### **MOLECULAR PHARMACOLOGY**

EDITOR: NORMAN KIRSHNER, Duke University

ASSOCIATE EDITOR: T. A. SLOTKIN, Duke University

#### EDITORIAL AND ADVISORY BOARD

EARL BARIL, Worchester Foundation of Experimental Biology

R. B. BARLOW, University of Bristol

L. L. Bennett, Jr., Southern Research Institute

N. J. M. BIRDSALL, National Institute for Medical Research

JOEL BOCKAERT, Institut National de la Santé et de la Recherche Médicale

BRUCE BRECKENRIDGE, Rutgers Medical School

THEODORE M. BRODY, Michigan State University

ERNEST BUEDING, Johns Hopkins University

A. S. V. Burgen, National Institute for Medical Research, London

WILLIAM CATTERALL, University of Washington

COLIN F. CHIGNELL, National Institute of Environmental Health Sciences

RONALD CHUANG, Oral Roberts University

DOMINICK L. CINTI, University of Connecticut

P. MICHAEL CONN, Duke University

JOHN W. DALY, National Institute of Arthritis, Metabolism and Digestive Diseases

JAMES N. DAVIS, Duke University

GEORGE I. DRUMMOND, University of Calgary

MOHYEE E. ELDEFRAWI, University of Maryland

ROBERT F. FURCHGOTT, State University of New York, Downstate Medical Center

ALFRED G. GILMAN, University of Virginia

ROBERT I. GLAZER, National Cancer Institute

DAVID V. GODIN, University of British Columbia

AVRAM GOLDSTEIN, Addiction Research Foundation, Palo Alto

H. JOSEPH GOREN, University of Calgary

CHARLES HEIDELBERGER, LAC-USC Cancer Center, Los Angeles

GEORGE H. HITCHINGS, Wellcome Research Laboratories

DONALD JERINA, National Institute of Arthritis, Metabolism and Digestive Diseases

ARTHUR KARLIN, Columbia University

JOYCE J. KAUFMAN, Johns Hopkins University

SEYMOUR KAUFMAN, National Institute of Mental Health

LEMONT B. KIER, Medical College of Virginia

ERNEST KUN, University of California, San Francisco

HERBERT D. LANDAHL, University of California, San Francisco

ROBERT J. LEFKOWITZ, Duke University

ANTHONY Y. H. Lu, Merck, Sharp, and Dohme Research Laboratories

KARL MAGLEBY, University of Miami

GILBERT J. MANNERING, University of Minnesota

RONALD M. McElhaney, University of Alberta

KEITH W. MILLER, Harvard University

PERRY B. MOLINOFF, University of Colorado

DANIEL W. NEBERT, National Institute of Child Health and Human Development

CHARLES A. NICHOL, Wellcome Research Laboratories

JOHN P. PERKINS, University of North Carolina

Bernard Pullman, Edmond Rothschild Institut de Biologie Physico-Chemique

K. W. RAJAGOPALAN, Duke University

H. P. RANG, University College, London

MARTIN RODBELL, National Institute of Arthritis, Metabolism and Digestive Diseases

GERALD ROSEN, Duke University

JOHN B. SCHENKMAN, University of Connecticut

ARNOLD SCHWARTZ, University of Cincinnati

DAVID SILVERMAN, University of Florida

IAN C. P. SMITH, National Research Council of Canada, Ottawa

SOLOMON H. SNYDER, Johns Hopkins University

SNORRI S. THORGEIRSSON, National Cancer Institute

JAMES R. TRUDELL, Stanford University

PAUL O. P. Ts'o, Johns Hopkins University

DAVID C. U'PRICHARD, Northwestern University

WYLIE W. VALE, Salk Institute, San Diego

ELLIOT S. VESSELL, Pennsylvania State University

O. H. VIVEROS, Wellcome Research Laboratories

MICHAEL J. WARING, University of Cambridge

HAREL WEINSTEIN, Mount Sinai School of Medicine

#### **BOARD OF PUBLICATIONS TRUSTEES**

NORMAN WEINER, Chairman

HOUSTON BAKER (Ex Officio), Executive Officer

GEORGE I. DRUMMOND

LEON I. GOLDBERG

EVA KING KILLAM

Norman Kirshner

KENNETH C. LEIBMAN

GILBERT J. MANNERING
WALTER MODELL
PAUL L. MUNSON
CLEMENT A. STONE

## **CONTENTS**

P. Y. Law, T. J. Ostwald, E. L. Way, and H. H. Loh. Interaction of Diazosulfanilic Acid and the Opiate Receptor: Inhibition of Specific Binding to Synaptic Membranes and Labeling of a Membrane Lipid Stereospecifically Protected by Opioids	355
FREDERICK J. EHLERT, WILLIAM R. ROESKE, AND HENRY I. YAMAMURA. Mathematical Analysis of the Kinetics of Competitive Inhibition in Neurotransmitter Receptor Binding Assays	367×
NANCY R. ZAHNISER, KIM A. HEIDENREICH, AND PERRY B. MOLINOFF. Binding of [3H]Amino-6,7-dihydroxy-1,2,3,4-tetrahydronaphthalene to Striatal Membranes: Effects of Purine Nucleotides and Ultraviolet Irradiation	372
S. J. HILL AND J. M. YOUNG. Characterization of [3H]Mepyramine Binding to the Longitudinal Muscle of Guinea Pig Small Intestine	379
MICHAEL R. KILBOURN, A. J. ARDUENGO, JOON T. PARK, AND JOHN A. KATZENELLENBO- GEN. Conformational Analysis of Nonsteroidal Estrogens: The Effect of Conformer Populations on the Binding Affinity of meso- and dl-Hexestrol to the Estrogen Receptor	388
JAN MARIAN, RALPH L. COOPER, AND P. MICHAEL CONN. Regulation of the Rat Pituitary Gonadotropin-Releasing Hormone Receptor	399
HARVEY R. KASLOW, DAVID COX, VINCENT E. GROPPI, AND HENRY R. BOURNE. An M <sub>r</sub> = 52,000 Peptide Can Mediate Effects of Cholera Toxin on Adenylate Cyclase in Intact Cells	406×
E. X. Albuquerque, J. E. Warnick, M. A. Maleque, F. C. Kauffman, R. Tamburini, Y. Nimit, and J. W. Daly. The Pharmacology of Pumiliotoxin-B. I. Interaction with Calcium Sites in the Reticulum of Skeletal Muscle	411
J. H. CHIN AND D. B. GOLDSTEIN. Membrane-Disordering Action of Ethanol: Variation with Membrane Cholesterol Content and Depth of the Spin Label Probe	425
H. J. GALLA AND J. R. TRUDELL. Perturbation of Peptide-Induced Lateral Phase Separations in Phosphatidic Acid Bilayers by the Inhalation Anesthetic Methoxyflurane	432
Daniele Cusi and Ricardo Garay. The Effect of Tienilic Acid on Na <sup>+</sup> and K <sup>+</sup> Sodium Transport in Human Red Cells	438
RONALD P. FRIGON, DANIEL T. O'CONNOR, AND GAIL L. LEVINE. Human Dopamine-β-Hydroxylase: Comparison of the Enzyme from Plasma, Adrenal Medulla, and Pheochromocytoma by Radioimmunoassay	444
SEBASTÍAN CERDÁN, MARÍA CASCALES, AND ANGEL SANTOS-RUIZ. Effect of Thioacetamide on the Pentose Phosphate Pathway and Other NADP-Linked Enzymes of Rat Liver Cytosol: Chronology of the Perturbations and Metabolic Significance	451
MITSUO YAMAZAKI, KAZUO OHUCHI, MASAAKI SASAKI, AND KIYOSHI SAKAI. Inhibition of 15-Hydroxyprostaglandin Dehydrogenase by 9,11-Deoxyprostaglandins in Vitro and in Vivo	456
JARLE AARBAKKE AND PER M. UELAND. Interaction of S-Adenosylhomocysteine with Isolated Rat Hepatocytes	463
DONALD E. MACFARLANE. The Effects of Methyl Mercury on Platelets: Induction of Aggregation and Release via Activation of the Prostaglandin Synthesis Pathway	470
Susan P. C. Cole, David T. Zelt, and Gerald S. Marks. Comparison of the Effects of Griseofulvin and 3,5-Diethoxycarbonyl-1,4-dihydro-2,4,6-trimethylpyridine on Ferrochelatase Activity in Chick Embryo Liver	477
(contin	ıued)

MOLECULAR PHARMACOLOGY (ISSN 0026-895x) is published bi-monthly by The American Society for Pharmacology and Experimental Therapeutics, 428 East Preston St., Baltimore, MD. 21202. 1981: Volumes 19–20. Price per volume: USA individual rate \$65.00; all other countries \$85.00. USA institutional rate \$130.00; all other countries \$150.00. All correspondence and subscription orders should be addressed to the Business Office, Molecular Pharmacology, P.O. Box 64025, Baltimore, MD. 21264. Send notice of address changes to the Business Office at least 6–8 weeks in advance.

Second Class Postage paid at Baltimore, MD. and at additional mailing offices. POSTMASTER send address changes (Form 3579) to 428 East Preston St., Baltimore, MD. 21202.

Copyright © 1981 by The American Society for Pharmacology and Experimental Therapeutics.



## CONTENTS (cont'd)

KEVIN J. SCANLON, ARLENE R. CASHMORE, BARBARA A. MOROSON, ROBERT N. DREYER, AND JOSEPH R. BERTINO. Inhibition of Serine Metabolism by Tetrahydrohomofolate in L1210 Mouse Leukemia Cells	481
MICHAEL R. HAMRELL, JOHN LASZLO, AND W. DAVID SEDWICK. Transient Induction of Phenotypic Resistance in Human Lymphoblastoid Cells following Sequential Use of Two Antifolates	491
C. Paul Spears. Nucleophilic Selectivity Ratios of Model and Clinical Alkylating Agents by 4-(4'-Nitrobenzyl)pyridine Competition	496
Short Communications	
John M. Whiteley, Zenia Nimec, and John Galivan. Treatment of Reuber H35 Hepatoma Cells with Carrier-Bound Methotrexate	505
ERNST BÜRGHISSER, ROBERT J. LEFKOWITZ, AND ANDRE DELEAN. Alternative Explanation for the Apparent "Two-Step" Binding Kinetics of High-Affinity Racemic Antagonist Radioligands	509
SUNGCHUL JI, JOHN J. LEMASTERS, AND RONALD G. THURMAN. A Fluorometric Method To Measure Sublobular Rates of Mixed-Function Oxidation in the Hemoglobin-Free Perfused Rat Liver	513
NORMAN CAMERMAN AND ARTHUR CAMERMAN. On the Stereochemistry of Dopaminergic Ergoline Derivatives	517
Sue A. Wartell, Rose Christopherson, Clyde A. Watkins, and D. Eugene Rannels. Inhibition of Synthesis of Lung Proteins by Halothane	520
ROBERT M. LEVIN, RICHARD JACOBY, AND ALAN J. WEIN. Effect of Adenosine Triphosphate on Contractility and Adenosine Triphosphatase Activity of the Rabbit Urinary Bladder	525
AUTHOR INDEX FOR VOLUME 19	529
The Subject Index for Volume 19 will appear in the November 1981 issue as part of a	020
cumulative index for the year 1981.	

# Copyright © 1981 by The American Society for Pharmacology and Experimental Therapeutics All Rights Reserved

No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopy, recording, or any information storage and retrieval system, without permission in writing from the copyright owner.

The appearance of the code at the bottom of the first page of an article in this journal indicates the copyright owner's consent that copies of this article may be made for personal or internal use, or for the personal or internal use of specific clients. This consent is given on the condition, however, that the copier pay the stated per copy fee through the Copyright Clearance Center, Inc., (21 Congress Street, Salem, Massachusetts 01970), for copying beyond that permitted by Sections 107 or 108 of the U.S. Copyright Law. This consent does not extend to other kinds of copying, such as copying for general distribution, for advertising or promotional purposes, for creating new collective works, or for resale. Copy fees for pre-1981 articles are the same as those shown for current articles.