

Contents

ANALGESICS

- Intrathecal St-587: Effects on Nociceptive Reflexes and Blood Pressure in the Rat Christopher W. Loomis and Kantha D. Arunachalam 428
- L-Dopa Induces Opposing Effects on Pain in Intact Rats: (-)-Sulpiride, SCH 23390 or α -Methyl-DL-*p*-Tyrosine Methylester Hydrochloride Reveals Profound Hyperalgesia in Large Antinociceptive Doses Gudrun H. M. Paalzow 470
- Antinociceptive Mechanisms of [D-Arg⁷]-Dermorphin Tripeptide Analogs Shinobu Sakurada, Kyoji Chaki, Hiromi Watanabe, Naoki Nakata, Tsukasa Sakurada, Kensuke Kisara and Kenji Suzuki 793

AUTONOMIC PHARMACOLOGY

- Vascular α -1 Antagonistic and Agonistic Effects of β Adrenoceptor Agonists in Rabbit Common Carotid Arteries Toshimasa Fujiwara and Shigetoshi Chiba 457
- Hemodynamic and Sedative Effects of Dexmedetomidine in Dog Byron C. Bloor, Maria Frankland, Glenn Alper, David Raybould, Janice Weitz and Max Shurtliff 690
- Selective M₃ Muscarinic Receptor Antagonists Inhibit Smooth Muscle Contraction in Rabbit Trachea without Increasing the Release of Acetylcholine Brigitte Loenders, Marc Rampart and Arnold G. Herman 773
- Effect of the Dopamine₂ Receptor Quinpirole on Renal Sympathetic Nerve Activity and Renal Norepinephrine Spillover in Anesthetized Rabbits Bela Szabo, Dietmar Crass and Klaus Starke 806

BEHAVIORAL PHARMACOLOGY

- Effect of FR121196, a Novel Cognitive Enhancer, on the Memory Impairment of Rats in Passive Avoidance and Radial Arm Maze Tasks Nobuya Matsuoka, Noriaki Maeda, Mayako Yamazaki, Yoshitaka Ohkubo and Isamu Yamaguchi 436
- 5-Hydroxytryptamine₁ Receptor Agonists Block Prepulse Inhibition of Acoustic Startle Reflex Greg C. Rigdon and John K. Weatherspoon 486
- Tolerance to the Cataleptic Effect of the N-Methyl-D-Aspartate (NMDA) Receptor Antagonists in Pigeons: Cross-Tolerance between PCP-Like Compounds and Competitive NMDA Antagonists Ying Lu, Charles P. France and James H. Woods 499
- Motor Impairments after Methamphetamine-Induced Neurotoxicity in the Rat Sharon L. Walsh and George C. Wagner 617
- Intermediate Efficacy $M\mu$ Opioids: Examination of Their Morphine-Like Stimulus Effects and Response Rate-Decreasing Effects in Morphine-Tolerant Rats Mitchell J. Picker, Rebecca M. Craft, S. Stevens Negus, Kelly R. Powell, Sondra R. Mattox, Sara R. Jones, Byron K. Hargrove and Linda A. Dykstra 668
- Yohimbine as a Serotonergic Agent: Evidence from Receptor Binding and Drug Discrimination J. C. Winter and Richard A. Rabin 682

CARDIOVASCULAR PHARMACOLOGY

- Effect of Captopril and the Nonpeptide Angiotensin II Antagonists, SK&F 108566 and EXP3174, on Renal Function in Dogs with a Renal Artery Stenosis David P. Brooks, P. Dennis DePalma and Robert R. Ruffolo, Jr. 422

| | | |
|--|--|-----|
| Effect of Chronic Administration of Verapamil on Ca⁺⁺ Channel Density in Rat Tissue | Blair B. Lonsberry, Michael P. Czubryt, Deborah F. Dubo, James S. C. Gilchrist, John C. Docherty, Thane G. Maddaford and Grant N. Pierce | 540 |
| The Pharmacological Activity of Nitroxyl: A Potent Vasodilator with Activity Similar to Nitric Oxide and/or Endothelium-Derived Relaxing Factor | Jon M. Fukuto, Kenneth Chiang, Raina Hsieh, Patrick Wong and Gautam Chaudhuri | 546 |
| Characterization of the Rate-Dependent Effects of Ethmozine on Conduction, <i>in Vivo</i>, and on the Sodium Current, <i>in Vitro</i>, in the Newborn Heart | Wen Liu, Craig W. Clarkson, Shirou Yamasaki, Chuntong Chang, Adrienne Stolfi and Arthur S. Pickoff | 608 |
| Blocking Effects of V1 (OPC-21268) and V2 (OPC-31260) Antagonists on the Negative Inotropic Response to Vasopressin in Isolated Dog Heart Preparations | Yasuyuki Furukawa, Shin Takayama, Lei-Ming Ren, Shoji Sawaki, Yasuro Inoue and Shigetoshi Chiba | 627 |
| An Experimental Paradigm for Investigating the Role of Endogenous Adenosine/A₁ Receptor Interactions <i>in Vivo</i> | Chia-Jen Kuan, William A. Herzer and Edwin K. Jackson | 657 |
| Cardiovascular Responses to Cocaine are Initially Mediated by the Central Nervous System in Rats | Mark M. Knuepfer and Carrie A. Branch | 734 |
| Adrenergic Mechanisms Underlying Cardiac and Vascular Responses to Cocaine in Conscious Rats | Carrie A. Branch and Mark M. Knuepfer | 742 |
| CELLULAR AND MOLECULAR PHARMACOLOGY | | |
| Characterization of [³H]Morphine Binding to Interleukin-1-Activated Thymocytes | Sabita Roy, Bang-Lun Ge, Horace H. Loh and Nancy M. Lee | 451 |
| Comparative Effects of Receptor Inactivation, 17β-Estradiol and Pertussis Toxin on Dopaminergic Inhibition of Prolactin Secretion <i>in Vitro</i> | Emanuel Meller, Tracy Puza, Jason Diamond, Hsiao-Dee Lieu and Karen Bohmaker | 462 |
| Effects of Tacrine on Insulin Secretion and ⁸⁶Rb⁺ and ⁴⁵Ca⁺⁺ Efflux from Rat Pancreatic Islets | Sven Karlsson and Bo Åhrén | 494 |
| General Anesthetics Potentiate γ-Aminobutyric Acid Actions on γ-Aminobutyric Acid_A Receptors Expressed by <i>Xenopus</i> Oocytes: Lack of Involvement of Intracellular Calcium | Lie-Huey Lin, Longtang L. Chen, Joseph A. Zirrolli and R. Adron Harris | 569 |
| Potentiation of Cyclic Adenosine Monophosphate Production by Thrombin in the Human Erythroleukemia Cell Line, HEL | John T. Turner, Jean M. Camden, Sanjay Kansra, Diane Shelton-James, Hung Wu and Stephen P. Halenda | 708 |
| <i>Mu</i> Opioid Receptors are Associated with the Induction of Hippocampal Mossy Fiber Long-Term Potentiation | Brian E. Derrick, Susan B. Rodriguez, David N. Lieberman and Joe L. Martinez, Jr. | 725 |
| Characterization of the Inhibitory Effect of ACTH/MSH-Like Peptides on the Binding of Dopamine Receptor Ligands to the Dopamine D₂ Receptor <i>in Vitro</i> | Wouter J. Florijn, Thijs De Boer, Jeroen A. D. M. Tonnaer and Dirk H. G. Versteeg | 787 |
| Effect of Pinacidil on the Membrane Electrical Activity of Guinea Pig Detrusor Muscle | Narihito Seki, Omer M. A. Karim and Jacek L. Mostwin | 816 |
| Transport of Digoxin by Human P-Glycoprotein Expressed in a Porcine Kidney Epithelial Cell Line (LLC-PK₁) | Yusuke Tanigawara, Noboru Okamura, Midori Hirai, Masato Yasuhara, Kazumitsu Ueda, Noriyuki Kioka, Tohru Komano and Ryohei Hori | 840 |
| Differential Actions of Corticotropin Releasing Factor on Basolateral and Central Amygdaloid Neurones, <i>in Vitro</i> | Donald G. Rainnie, Bart Jan H. Fernhout and Patricia Shinnick-Gallagher | 846 |
| Ontogeny of N-Methyl-D-Aspartate-Induced Current in Cultured Hippocampal Neurons | Hisamitsu Ujihara and Edson X. Albuquerque | 859 |
| Developmental Change of the Inhibition by Lead of NMDA-Activated Currents in Cultured Hippocampal Neurons | Hisamitsu Ujihara and Edson X. Albuquerque | 868 |
| CHEMOTHERAPY | | |
| Kinetic Analysis of P-Glycoprotein-Mediated Doxorubicin Efflux | Margaret S. Dordal, Jane N. Winter and Arthur J. Atkinson, Jr. | 762 |

DEVELOPMENTAL PHARMACOLOGY

- Fetal Cocaine Exposure Causes Persistent Noradrenergic Hyperactivity in Rat Brain Regions: Effects on Neurotransmitter Turnover and Receptors Frederic J. Seidler and Theodore A. Slotkin 413

DRUG METABOLISM AND DISPOSITION

- Polymorphism of Dextromethorphan Metabolism: Relationships between Phenotype, Genotype and Response to the Administration of Encainide in Humans Christian Funck-Brentano, Ginette Thomas, Evelyne Jacqz-Aigrain, Jean-Marie Poirier, Tabasome Simon, Gilbert Béréziat and Patrice Jaillon 780
- Biotin Delivery to Brain with a Covalent Conjugate of Avidin and a Monoclonal Antibody to the Transferrin Receptor Takayoshi Yoshikawa and William M. Pardridge 897

ENDOCRINE PHARMACOLOGY

- Acute Effects of Cocaine on Plasma Adrenocorticotrophic Hormone, Luteinizing Hormone and Prolactin Levels in Cocaine-Dependent Men Jack H. Mendelson, Siew Koon Teoh, Nancy K. Mello, James Ellingboe and Erin Rhoades 505
- Somatostatin Depleting Potency of Cysteamine-Related Thiols and Amines in the Rat: Structure-Activity Relation Sandor Szabo, Seymour Reichlin, Judith Ann Bollinger-Gruber and Annette Brown 752

GASTROINTESTINAL PHARMACOLOGY

- Norepinephrine And *Alpha*-2 Adrenoceptors Modulate Active Ion Transport in Porcine Small Intestine Keith R. Hildebrand and David R. Brown 510
- Antiflammins Suppress the A23187- and Arachidonic Acid-Dependent Chloride Secretion in Rabbit Distal Colonic Mucosa Vincenzo Calderaro, Carmen Parrillo, Alfonso Giovane, Rita Greco, Maria Gabriella Matera, Liberato Berrino and Francesco Rossi 579

IMMUNOPHARMACOLOGY

- Effects of *in Vivo* and *in Vitro* Administration of Morphine Sulfate upon Rhesus Macaque Polymorphonuclear Cell Phagocytosis and Chemotaxis Yuan Liu, David J. Blackburn, Linda F. Chuang, Keith F. Killam, Jr. and Ronald Y. Chuang 533
- Characterization of Antisera to the Naloxone-Insensitive Receptor for β -Endorphin on U937 Cells Generated by Using the Complementary Peptide Strategy Nahid A. Shahabi, Kenneth L. Bost, Thelma C. Madhok and Burt M. Sharp 876

NEUROPHARMACOLOGY

- [³H]2-Phenylaminoadenosine ([³H]CV 1808) Labels a Novel Adenosine Receptor in Rat Brain Linda J. Cornfield, Shiling Hu, Stephen D. Hurt and Matthew A. Sills 552
- Platelet-Activating Factor Stimulates Arachidonic Acid Release and Enhances Thromboxane B₂ Production in Intact Fetal Rat Brain *ex Vivo* Baruch Kunievsky and Ephraim Yavin 562
- Effects of Various Serotonin Receptor Subtype-Selective Antagonists Alone and on *m*-Chlorophenylpiperazine-Induced Neuroendocrine Changes in Rats Charanjit S. Aulakh, James L. Hill and Dennis L. Murphy 588
- Functional Analysis of Brain Dopamine Systems in a Genetic Mouse Model of Lesch-Nyhan Syndrome H. A. Jinnah, P. J. Langlais and T. Friedmann 596
- Interactions between Zinc and Spermidine on the N-Methyl-D-Aspartate Receptor Complex: Clues to the Mechanism of Action of 1,10-Bis(Guanidino)Decane and Pentamidine Ian J. Reynolds 632
- Effects of Acute Administration of Alcohol on *in Vivo* Binding of [³H]Ro 15-1788 to Mouse Brain Mahmood Mosaddeghi, Timothy F. Burke and Joseph M. Moerschbaeher 639
- Binding and Functional Selectivity of Himbacine for Cloned and Neuronal Muscarinic Receptors J. H. Miller, P. J. Aagaard, V. A. Gibson and M. McKinney 663
- Propylbenzilylcholine Mustard Has Greater Specificity for Muscarinic m₂ Receptors than for m₃ Receptors Present in Cerebellar Granule Cell Culture from Rat S. W. McLeskey and W. J. Wojcik 703

| | | |
|--|--|-----|
| Inhibitory Effects of the Antiparkinsonian Drugs Memantine and Amantadine on <i>N</i>-Methyl-D-Aspartate-Evoked Acetylcholine Release in the Rabbit Caudate Nucleus <i>in Vitro</i> | A. Lupp, C. H. Lücking, R. Koch, R. Jackisch and T. J. Feuerstein | 717 |
| Comparison of the Role of Local Anesthetic Properties with Dopamine Uptake Blockade in the Inhibition of Striatal and Nucleus Accumbens [³H]Acetylcholine Release by Cocaine | Andrew N. Gifford and Kenneth M. Johnson | 757 |
| Biochemical and Functional Identification of a Novel Dopamine Receptor Subtype in Rat Brown Adipose Tissue. Its Role in Modulating Sympathetic Stimulation-Induced Thermogenesis | Enzo Nisoli, Cristina Tonello, Maurizio Memo and Michele O. Carruba | 823 |
| Dexamethasone Prevents Epileptiform Activity Induced by Morphine in <i>in Vivo</i> and <i>in Vitro</i> Experiments | S. Pieretti, A. Di Giannuario, A. Loizzo, S. Sagratella, A. Scotti de Carolis, A. Capasso and L. Sorrentino | 830 |
| Comparative <i>in Vivo</i> and <i>in Vitro</i> Regional Selectivity of Central ω (Benzodiazepine) Site Ligands in Inhibiting [³H] Flumazenil Binding in the Rat Central Nervous System | J. Benavides, B. Peny, A. Durand, S. Arbilla and B. Scatton | 884 |
| PHARMACOLOGY OF SUBSTANCE ABUSE | | |
| Effects of Chronic Treatment with Ethanol on the Development of Cross-Tolerance to Other Alcohols and Pentobarbital | A. D. Lê, J. M. Khanna and H. Kalant | 480 |
| PROSTAGLANDINS, LEUKOTRIENES AND OTHER EICOSANOIDS | | |
| Differential Effects of Somatostatin and Prostaglandins on Gastric Histamine Release to Pentagastrin | N. Ann Payne and John G. Gerber | 520 |
| Prolonged Stimulation of Bovine Adrenal Chromaffin Cells with Arachidonic Acid and Prostaglandin E₂ Increases Expression of the Proenkephalin Gene and the Secretion of [Met⁵]-Enkephalin | Harold H. Suh, Pearlie Hudson, Rick Fannin, Kimberly Boulom, Michael K. McMillian, Alan M. Poisner and Jau-Shyong Hong | 527 |
| A Second Cysteinyl Leukotriene Receptor in Human Lung | C. Labat, J. L. Ortiz, X. Norel, I. Gorenne, J. Verley, T. S. Abram, N. J. Cuthbert, S. R. Tudhope, P. Norman, P. Gardiner and C. Brink | 800 |
| PULMONARY PHARMACOLOGY | | |
| Activation of an Epithelial Neurokinin NK-1 Receptor Induces Relaxation of Rat Trachea through Release of Prostaglandin E₂ | P. Devillier, G. M. Acker, C. Advenier, J. Marsac, D. Regoli and N. Frossard | 767 |
| RENAL PHARMACOLOGY | | |
| Organic Cation Transport and Cationic Drug Interactions in Freshly Isolated Proximal Tubular Cells of the Rat | Sandra P. A. Boom, Frank W. J. Gribnau and Frans G. M. Russel | 445 |
| Amiloride-Sensitive Lithium Reabsorption in Rats: A Micropuncture Study | R. Fransen, W. H. Boer, P. Boer and H. A. Koomans | 646 |
| TOXICOLOGY | | |
| Potentiation of Adriamycin Toxicity by Ethanol in Perfused Rat Liver | Yong Liu and Ronald G. Thurman | 651 |
| Decreased Plasma Cholinesterase Activity Enhances Cocaine Toxicity in Mice | Robert S. Hoffman, Glendon C. Henry, Paul M. Wax, Richard S. Weisman, Mary Ann Howland and Lewis R. Goldfrank | 698 |
| ERRATUM | | 904 |