MOLECULAR PHARMACOLOGY

Contents

ACCELERATED COMMUNICATIONS

563 Epibatidine, A Potent Analgetic and Nicotinic Agonist
Barbara Badio and John W. Daly

ARTICLES

570 Pharmacological Characterization of Metabotropic Glutamate Receptors in Several Types of Brain Cells in Primary Cultures
L. Prézeau, J. Carrette, B. Helpap, K. Curry, J. P. Pin, and J. Bockaert

578 The H1 Receptor Agonist 2-(3-Chlorophenyl)histamine Activates G, Proteins in HL-60 Cells through a Mechanism that Is Independent of Known Histamine Receptor Subtypes
Roland Seifert, Astrid Hagelüken, Ariane Höer, Dieter Höer, Lore Grünbaum, Stefan Offermanns, Ingo Schwaneer, Volkmar Zingel, Walter Schunack, and Günter Schultz

587 Gα1 Selectively Couples Somatostatin Receptor Subtype 3 to Adenylyl Cyclase: Identification of the Functional Domains of this a Subunit Necessary for Mediating the Inhibition by Somatostatin of cAMP Formation
Susan F. Law, Silvio Zaina, Raymond Sweet, Kazuki Yasuda, Graeme I. Bell, Jeffrey Stadel, and Terry Reisine

591 Increased Voltage-Dependent Calcium Influx Produced by α1B-Adrenergic Receptor Activation in Rat Medullary Thyroid Carcinoma 6-23 Cells
Timothy A. Esbenshade, Tracey L. Theroux, and Kenneth P. Minneman

599 Photoaffinity Labeling of Rat Pancreatic Cholecystokinin Type A Receptor Antagonist Binding Sites Demonstrates the Presence of a Truncated Cholecystokinin Type A Receptor
Sandrine Silvente Poirot, Chantal Escriet, Marlene Dufresne, Jean Martinez, Michele Bouisson, Nicole Vaysse, and Daniel Fourmy

608 Cloning of the Human Glycine Transporter Type 1: Molecular and Pharmacological Characterization of Novel Isoform Variants and Chromosomal Localization of the Gene in the Human and Mouse Genomes
Kyeong-Man Kim, Stephen F. Kingsmore, Hong Han, Teresa L. Yang-Feng, Nathalie Godinot, Michael F. Seldin, Marc G. Caron, and Bruno Giros

Continued
<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
<th>Author(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>618</td>
<td>Chronic Benzodiazepine Agonist Treatment Produces Functional Uncoupling of the γ-Aminobutyric Acid-Benzodiazepine Receptor Ionophore Complex in Cortical Neurons</td>
<td>Xian-Jue Hu and Maharaj K. Ticku</td>
</tr>
<tr>
<td>626</td>
<td>Metabotropic Glutamate Receptor Heterogeneity in Rat Brain</td>
<td>M. V. Catania, Helene de Socarraz, J. B. Penney, and A. B. Young</td>
</tr>
<tr>
<td>637</td>
<td>Quantitative Changes in α1 and α5 γ-Aminobutyric Acid Receptor Subunit mRNAs and Proteins after a Single Treatment of Cerebellar Granule Neurons with N-Methyl-D-aspartate</td>
<td>Brent T. Harris, Maura E. Charlton, Erminio Costa, and Dennis R. Grayson</td>
</tr>
<tr>
<td>649</td>
<td>Interference by Doxorubicin with DNA Unwinding in MCF-7 Breast Tumor Cells</td>
<td>Frank A. Fornari, Joyce K. Randolph, Jack C. Yalowich, Mary K. Ritke, and David A. Gewirtz</td>
</tr>
<tr>
<td>657</td>
<td>Reduced Expression of the γ-Aminobutyric Acid Type A/Benzodiazepine Receptor γ2 and α5 Subunit mRNAs in Brain Regions of Flurazepam-Treated Rats</td>
<td>Tai-jun Zhao, Ted H. Chiu, and Howard C. Rosenberg</td>
</tr>
<tr>
<td>664</td>
<td>Metabolism and Cytotoxicity of Naphthalene and Its Metabolites in Isolated Murine Clara Cells</td>
<td>C. H. Chichester, A. R. Buckpitt, A. Chang, and C. G. Plopper</td>
</tr>
<tr>
<td>673</td>
<td>Kinetics of Inhibition by Tyrophostins of the Tyrosine Kinase Activity of the Epidermal Growth Factor Receptor and Analysis by a New Computer Program</td>
<td>Israel Posner, Michael Engel, Aviv Gazit, and Alexander Levitzki</td>
</tr>
<tr>
<td>684</td>
<td>Expression of Thyrotropin-Releasing Hormone Receptors by Adenovirus-Mediated Gene Transfer Reveals that Thyrotropin-Releasing Hormone Desensitization is Cell Specific</td>
<td>Erik Falck-Pederson, Marcos Heinflink, Mauricio Alvira, Daniel R. Nussenzveig, and Marvin C. Gershengorn</td>
</tr>
<tr>
<td>690</td>
<td>Localization of the Ligand Binding Site of the Neurokinin-1 Receptor: Interpretation of Chimeric Mutations and Single-Residue Substitutions</td>
<td>Ruey-Ruey C. Huang, Hong Yu, Catherine D. Strader, and Tung Ming Fong</td>
</tr>
<tr>
<td>696</td>
<td>Contribution of Ligand Structure to Activation of α2-Adrenergic Receptor Subtype Coupling to Gs</td>
<td>Margaret G. Eason, Marie T. Jacinto, and Stephen B. Liggett</td>
</tr>
<tr>
<td>703</td>
<td>The α1-Adrenergic Receptor that Mediates Smooth Muscle Contraction in Human Prostate Has the Pharmacological Properties of the Cloned Human α1c Subtype</td>
<td>Carlos Forray, Jonathan A. Bard, John M. Wetzel, George Chiu, Ellen Shapiro, Rui Tang, Herbert Lepor, Paul R. Hartig, Richard L. Weinshank, Theresa A. Branchek, and Charles Gluchowski</td>
</tr>
<tr>
<td>709</td>
<td>Mechanisms of Steric and Cooperative Actions of Alcuronium on Cardiac Muscarinic Acetylcholine Receptors</td>
<td>Jan Proška and Stanislav Tuček</td>
</tr>
<tr>
<td>718</td>
<td>Identification and Characterization of a Lysophosphatidic Acid Receptor</td>
<td>Fiona J. Thomson, Louise Perkins, David Ahern, and Mike Clark</td>
</tr>
</tbody>
</table>
CONTENTS (cont'd)

724 RES-701-1, A Novel, Potent Endothelin Type B Receptor-Selective Antagonist of Microbial Origin
Takeo Tanaka, Eiji Tsukuda, Mika Nozawa, Hiromi Nonaka, Tetsuji Ohno, Hiroshi Kase, Koji Yamada, and Yuzuru Matsuda

731 Differential Heterologous and Homologous Desensitization of Two Receptors for ATP (P2Y Purinoceptors and Nucleotide Receptors) Coexisting on Endothelial Cells
Graeme F. Wilkinson, John R. Purkiss, and Michael R. Boarder

737 Docosahexaenoic Acid and Signaling Pathways in Rabbit Colon
Vincenzo Calderaro, Carmen Parrillo, Maria Luisa Balestrieri, Alfonso Giovane, and Francesco Rossi

747 Loperamide Blocks High-Voltage-Activated Calcium Channels and N-Methyl-d-aspartate-Evoked Responses in Rat and Mouse Cultured Hippocampal Pyramidal Neurons
John Church, Elizabeth J. Fletcher, Khaled Abdel-Hamid, and John F. MacDonald

758 The β Subunit of Neuronal Nicotinic Acetylcholine Receptors Is a Determinant of the Affinity for Substance P Inhibition
Grace A. Stafford, Robert E. Oswald, and Gregory A. Weiland

763 Kinetic Evidence Suggesting that the Multidrug Transporter Differentially Handles Influx and Efflux of Its Substrates
Wilfred D. Stein, Carol Cardarelli, Ira Pastan, and Michael M. Gottesman

773 Direct Demonstration of High Affinity Interactions of Immunosuppressant Drugs with the Drug Binding Site of the Human P-Glycoprotein
U. Subrahmanyeswara Rao and Gene A. Scarborough

777 Effects of IMP Dehydrogenase Inhibitors on the Phosphorylation of Ganciclovir in MOLT-4 Cells before and after Herpes Simplex Virus Thymidine Kinase Gene Transduction
Riad Agbaria, Craig A. Mullen, Neil R. Hartman, David A. Cooney, Zhang Hao, R. Michael Blaese, and David G. Johns

783 Biochemical Studies on PT523, a Potent Nonpolyglutamatable Antifolate, in Cultured Cells
Myong S. Rhee, John Galivan, Joel E. Wright, and Andre Rosowsky

792 p-Alkoxyphenols, a New Class of Inhibitors of Mammalian R2 Ribonucleotide Reductase: Possible Candidates for Antimelanotic Drugs
Stephan Pötisch, Hannelore Drechsler, Brunhilde Liermann, Astrid Gräslund, and Günter Lassmann

797 Aldose Reductase-Catalyzed Reduction of Acrolein: Implications in Cyclophosphamide Toxicity
Natasha S. Kolb, Lucy A. Hunsaker, and David L. Vander Jagt