Contents

ACCELERATED COMMUNICATION

793  Nucleotide Independent Modulation of Ca^{2+}-Dependent K^{+} Channel Current by a \mu-Type Opioid Receptor  Wayne A. Twitchell and Stanley G. Rane

ARTICLES

799  Chimeric Human and Rat Serotonin Transporters Reveal Domains Involved in Recognition of Transporter Ligands  Eric L. Barker, Heather L. Kimmel, and Randy D. Blakely

808  Functional Reconstitution of Platelet Thromboxane A_{2} Receptors with Purified G_{q} and G_{12} in Phospholipid Vesicles  Fumitaka Ushikubi, Ken-ichi Nakamura, and Shuh Narumiya

817  Binding of \textit{[^{3}H]}KF17837S, a Selective Adenosine A_{2} Receptor Antagonist, to Rat Brain Membranes  Hiromi Nonaka, Akihisa Mori, Michio Ichimura, Tomomi Shindou, Kogi Yanagawa, Junichi Shimada, and Hiroshi Kase

ANNOUNCEMENT

Effective January 1, 1995 all manuscripts for submission to MOLECULAR PHARMACOLOGY should be sent to:

Dr. Raymond J. Dingledine, Editor
Molecular Pharmacology
Emory University School of Medicine
5001 Rollins Research Center
Clifton Road
Atlanta, Georgia 30322-3090, U.S.A.
<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>823</td>
<td>Cloning, Expression, and Tissue Distribution of the Rat Homolog of the Bovine $\alpha_{1C}$-Adrenergic Receptor Provide Evidence for Its Classification as the $\alpha_{1A}$ Subtype</td>
<td>Dianne M. Perez, Michael T. Piascik, Niveen Malik, Robert Gaivin, and Robert M. Graham</td>
</tr>
<tr>
<td>832</td>
<td>Coupling of the C5a Receptor to G, in U-937 Cells and in Cells Transfected with C5a Receptor cDNA</td>
<td>Melissa Vanek, Lynn D. Hawkins, and Fabian Gusovsky</td>
</tr>
<tr>
<td>840</td>
<td>Bryostatin 1 Protects Protein Kinase C-δ from Down-regulation in Mouse Keratinocytes in Parallel with Its Inhibition of Phorbol Ester-Induced Differentiation</td>
<td>Zoltan Szallas, Mitchell F. Denning, Colin B. Smith, Andrzej A. Dlugosz, Stuart H. Yuspa, George R. Pettit, and Peter M. Blumberg</td>
</tr>
<tr>
<td>851</td>
<td>Potentiation of $\gamma$-Aminobutyric Acid Type A Receptor-Mediated Chloride Currents by Novel Halogenated Compounds Correlates with Their Abilities to Induce General Anesthesia</td>
<td>S. John Mihic, Susan J. McQuilkin, Edmond I. Eger II, Pompiliu Ionescu, and R. Adron Harris</td>
</tr>
<tr>
<td>858</td>
<td>Site-Directed Mutagenesis of N-Linked Glycosylation Sites on the $\gamma$-Aminobutyric Acid Type A Receptor $\alpha_1$ Subunit</td>
<td>Amy L. Buller, Gregg A. Hastings, Ewen F. Kirkness, and Claire M. Fraser</td>
</tr>
<tr>
<td>866</td>
<td>Interaction of an Estramustine Photoaffinity Analogue with Cytoskeletal Proteins in Prostate Carcinoma Cells</td>
<td>Lisa A. Speicher, Naomi Laing, Linda R. Barone, Joan D. Robbins, Kenneth B. Seamon, and Kenneth D. Tew</td>
</tr>
<tr>
<td>873</td>
<td>Ethanol-Responsive Genes in Neural Cells Include the 78-Kilodalton Glucose-Regulated Protein (GRP78) and 94-Kilodalton Glucose-Regulated Protein (GRP94) Molecular Chaperones</td>
<td>Michael F. Miles, Norbert Wilke, Mary Elliot, William Tanner, and Samir Shah</td>
</tr>
<tr>
<td>880</td>
<td>Transcriptional Regulation of Secretogranin II and Chromogranin B by Cyclic AMP in a Rat Pheochromocytoma Cell Line</td>
<td>Marilyn E. Thompson, Donna L. Valentine, Samuela J. Strada, John A. Wagner, and Jonathan G. Scammell</td>
</tr>
<tr>
<td>890</td>
<td>Programmed Cell Death (Apoptosis) of Mouse Fibroblasts Is Induced by the Topoisomerase II Inhibitor Etoposide</td>
<td>Kazuhiro Mizumoto, Ronald J. Rothman, and John L. Farber</td>
</tr>
<tr>
<td>896</td>
<td>The Daunorubicin-Binding Protein of $M$, 54,000 Is an Aldehyde Dehydrogenase and Is Down-regulated in Mouse Liver Tumors and in Tumor Cell Lines</td>
<td>Patrizia Banfi, Cinzia Lanzi, F. Stefania Falvela, Manuela Gariboldi, Romolo A. Gambetta, and Tommaso A. Dragani</td>
</tr>
<tr>
<td>901</td>
<td>Doxorubicin-Induced DNA Degradation in Murine Thymocytes</td>
<td>G. Zaleskis, E. Berleth, S. Verstovsek, M. J. Ehrke, and E. Mihich</td>
</tr>
<tr>
<td>909</td>
<td>Transcriptional Up-regulation of $\gamma$-Glutamylcysteine Synthetase Gene Expression in Melphalan-Resistant Human Prostate Carcinoma Cells</td>
<td>R. Timothy Mulcahy, Seema Untawale, and Jerry J. Gipp</td>
</tr>
<tr>
<td>915</td>
<td>Analysis of the Four Alleles of the Murine Aryl Hydrocarbon Receptor</td>
<td>Alan Poland, David Palen, and Ed Glover</td>
</tr>
<tr>
<td>922</td>
<td>Functional Cytochrome P4503A Isoforms in Human Embryonic Tissues: Expression During Organogenesis</td>
<td>Hsueh-Ying L. Yang, Qwihee P. Lee, Allan E. Rettie, and Mont R. Juchau</td>
</tr>
</tbody>
</table>

Continued
CONTENTS (cont’d)

929 Selectivity of Agonists for Cloned $\alpha_1$-Adrenergic Receptor Subtypes

Kenneth P. Minneman, Tracey L. Theroux, Susanne Hollinger, Chide Han, and Timothy A. Esbenshade

937 Reciprocal Binding Properties of 5-Hydroxytryptamine Type 2C Receptor Agonists and Inverse Agonists

Ryan S. Westphal and Elaine Sanders-Bush

943 Biological Properties of the Benzodiazepine Amidine Derivative L-740,093, a Cholecystokinin-B/Gastrin Receptor Antagonist with High Affinity In Vitro and High Potency In Vivo


949 Discrimination between Putative Bradykinin B$_2$ Receptor Subtypes in Guinea Pig Ileum Smooth Muscle Membranes with a Selective, Iodinatable, Bradykinin Analogue

Claus Liebmann, Roger Bosse, and Emanuel Escher

957 Molecular Pharmacology of $\gamma$-Aminobutyric Acid Type A Receptor Agonists and Partial Agonists in Oocytes Injected with Different $\alpha$, $\beta$, and $\gamma$ Receptor Subunit Combinations

Bjarke Ebert, Keith A. Wafford, Paul J. Whiting, Povl Krosgsgaard-Larsen, and John A. Kemp

964 Amino- and Carboxyl-Terminal Domains Specify the Identity of the $\delta$ Subunit in Assembly of the Mouse Muscle Nicotinic Acetylcholine Receptor

Xiao-Mei Yu and Zach W. Hall

970 Block of the Inactivating Potassium Channel by Clofilium and Hydroxylamine Depends on the Sequence of the Pore Region

Andrea J. Yool

977 Correlation of Neuroactive Steroid Modulation of $[^35]$-Butylbicyclophosphorothionate and $[^3H]$Flunitrazepam Binding and $\gamma$-Aminobutyric Acid $\alpha$ Receptor Function

Jon E. Hawkinson, Catherine L. Kimbrough, Delia Belelli, Jeremy J. Lambert, Robert H. Purdy, and Nancy C. Lan

986 Glutamate Uptake Is Inhibited by Arachidonic Acid and Oxygen Radicals via Two Distinct and Additive Mechanisms

Andrea Volterra, Davide Trotti, and Giorgio Racagni

993 Functional Heterogeneity of Nicotinic Receptors in the Avian Lateral Spiriform Nucleus Detected with Trimethaphan

William R. Weaver, Kathleen M. Wolf, and Vincent A. Chiappinelli

1002 Enhancement by 2'-Deoxycoformycin of the 5'-Phosphorylation and Anti-Human Immunodeficiency Virus Activity of 2',3'-Dideoxyadenosine and 2'-$\beta$-Fluoro-2',3'-dideoxyadenosine

Gurpreet S. Ahluwalia, David A. Cooney, Takuma Shirasaka, Hiroaki Mitsuya, John S. Driscoll, and David G. Johns

1009 New Aspects of the Kinetics of Inhibition by Lincomycin of Peptide Bond Formation

Sofia Kallia-Raftopoulou, Dimitrios L. Kalpaxis, and Charalambos Coutsogesorgopoulos