

**Contents****ANALGESIA AND DRUGS OF ABUSE**

- Striatal Dopamine Receptors and Adenylyl Cyclase Activity in a Rat Model of Alcohol Addiction: Effects of Ethanol and Lisuride Treatment** Torsten May, Ulrike Wolf and Jochen Wolffgramm 1195
- Regulation of Morphine Antiallodynic Efficacy by Cholecystokinin in a Model of Neuropathic Pain in Rats** Michael L. Nichols, Di Bian, Michael H. Ossipov, Josephine Lai and Frank Porreca 1339
- Antinociceptive Effects of Cocaine/Opioid Combinations in Rhesus Monkeys** Michael B. Gatch, S. Stevens Negus, Eduardo R. Butelman and Nancy K. Mello 1346
- Opioid Antinociception in a Rat Model of Visceral Pain: Systemic Versus Local Drug Administration** R. M. Craft, S. R. Henley, R. C. Haaseth, V. J. Hruby and F. Porreca 1535
- Participation of *Delta* Opioid Receptor Subtypes in the Stimulation of Adenylyl Cyclase Activity in Rat Olfactory Bulb** Maria C. Olianas and Pierluigi Onali 1560
- In Vivo* Injection of Antisense Oligodeoxynucleotides to  $G\alpha$  Subunits and Supraspinal Analgesia Evoked by *Mu* and *Delta* Opioid Agonists** Pilar Sánchez-Blázquez, Antonio García-España and Javier Garzón 1590

**AUTONOMIC PHARMACOLOGY**

- Endothelin Subtypes: Effect on Isolated Rhesus Monkey Ciliary Muscle** Cameron Millar, John F. Poyer, B'Ann T. Gabelt and Paul L. Kaufman 1143
- Intervessel (Arteries and Veins) and Heart/Vessel Selectivities of Therapeutically Used Calcium Entry Blockers: Variable, Vessel-Dependent Indexes** Martine Magnon, Pierre Gallix and Icilio Cavero 1157
- Pharmacological Evaluation of 1229U91, A Novel High-Affinity and Selective Neuropeptide Y-Y<sub>1</sub> Receptor Antagonist** S. S. Hegde, D. W. Bonhaus, W. Stanley, R. M. Eglén, T. M. Moy, M. Loeb, S. G. Shetty, A. DeSouza and J. Krstenansky 1261
- The Expression of  $\alpha_1$  Adrenoceptor Subtypes Changes with Age in the Rat Aorta** Hakan Gurdal, Nanda Tilakaratne, R. Dale Brown, Maria Fonseca, Eitan Friedman and Mark D. Johnson 1656

**BEHAVIORAL PHARMACOLOGY**

- Effects of Chronic Haloperidol on Reaction Time and Errors in a Sustained Attention Task: Partial Reversal by Anticholinergics and by Amphetamine** Becky J. Brockel and Stephen C. Fowler 1090
- Nafadotride, a Potent Preferential Dopamine D<sub>3</sub> Receptor Antagonist, Activates Locomotion in Rodents** Francois Sautel, Nathalie Griffon, Pierre Sokoloff, Jean-Charles Schwartz, Corinne Launay, Philippe Simon, Jean Costentin, Angele Schoenfelder, Fabrice Garrido, Andre Mann and Camille G. Wermuth 1239
- Discriminative Stimulus Effects of *R*-(+)-3-Amino-1-Hydroxypyrrolid-2-One, [(+)-HA-966], a Partial Agonist of the Strychnine-Insensitive Modulatory Site of the N-Methyl-D-Aspartate Receptor** Jeffrey M. Witkin, Scott Brave, Dawn French and Beth Geter-Douglass 1267
- The Reinforcing Effects of Dopamine D<sub>1</sub> Receptor Agonists in Rhesus Monkeys** Michael R. Weed and William L. Woolverton 1367
- Serotonergic Modulation of the Behavioral Effects of Cocaine in the Squirrel Monkey** Leonard L. Howell and Larry D. Byrd 1551

## CARDIOVASCULAR PHARMACOLOGY

- Diabetes and ATP-Sensitive Potassium Channel Openers and Blockers in Isolated Ischemic/Reperfused Hearts** Arpad Tosaki, Daniel T. Engelman, Richard M. Engelman and Dipak K. Das 1115
- Effect of a New Aminopeptidase P Inhibitor, Apstatin, on Bradykinin Degradation in the Rat Lung** M. Margaret Prechel, Arthur T. Orawski, Linda L. Maggiora and William H. Simmons 1136
- Ischemic Preconditioning, Adenosine and Bethanechol Protect Spontaneously Hypertensive Isolated Rat Hearts** Ashraf Boutros and Jun Wang 1148
- 1,3-Dipropyl-8-[2-(5,6-Epoxy)Norbornyl]Xanthine, a Potent, Specific and Selective A<sub>1</sub> Adenosine Receptor Antagonist in the Guinea Pig Heart and Brain and in DDT<sub>1</sub>MF-2 Cells** Luiz Belardinelli, John C. Shryock, Yi Zhang, Peter J. Scammells, Ray Olsson, Donn Dennis, Peter Milner, Jürg Pfister and Stephen P. Baker 1167
- Suppression by Mycophenolate Mofetil of the Neointimal Thickening Caused by Vascular Injury in a Rat Arterial Stenosis Model** Elizabeth B. Fraser-Smith, Jose D. Rosete and Randall C. Schatzman 1204
- Hypoxic Relaxation in Functionally Intact Cattle Coronary Artery Segments Involves K<sup>+</sup><sub>ATP</sub> Channels** Stanley Kalsner 1219
- Vasorelaxing Effect of S-Nitrosocaptopril on Dog Coronary Arteries: No Cross-tolerance with Nitroglycerin** Tetsuya Matsumoto, Masayuki Takahashi, Ichiro Nakae and Masahiko Kinoshita 1247
- Growth Inhibitory Effects on Human Colon Adenocarcinoma-Derived Caco-2 Cells and Calcemic Potential of 1 $\alpha$ ,25-Dihydroxyvitamin D<sub>3</sub> Analogs: Structure-Function Relationships** M. G. Bischof, K. Redlich, C. Schiller, M. V. Chirayath, M. Uskoković, M. Peterlik and H. S. Cross 1254
- Hemodynamic Effects of Acute and Chronic Treatment with Aladotril, a Mixed Inhibitor of Neutral Endopeptidase and Angiotensin I-Converting Enzyme, in Conscious Rats with Myocardial Infarction** Christine Marie, Claude Mossiat, Jeanne-Marie Lecomte, Jean-Charles Schwartz and Jean Bralet 1324
- Short-Term Drug Effects on the Signal-Averaged Electrocardiogram in Healthy Men: Assessment of Intra- and Interindividual Variability of Spectral Temporal Mapping and Time-Domain Analysis** Michael Wolzt, Leopold Schmetterer, Johannes Kastner, Kurt Krejcy, Gabriele Zanaschka, Christian Unfried and Hans-Georg Eichler 1375
- Comparison Between the Effects of a Novel Ca<sup>++</sup> Sensitizer and a Phosphodiesterase Inhibitor on Stunned Myocardium** B. Korbmacher, U. Sunderdiek, H. D. Schulte, G. Arnold and J. D. Schipke 1433
- Thromboxane Synthase Inhibitors Suppress More Effectively the Aggregation of Thromboxane Receptor-desensitized Than That of Normal Platelets: Role of Adenylyl cyclase Up-regulation** Roberta Vezza, Giuseppe G. Nenci and Paolo Gresele 1497
- Pharmacology of L-754,142, a Highly Potent, Orally Active, Nonpeptidyl Endothelin Antagonist** D. L. Williams, Jr., K. L. Murphy, N. A. Nolan, J. A. O'Brien, D. J. Pettibone, S. D. Kivlighn, S. M. Krause, E. V. Lis, Jr., G. J. Zingaro, R. A. Gabel, F. C. Clayton, P. K. S. Siegl, K. Zhang, J. Naue, K. Vyas, T. F. Walsh, K. J. Fitch, P. K. Chakravarty, W. J. Greenlee and B. V. Clineschmidt 1518
- The Specific Contribution of the Novel *Alpha*-1D Adrenoceptor to the Contraction of Vascular Smooth Muscle** Michael T. Piascik, Richard D. Guarino, Marta S. Smith, Edward E. Soltis, David L. Saussy, Jr. and Dianne M. Perez 1583

## CELLULAR AND MOLECULAR PHARMACOLOGY

- The Caffeine- and Ryanodine-Sensitive Ca<sup>++</sup> Store in Porcine Myometrial Cells: Its Heterogeneity of All-or-None Ca<sup>++</sup> Release** Ronghua Zhuge and Walter H. Hsu 1077
- Endothelin ET<sub>A</sub> and ET<sub>B</sub> Receptors Facilitating Parasympathetic Neurotransmission in the Rabbit Trachea** Tomoko Yoneyama, Masatoshi Hori, Takeo Tanaka, Yuzuru Matsuda and Hideaki Karaki 1084
- Pharmacology of a Constitutively Active Muscarinic Receptor Generated by Random Mutagenesis** Tracy A. Spalding, Ethan S. Burstein, Hans Brauner-Osborne, David Hill-Eubanks and Mark R. Brann 1274

<b>Cholecystokinin Octapeptide Reverses <math>\mu</math>-Opioid-Receptor-Mediated Inhibition of Calcium Current in Rat Dorsal Root Ganglion Neurons</b>	Nai-Jiang Liu, Tao Xu, Chang Xu, Chong-Qing Li, Ying-Xin Yu, Hua-Guang Kang and Ji-Sheng Han	1293
<b>Methylmercury Acts at Multiple Sites to Block Hippocampal Synaptic Transmission</b>	Yukun Yuan and William D. Atchison	1308
<b>Selective Block of Tetramethrin-Modified Sodium Channels by (<math>\pm</math>)-<math>\alpha</math>-Tocopherol (Vitamin E)</b>	Jin-Ho Song and Toshio Narahashi	1402
<b>The "Calcium Antagonist" TMB-8 [3,4,5-Trimethoxybenzoic acid 8-(Diethylamino)Octyl Ester] Is a Potent, Non-competitive, Functional Antagonist at Diverse Nicotinic Acetylcholine Receptor Subtypes</b>	Merouane Bencherif, Cynthia M. Eisenhour, Richard J. Prince, Patrick M. Lippiello and Ronald J. Lukas	1418
<b>Tenidap, an Anti-inflammatory Agent, Discharges Intracellular <math>Ca^{++}</math> Store and Inhibits <math>Ca^{++}</math> Influx in Cultured Human Gingival Fibroblasts</b>	Akira Fujii, Hiroko Matsumoto, Takafumi Hashimoto and Yoshiaki Akimoto	1447
<b>Differential Effects of 2,4-Dithiobiuret on the Synthesis and Release of Acetylcholine and Dopamine from Rat Pheochromocytoma (PC12) Cells</b>	Lynne M. Ireland, Chun-Hong Yan, Laura M. Nelson and William D. Atchison	1453
<b>Potential Risk of Myopathy by HMG-CoA Reductase Inhibitors: A Comparison of Pravastatin and Simvastatin Effects on Membrane Electrical Properties of Rat Skeletal Muscle Fibers</b>	Sabata Pierno, Annamaria De Luca, Domenico Tricarico, Ada Roselli, Fedele Natuzzi, Ermanno Ferrannini, Marcella Laico and Diana Conte Camerino	1490
<b>Angiotensin II Tachyphylaxis in the Guinea Pig Ileum and its Prevention: A Pharmacological and Biochemical Study</b>	Celia A. Kanashiro, Therezinha B. Paiva, Antonio C. M. Paiva, Rogerio N. Prioste, Jeannine Aboulafia and Suma I. Shimuta	1543
<b>Cloning and Pharmacological Characterization of the Rabbit Bradykinin <math>B_2</math> Receptor</b>	Dimcho R. Bachvarov, Elise Saint-Jacques, Jean-François Larrivée, Luc Levesque, Francis Rioux, Guy Drapeau and François Marceau	1623
<b>Long-Term Stimulation of Nicotinic Receptors is Required to Increase Proenkephalin A mRNA Levels and the Delayed Secretion of [Met<sup>5</sup>]-Enkephalin in Bovine Adrenal Medullary Chromaffin Cells</b>	Hong W. Suh, Pearlie M. Hudson, Michael K. McMillian, Kaberi P. Das, Belinda C. Wilson, Gen C. Wu and Jau S. Hong	1663
<b>CHEMOTHERAPY/GENE THERAPY</b>		
<b>Accumulation of Protein-Coated Liposomes in an Extravascular Site: Influence of Increasing Carrier Circulation Lifetimes</b>	Shane A. Longman, Paul G. Tardi, Mike J. Parr, Lewis Choi, Pieter R. Cullis and Marcel B. Bally	1177
<b>Distribution of 1,3-bis(2-Chloroethyl)-1-Nitrosourea and Tracers in the Rabbit Brain After Interstitial Delivery by Biodegradable Polymer Implants</b>	J. F. Strasser, L. K. Fung, S. Eller, S. A. Grossman and W. M. Saltzman	1647
<b>Metallothionein Expression and Resistance to Cisplatin in a Human Germ Cell Tumor Cell Line</b>	Jim Koropatnick, Debra M. Kloth, Salam Kadhim, Joseph L. Chin and M. George Cherian	1681
<b>DEVELOPMENTAL PHARMACOLOGY</b>		
<b>Development of <math>\Delta</math>-Opioid Receptor Subtypes and the Regulatory Role of Weaning: Radioligand Binding Autoradiography and <i>In Situ</i> Hybridization Studies</b>	I. Kitchen, F. M. Leslie, M. Kelly, R. Barnes, T. J. Crook, R. G. Hill, A. Borsodi, G. Toth, P. Melchiorri and L. Negri	1597
<b>DRUG METABOLISM AND DISPOSITION</b>		
<b>Effect of Fluoxetine, Norfluoxetine, Sertraline and Desmethyl Sertraline on Human CYP3A Catalyzed 1'-Hydroxy Midazolam Formation <i>In Vitro</i></b>	Barbara J. Ring, Shelly N. Binkley, Lorin Roskos and Steven A. Wrighton	1131
<b>The Metabolic Formation of Reactive Intermediates from Clozapine, a Drug Associated with Agranulocytosis in Man</b>	J. L. Maggs, D. Williams, M. Pirmohamed and B. K. Park	1463
<b>Clozapine is Oxidized by Activated Human Neutrophils to a Reactive Nitrenium Ion that Irreversibly Binds to the Cells</b>	Zhao Chao Liu and Jack P. Utrecht	1476
<b>Acetaminophen Does Not Decrease Hepatic 3'-Phosphoadenosine 5'-Phosphosulfate in Mice</b>	Hyo J. Kim, Peter Rozman and Curtis D. Klaassen	1506

<b>Potent and Selective Inactivation of Human Liver Microsomal Cytochrome P-450 Isoforms by L-754,394, an Investigational Human Immune Deficiency Virus Protease Inhibitor</b>	Masato Chiba, Joy A. Nishime and Jiunn H. Lin	1527
<b>Inhibition of the Rat Cytochrome P450 3A2 by an Antisense Phosphorothioate Oligodeoxynucleotide <i>In Vivo</i></b>	John P. Desjardins and Patrick L. Iversen	1608
<b>GASTROINTESTINAL PHARMACOLOGY</b>		
<b>H<sub>3</sub>-Receptor Activation Inhibits Cholinergic Stimulation of Acid Secretion in Isolated Rabbit Fundic Glands</b>	André Bado, Jean-Pierre Laigneau, Laurent Moizo, Yacine Cherifi and Miguel J. M. Lewin	1099
<b>Pharmacological Role and Degradation Processes of Neuromedin N in the Gastrointestinal Tract: An <i>In Vitro</i> and <i>In Vivo</i> Study</b>	H. Barelli, Z. Woskowska, S. Cipris, J. E. T. Fox-Threlkeld, E. E. Daniel, J. P. Vincent and F. Checler	1300
<b>Intestinal Absorption of Calcium <i>In Vivo</i> is Dependent on Endogenous Nitric Oxide</b>	R. Schleiffer, M. Galluser and F. Raul	1427
<b>Cloning and Characterization of a Rat H<sup>+</sup>/Peptide Cotransporter Mediating Absorption of <math>\beta</math>-Lactam Antibiotics in the Intestine and Kidney</b>	Hideyuki Saito, Masahiro Okuda, Tomohiro Terada, Sei Sasaki and Ken-Ichi Inui	1631
<b>IMMUNOPHARMACOLOGY</b>		
<b>Mouse Strain Differences in Immunosuppression by Opioids <i>In Vitro</i></b>	Toby K. Eisenstein, Joseph J. Meissler, Jr., Thomas J. Rogers, Ellen B. Geller and Martin W. Adler	1484
<b>NEUROPHARMACOLOGY</b>		
<b>Methamphetamine-Induced Hyperthermia and Dopaminergic Neurotoxicity in Mice: Pharmacological Profile of Protective and Nonprotective Agents</b>	David S. Albers and Patricia K. Sonsalla	1104
<b>Relative Vulnerability of Dopamine and GABA Neurons in Mesencephalic Culture to Inhibition of Succinate Dehydrogenase by Malonate and 3-Nitropropionic Acid and Protection by NMDA Receptor Blockade</b>	Gail D. Zeevalk, Ethel Derr-Yellin and William J. Nicklas	1124
<b>Pharmacodynamic Model for Acute Tolerance Development to the Electroencephalographic Effects of Alfentanil in the Rat</b>	Jaap W. Mandema and D. Russell Wada	1185
<b>Pharmacology of 5-Chloro-7-Trifluoromethyl-1,4-Dihydro-2,3-Quinoxalinedione: A Novel Systemically Active Ionotropic Glutamate Receptor Antagonist</b>	R. M. Woodward, J. E. Huettnner, M. Tran, J. Guastella, J. F. W. Keana and E. Weber	1209
<b>Neurochemical and Functional Characterization of the Preferentially Selective Dopamine D3 Agonist PD 128907</b>	T. A. Pugsley, M. D. Davis, H. C. Akunne, R. G. MacKenzie, Y. H. Shih, G. Damsma, H. Wikstrom, S. Z. Whetzel, L. M. Georgic, L. W. Cooke, S. B. DeMattos, A. E. Corbin, S. A. Glase, L. D. Wise, D. Dijkstra and T. G. Heffner	1355
<b>BIII 277 CL Is a Potent and Specific Ion-channel Blocker of the NMDA Receptor-Channel Complex</b>	Adrian J. Carter, Wolf Dietrich Bechtel, Matthias Grauert, Paul Harrison, Herbert Merz and Werner Stransky	1382
<b>U-89843A is a Novel Allosteric Modulator of <math>\gamma</math>-Aminobutyric Acid<sub>A</sub> Receptors</b>	Haesook K. Im, Wha Bin Im, Jeff F. Pregonzer, Don B. Carter and Beverly J. Hamilton	1390
<b>Influence of the Estrus Cycle on the Discrimination of Apparent Neuroactive Steroid Site Subtypes on the <math>\gamma</math>-Aminobutyric Acid<sub>A</sub> Receptor Complex in the Rat</b>	Linda D. McCauley and Kelvin W. Gee	1412
<b>Effects of Chronic Pentobarbital Treatment on the GABA<sub>A</sub> Receptor Complex in Mammalian Cortical Neurons</b>	Rong Yu and Maharaj K. Ticku	1442
<b>Effects of Propofol on Nociceptive Response and Power Spectra of Electroencephalographic and Systemic Arterial Pressure Signals in the Rat: Correlation with Plasma Concentration</b>	Chen-Hsien Yang, Ming-Hwang Shyr, Terry B. J. Kuo, Peter P. C. Tan and Samuel H. H. Chan	1568

<b>5-Hydroxytryptamine<sub>2A</sub> (5-HT<sub>2A</sub>) Receptor Desensitization can Occur Without Down-Regulation</b>	Bryan L. Roth, Esa-Pekka Palvimaki, Sally Berry, Naseem Khan, Nancy Sachs, Ahmet Uluer and M. Salmon Choudhary	1638
<b>Pharmacological Studies of the Regulation of Chronic FOS-Related Antigen Induction by Cocaine in the Striatum and Nucleus Accumbens</b>	Heather E. Nye, Bruce T. Hope, Max B. Kelz, Michael Iadarola and Eric J. Nestler	1671
<b>PROSTAGLANDINS, LEUKOTRIENES AND OTHER EICOSANOIDS</b>		
<b>Prostaglandins Mediate the Stimulatory Effects of Endothelin-1 on cAMP Accumulation and Inositol-1,4,5-trisphosphate Production and Contraction in Cat Iris Sphincter</b>	Sardar Y. K. Yousufzai, Zhi Ye and Ata A. Abdel-Latif	1280
<b>Characterization of 5-Lipoxygenase Inhibitors in Biochemical and Functional <i>In Vivo</i> Assays</b>	Walter G. Smith, Alex F. Shaffer, Jerry L. Currie, Janice M. Thompson, Suzanne Kim, Tadimeti Rao and Peter C. Isakson	1332
<b>Stimulatory Effect of Leminoprazole on Secretion and Synthesis of Mucus by Rabbit Gastric Mucosal Cells</b>	Satoru Takahashi, Eiji Nakamura and Susumu Okabe	1396
<b>PULMONARY PHARMACOLOGY</b>		
<b>Pharmacological Evaluation of Selected, Orally Active, Peptidyl Inhibitors of Human Neutrophil Elastase</b>	M. J. Janusz, S. L. Durham, C. M. Hare, J. L. Geary, A. K. Mandagere, J. C. Poole, T. N. Thompson, D. Xu, M. R. Angelastro, J. P. Burkhart, T. M. Chen, A. L. Marquart, N. P. Peet and K. K. Hwang	1233
<b>Stimulation of Opioid <i>Mu</i>-Receptors Potentiates Beta Adrenoceptor-Mediated Relaxation of Canine Airway Smooth Muscle</b>	E. Tagaya, J. Tamaoki, A. Chiyotani and K. Konno	1288
<b>RENAL PHARMACOLOGY</b>		
<b>L(+)- and D(-)-Lactate Modulate Rat Renal Tubular Accumulation of Amantadine in the Presence and Absence of Bicarbonate</b>	Miguel R. Escobar, Kerry Goralski and Daniel S. Sitar	1317
<b>TOXICOLOGY</b>		
<b>A Metalloporphyrin Superoxide Dismutase Mimetic Protects Against Paraquat-Induced Endothelial Cell Injury, <i>In Vitro</i></b>	Brian J. Day, Scott Shawen, Stefan I. Liochev and James D. Crapo	1227
<b>Role of Kupffer Cells in Reperfusion Injury in Fat-Loaded Livers from Ethanol-Treated Rats</b>	Zhi Zhong, Henry D. Connor, Ronald P. Mason, Wei Qu, Wenshi Gao, John J. Lemasters and Ronald G. Thurman	1512
<b>Evidence for Dissimilar Mechanisms of Enhancement of Inorganic and Organic Hydroperoxide Cytotoxicity by L-Histidine</b>	Andrea Guidarelli, Piero Sestili, Andrea Cossarizza, Claudio Franceschi, Flaminio Cattabeni and Orazio Cantoni	1575
<b>Inactivation and Degradation of Human Cytochrome P4502E1 by CCl<sub>4</sub> in a Transfected HepG2 Cell Line</b>	Yan Dai and Arthur I. Cederbaum	1614
<b>Index, Volume 275, October–December, 1995</b>		1688