

## CONTENTS

## ACCELERATED COMMUNICATIONS

- IAN J. REYNOLDS. 1,5-(Diethylamino)piperidine, a Novel Spermidine Analogue that More Specifically Activates the *N*-Methyl-D-aspartate Receptor-Associated Polyamine Site 989
- NICHOLAS R. BACHUR, FANG YU, ROBIN JOHNSON, ROBERT HICKEY, YAN WU, AND LINDA MALKAS. Helicase Inhibition by Anthracycline Anticancer Agents ..... 993

## ARTICLES

- ANNIE VARRAULT, LAURENT JOURNOT, YVES AUDIGIER, AND JOËL BOCKAERT. Transfection of Human 5-Hydroxytryptamine<sub>1A</sub> Receptors in NIH-3T<sub>3</sub> Fibroblasts: Effects of Increasing Receptor Density on the Coupling of 5-Hydroxytryptamine<sub>1A</sub> Receptors to Adenylyl Cyclase ..... 999
- TIMOTHY C. CHAMBERS, BIN ZHENG, AND J. F. KUO. Regulation by Phorbol Ester and Protein Kinase C Inhibitors, and by a Protein Phosphatase Inhibitor (Okadaic Acid), of P-Glycoprotein Phosphorylation and Relationship to Drug Accumulation in Multi-drug-Resistant Human KB Cells ..... 1008
- MARIE-CLAUDE PEPIN, MANJAPRA V. GOVINDAN, AND NICHOLAS BARDEN. Increased Glucocorticoid Receptor Gene Promoter Activity after Antidepressant Treatment ... 1016
- C. FRANK BENNETT, MING-YI CHIANG, HEDY CHAN, JO ELLEN E. SHOEMAKER, AND CHRISTOPHER K. MIRABELLI. Cationic Lipids Enhance Cellular Uptake and Activity of Phosphorothioate Antisense Oligonucleotides ..... 1023
- SHINYA WAKUSAWA, SHIGEO NAKAMURA, KAZUO TAJIMA, KEN-ICHI MIYAMOTO, MASATOSHI HAGIWARA, AND HIROYOSHI HIDAKA. Overcoming of Vinblastine Resistance by Isoquinolinesulfonamide Compounds in Adriamycin-Resistant Leukemia Cells ... 1034
- LILA H. OVERBY, SUSAN NISHIO, ALISON WEIR, GERALDINE T. CARVER, CHARLES G. PLOPPER, AND RICHARD M. PHILPOT. Distribution of Cytochrome P450 1A1 and NADPH-Cytochrome P450 Reductase in Lungs of Rabbits Treated with 2,3,7,8-Tetrachlorodibenzo-*p*-dioxin: Ultrastructural Immunolocalization and *In Situ* Hybridization ..... 1039
- LYDIANE PICHARD, ISABELLE FABRE, MARTINE DAUJAT, JACQUES DOMERGUE, HENRI JOYEUX, AND PATRICK MAUREL. Effect of Corticosteroids on the Expression of Cytochromes P450 and on Cyclosporin A Oxidase Activity in Primary Cultures of Human Hepatocytes ..... 1047
- DIANE L. BARBER, MICHAEL B. GANZ, PETER B. BONGIORNO, AND CATHERINE D. STRADER. Mutant Constructs of the  $\beta$ -Adrenergic Receptor that Are Uncoupled from Adenylyl Cyclase Retain Functional Activation of Na-H Exchange ..... 1056

---

Continued

MOLECULAR PHARMACOLOGY (ISSN 0026-895x) is an official publication of The American Society for Pharmacology and Experimental Therapeutics and is published monthly, two volumes a year, beginning in January and July, by Williams & Wilkins, 428 East Preston Street, Baltimore, MD 21202-3993. Price per year: USA individual rate \$100; all other countries, surface mail \$130. USA institutional rate \$210, all other countries, surface mail \$240. Single copies \$18 (\$21 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. The GST Tax number for Canadian subscribers is 123394371. POSTMASTER: Send address changes to MOLECULAR PHARMACOLOGY, 428 East Preston Street, Baltimore, MD 21202-3993.

Copyright © 1992 by The American Society for Pharmacology and Experimental Therapeutics.

# CONTENTS (cont'd)

ANNE H. CHEUNG, RUEY-RUEY C. HUANG, AND CATHERINE D. STRADER. Involvement of Specific Hydrophobic, but not Hydrophilic, Amino Acids in the Third Intracellular Loop of the $\beta$ -Adrenergic Receptor in the Activation of $G_s$ .....	1061
FRANK D. Yocca, LAWRENCE IBEN, AND EMANUEL MELLER. Lack of Apparent Receptor Reserve at Postsynaptic 5-Hydroxytryptamine <sub>1A</sub> Receptors Negatively Coupled to Adenylyl Cyclase Activity in Rat Hippocampal Membranes .....	1066
MARLYS R. CRANE, MICHEL HUGUES, PETER D. O'HANLEY, AND SCOTT A. WALDMAN. Identification of Two Affinity States of Low Affinity Receptors for <i>Escherichia coli</i> Heat-Stable Enterotoxin: Correlation of Occupation of Lower Affinity State with Guanylate Cyclase Activation .....	1073
WOLFGANG WIENEN, ANNEROSE B. M. MAUZ, JACQUES C. A. VAN MEEL, AND MICHAEL ENTZEROTH. Different Types of Receptor Interaction of Peptide and Nonpeptide Angiotensin II Antagonists Revealed by Receptor Binding and Functional Studies ...	1081
CHRISTIANE DURIEUX, MARIANO RUIZ-GAYO, PIERRE-JEAN CORRINGER, FLORENCE BERGERON, BERTRAND DUCOS, AND BERNARD P. ROQUES. [ <sup>3</sup> H]pBC 264, a Suitable Probe for Studying Cholecystokinin-B Receptors: Binding Characteristics in Rodent Brains and Comparison with [ <sup>3</sup> H]SNF 8702 .....	1089
MARGARET A. CASCIERI, RUEY-RUEY C. HUANG, TUNG MING FONG, ANNE H. CHEUNG, SHARON SADOWSKI, ELZBIETA BER, AND CATHERINE D. STRADER. Determination of the Amino Acid Residues in Substance P Conferring Selectivity and Specificity for the Rat Neurokinin Receptors .....	1096
B. CHATRENET, F. KOTZYBA-HIBERT, C. MULLE, J. P. CHANGEUX, M. P. GOELDNER, AND C. HIRTH. Photoactivatable Agonist of the Nicotinic Acetylcholine Receptor: Potential Probe to Characterize the Structural Transitions of the Acetylcholine Binding Site in Different States of the Receptor .....	1100
R. M. WOODWARD, L. POLENZANI, AND R. MILEDI. Effects of Hexachlorocyclohexanes on $\gamma$ -Aminobutyric Acid Receptors Expressed in <i>Xenopus</i> Oocytes by RNA from Mammalian Brain and Retina .....	1107
NANCY J. LEIDENHEIMER, SUSAN J. MCQUILKIN, LISA D. HAHNER, PAUL WHITING, AND R. ADRON HARRIS. Activation of Protein Kinase C Selectively Inhibits the $\gamma$ -Aminobutyric Acid <sub>A</sub> Receptor: Role of Desensitization .....	1116
PATRICIA P. EDGAR AND ROCHELLE D. SCHWARTZ. Functionally Relevant $\gamma$ -Aminobutyric Acid <sub>A</sub> Receptors: Equivalence between Receptor Affinity ( $K_d$ ) and Potency ( $EC_{50}$ )? .....	1124
KENTON J. SWARTZ, WALTER J. KOROSHETZ, ALUN H. REES, AND JAMES E. HUETTNER. Competitive Antagonism of Glutamate Receptor Channels by Substituted Benzazepines in Cultured Cortical Neurons .....	1130
KAREN R. IORIO, LESLIE REINLIB, BORIS TABAKOFF, AND PAULA L. HOFFMAN. Chronic Exposure of Cerebellar Granule Cells to Ethanol Results in Increased <i>N</i> -Methyl-D-aspartate Receptor Function .....	1142

Continued

Copyright © 1992 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.

*CONTENTS (cont'd)*

WEI QU, ERIC SAVIER, AND RONALD G. THURMAN. Stimulation of Monooxygenation and Conjugation after Liver Transplantation in the Rat: Involvement of Kupffer Cells . . .	1149
PETER A. GLASCOTT, JR., ELLEN GILFOR, AND JOHN L. FARBER. Effects of Vitamin E on the Killing of Cultured Hepatocytes by <i>tert</i> -Butyl Hydroperoxide . . . . .	1155
JANE A. MITCHELL, KATHY L. KOHLHAAS, TAKAHIRO MATSUMOTO, JENNIFER S. POLLOCK, ULRICH FÖRSTERMANN, TIMOTHY D. WARNER, HAROLD H. H. W. SCHMIDT, AND FERID MURAD. Induction of NADPH-Dependent Diaphorase and Nitric Oxide Synthase Activity in Aortic Smooth Muscle and Cultured Macrophages . . . . .	1163
AUTHOR INDEX . . . . .	1169
SUBJECT INDEX . . . . .	1178

*DEDICATION*

Dr. Michael J. Peach, who was a member of the Editorial Advisory Board of *Molecular Pharmacology*, died on March 15, 1992. Volume 41 of *Molecular Pharmacology* is dedicated to his memory.