CONTENTS

ACCELERATED COMMUNICATIONS

CAROLYN S. RABE AND BORIS TABAKOFF. Glycine Site-Directed Agonists Reverse the Actions of Ethanol at the N-Methyl-D-aspartate Receptor	75
MOHAMED BOUTJDIR, PIERRE-FRANÇOIS MÉRY, RÉMY HANF, ALVIN SHRIER, AND RODOLPHE FISCHMEISTER. High Affinity Forskolin Inhibition of L-Type Ca ²⁺ Current in Cardiac Cells	75
ROBERTO FERNANDEZ-LARSSON AND JEAN L. PATTERSON. Ribavirin Is an Inhibitor of Human Immunodeficiency Virus Reverse Transcriptase	76
THOMAS W. VON GELDERN, GERALD P. BUDZIK, TERRY P. DILLON, WILLIAM H. HOLLE-MAN, MARK A. HOLST, YOSHIAKI KISO, EUGENE I. NOVOSAD, TERRY J. OPGENORTH, TODD W. ROCKWAY, ALFORD M. THOMAS, AND SIOBHAN YEH. Atrial Natriuretic Peptide Antagonists: Biological Evaluation and Structural Correlations	77
THOMAS L. DAWSON, ROBERT A. NICHOLAS, AND RAYMOND DINGLEDINE. Homomeric GluR1 Excitatory Amino Acid Receptors Expressed in Xenopus Oocytes	77
ARTICLES	
DAVID BLEAKMAN, STANLEY A. THAYER, STEVEN R. GLAUM, AND RICHARD J. MIL- LER. Bradykinin-Induced Modulation of Calcium Signals in Rat Dorsal Root Gan- glion Neurons In Vitro	78
DOUGLAS A. WEIDNER AND JEAN-PIERRE SOMMADOSSI. 3'-Azido-3'-deoxythymidine Inhibits Globin Gene Transcription in Butyric Acid-Induced K-562 Human Leukemia Cells	79
SEBASTIAN LAZARENO, NOEL J. BUCKLEY, AND FIONA F. ROBERTS. Characterization of Muscarinic M ₄ Binding Sites in Rabbit Lung, Chicken Heart, and NG108-15 Cells	80
JL. Bueb, M. Mousli, C. Bronner, B. Rouot, and Y. Landry. Activation of G _i -Like Proteins, a Receptor-Independent Effect of Kinins in Mast Cells	81
NANCY J. LEIDENHEIMER, MICHAEL D. BROWNING, THOMAS V. DUNWIDDIE, LISA D. HAHNER, AND R. ADRON HARRIS. Phosphorylation-Independent Effects of Second Messenger System Modulators on γ -Aminobutyric Acid _A Receptor Complex Function	82
TERRY D. LINDSTROM, BRENDA R. HANSSEN, AND ALISON M. BENDELE. Effects of Hepatic Ischemia-Reperfusion Injury on the Hepatic Mixed Function Oxidase System in Rats	82
JAMES F. KACHUR, BONNIE L. STURM, TIMOTHY S. GAGINELLA, AND LALITA NORONHA-BLOB. Regulation of Guinea Pig Ileal Electrolyte Transport by M ₃ -Muscarinic Acetylcholine Receptors In Vitro	83
GAÉTAN GUILLEMETTE, ISABELLE FAVREAU, GUYLAIN BOULAY, AND MICHEL POTIER. Solubilization and Partial Characterization of Inositol 1,4,5-Trisphosphate Receptor of Bovine Adrenal Cortex Reveal Similarities with the Receptor of Rat Cerebellum	84
MARK BUSHFIELD, ILANA SHOSHANI, AND ROGER A. JOHNSON. Tissue Levels, Source, and Regulation of 3'-AMP: An Intracellular Inhibitor of Adenylyl Cyclases	84
P. H. REGGIO, H. H. SELTZMAN, D. R. COMPTON, W. R. PRESCOTT, JR., AND B. B. MARTIN. Investigation of the Role of the Phenolic Hydroxyl in Cannabinoid Activity	85
Contir	rue

MOLECULAR PHARMACOLOGY (ISSN 0026-895x) is an official publication of The American Society for Pharmacology and Experimental Therapeutics and is published monthly by Williams & Wilkins, 428 East Preston Street, Baltimore, MD 21202-3993. Price per year: USA individual rate \$90; all other countries, surface mail \$120. USA institutional rate \$195; all other countries, surface mail \$225. Single copies \$17 (\$20 foreign). (Prices subject to change.) Indexed by Index Medicus, Current Contents/Life Sciences, Excerpta Medica, and Current Awareness in Biological Sciences. All subscription orders should be addressed to Molecular Pharmacology, 428 East Preston Street, Baltimore, MD 21202-3993.

Second Class Postage paid at Baltimore, MD, and at additional mailing offices. POSTMASTER: Send address changes to MOLECULAR PHARMACOLOGY, 428 East Preston Street, Baltimore, MD 21202-3993.

Copyright © 1990 by The American Society for Pharmacology and Experimental Therapeutics.

ENRIQUE L. M. OCHOA, LIAN LI, ALLEN PLUMMER AND MARK G. McNamee. Direct Effects of Thymopentin (Arg-Lys-Asp-Val-Tyr) on Cholinergic Agonist-Induced Slow Inactivation of Nicotinic Acetylcholine Receptor Function	863
JÜRGEN WESS, TOM I. BONNER, AND MARK R. BRANN. Chimeric m2/m3 Muscarinic Receptors: Role of Carboxyl Terminal Receptor Domains in Selectivity of Ligand Binding and Coupling to Phosphoinositide Hydrolysis	872
LAWRENCE P. REAGAN, XUEHAI YE, RUBINA MIR, LOUIS R. DEPALO, AND STEVEN J. FLUHARTY. Up-regulation of Angiotensin II Receptors by In Vitro Differentiation of Murine N1E-115 Neuroblastoma Cells	878
RONALD J. LUKAS, TAPAN AUDHYA, GIDEON GOLDSTEIN, AND LINDA LUCERO. Interactions of the Thymic Polypeptide Hormone Thymopoietin with Neuronal Nicotinic α -Bungarotoxin Binding Sites and with Muscle-Type, But Not Ganglia-Type, Nicotinic Acetylcholine Receptor Ligand-Gated Ion Channels	887
JINGRU HU AND ESAM E. EL-FAKAHANY. Selectivity of McN-A-343 in Stimulating Phosphoinositide Hydrolysis Mediated by M ₁ Muscarinic Receptors	895
CHRISTIAN FRELIN, PAUL VIGNE, AND JEAN-PHILIPPE BREITTMAYER. Mechanism of the Cardiotoxic Action of Palytoxin	904
F. Orosz, M. Telegdi, K. Liliom, M. Solti, D. Korbonits, and J. Ovádi. Dissimilar Mechanisms of Action of Anticalmodulin Drugs: Quantitative Analysis	910
Luann Rosenthal, Daniele Zacchetti, Luisa Madeddu, and Jacopo Meldolesi. Mode of Action of α -Latrotoxin: Role of Divalent Cations in Ca ²⁺ -Dependent and Ca ²⁺ -Independent Effects Mediated by the Toxin	917
HENRY I. MOSBERG, DEBORAH L. HEYL, RONALD C. HAASETH, JOHN R. OMNAAS, FEDOR MEDZIHRADSKY, AND CHARLES B. SMITH. Cyclic Dermorphin-Like Tetrapeptides with δ-Opioid Receptor Selectivity. 3. Effect of Residue 3 Modification on <i>In Vitro</i> Opioid Activity	924
ZHOU ZHU, RAYMOND F. SCHINAZI, CHUNG K. CHU, GARY J. WILLIAMS, C. BUDD COLBY, AND JEAN-PIERRE SOMMADOSSI. Cellular Metabolism of 3'-Azido-2',3'-Dideoxyuridine with Formation of 5'-O-Diphosphohexose Derivatives by Previously Unrecognized Metabolic Pathways for 2'-Deoxyuridine Analogs	929
ROBERT F. BRUNS AND JAMES H. FERGUS. Allosteric Enhancement of Adenosine A ₁ Receptor Binding and Function by 2-Amino-3-benzoylthiophenes	939
ROBERT F. BRUNS, JAMES H. FERGUS, LINDA L. COUGHENOUR, GENEVA G. COURTLAND, THOMAS A. PUGSLEY, JOHN H. DODD, AND FRANCIS J. TINNEY. Structure-Activity Relationships for Enhancement of Adenosine A ₁ Receptor Binding by 2-Amino-3-ben-zoylthiophenes	950
zoyitniopnenes	
Contin	wea

IMPORTANT ANNOUNCEMENT

On October 1, 1990, Dr. T. Kendall Harden became the new Editor-in-Chief of Molecular Pharmacology, and the editorial office moved to Chapel Hill, North Carolina. After October 1, 1990, all new manuscripts should be submitted to him at the address below:

T. Kendall Harden
Molecular Pharmacology
CB 7368, Department of Pharmacology
University of North Carolina School of Medicine
Chapel Hill, NC 27599-7368

The Seattle office will handle the entire review of manuscripts submitted before October 1, 1990, including consideration of revisions submitted subsequently.

CONTENTS (cont'd)

Patricia E. Ganey, Yoshiyuki Takei, Frederick C. Kauffman, and Ronald G.	
THURMAN. Ethanol Potentiates Oxygen Uptake and Toxicity Due to Menadione Bi-	
sulfite in Perfused Rat Liver	959
AUTHOR INDEX FOR VOLUME 38	965
Subject Index for Volume 38	972

Copyright © 1990 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-1986 articles are the same as those shown for current articles.