site: aspet.org. Journal web site: molpharm.aspetjournals.org. Subscription rates at 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*, *Current Awareness in Biological Sciences*, *Current Contents*®/*Life Sciences*, *EMBASE/Excerpta Medica*, *Index Medicus*, *Medical Documentation Service*®, *Reference Update*®, *Research Alerts*®, *Science Citation Index*®, and *SciSearch*®.

Journal and ASPET office: 1801 Rockville Pike, Suite 210, Rockville, MD 20852-1633. Telephone: 301-634-7060. Fax: 301-634-7061. E-mail: info@aspet.org. ASPET web site: aspet.org. Journal web site: molpharm.aspetjournals.org.

Editorial matters should be addressed to Dr. Kathryn E. Meier, Editor, *Molecular Pharmacology*, at the above address.

Instructions to Authors: See molpharm.aspetjournals.org for the Instructions to Authors and the ASPET Authorship Responsibility, Financial Disclosure, and Chemical Structure Statement forms.

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. See 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: *Molecular Pharmacology* is copyrighted by the American Society for Pharmacology and Experimental Therapeutics. For permission to photocopy entire articles from *Molecular Pharmacology*, see www.copyright.com or contact the Copyright Clearance Center (CCC), Inc., 222 Rosewood Dr., Danvers, MA 01923. Telephone: 978-750-8400. For permission to reprint portions of articles such as figures and tables or to reprint entire articles in a thesis or dissertation, see <https://www.aspet.org/aspet/journals/journals-information/permissions-request>. 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 *Molecular Pharmacology* 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 © 2021 by the American Society for Pharmacology and Experimental Therapeutics. All rights reserved.