

Contents

ANALGESICS

- Hemodynamic Effects of GI 87084B, an Ultra-Short Acting *Mu*-Opioid Analgesic, in Anesthetized Dogs Michael K. James, Alain Vuong, Mary K. Grizzle, Suzanne V. Schuster and Joel E. Shaffer 84
- Antinociceptive Actions of Spinal Nonsteroidal Anti-Inflammatory Agents on the Formalin Test in the Rat Annika B. Malmberg and Tony L. Yaksh 136
- Modulation of *Mu*-Mediated Antinociception in the Mouse Involves Opioid *Delta*-2 Receptors F. Porreca, A. E. Takemori, M. Sultana, P. S. Portoghese, W. D. Bowen and H. I. Mosberg 147
- Involvement of Supraspinal ϵ and μ Opioid Receptors in Inhibition of the Tail-Flick Response Induced by Etorphine in the Mouse Jimmy Y. Xu, James M. Fujimoto and Leon F. Tseng 246
- Isobolographic and Dose-Response Analyses of the Interaction Between Intrathecal *Mu* and *Delta* Agonists: Effects of Naltrindole and Its Benzofuran Analog (NTB) Annika B. Malmberg and Tony L. Yaksh 264
- Chronic Cocaine Treatment Suppresses Basal Expression of *zif268* in Rat Forebrain: *In Situ* Hybridization Studies Ratan V. Bhat, Andrew J. Cole and Jay M. Baraban 343

AUTONOMIC PHARMACOLOGY

- Nicotinic Receptor-Evoked Release of Acetylcholine and Somatostatin in the Myenteric Plexus is Coupled to Calcium Influx *via* N-Type Calcium Channels Toku Takahashi, Yasuhiro Tsunoda, Yuanxu Lu, John Wiley and Chung Owyang 1
- Serotonin-Induced Relaxation in Canine Coronary Artery Smooth Muscle Daniel J. Cushing and Marlene L. Cohen 123
- Characterization of [³H]YM617, *R*-(-)-5-[2-[[2]Ethoxyring(*n*)-³H] (*o*-ethoxyphenoxy)ethyl]amino]-propyl]-2-methoxybenzenesulfonamide HCl, a Potent and Selective *Alpha*-1 Adrenoceptor Radioligand Hidenori Yazawa, Masahiro Takanashi, Katsumi Sudoh, Osamu Inagaki and Kazuo Honda 201
- Selective Inhibitory Effects of Calcium Channel Antagonists on the Two Components of the Neurogenic Response of Guinea Pig Vas Deferens Fumiaki Hata, Akikazu Fujita, Kazuko Saeki, Isao Kishi, Tadayoshi Takeuchi and Osamu Yagasaki 214
- Evidence that *S*-Nitrosothiols are Responsible for the Smooth Muscle Relaxing Activity of the Bovine Retractor Penis Inhibitory Factor Steven W. Kerr, Lewis V. Buchanan, Stuart Bunting and W. Rodney Mathews 285
- The Role of Adrenergic Receptors in the Initiation of Vomiting and Its Gastrointestinal Motor Correlates I. M. Lang and S. K. Sarna 395

BEHAVIORAL PHARMACOLOGY

- The Discriminative Stimulus Effects of Clozapine in Pigeons: Involvement of 5-Hydroxytryptamine_{1C} and 5-Hydroxytryptamine₂ Receptors Eric M. Hoenicke, Susan A. Vanecek and James H. Woods 276
- Tolerance and Cross-Tolerance to the Activating Effects of 3,4-Methylenedioxymethamphetamine and a 5-Hydroxytryptamine_{1B} Agonist Clifton W. Callaway and Mark A. Geyer 318

CARDIOVASCULAR PHARMACOLOGY

- Inhibition of Human Cardiac Cyclic AMP-Phosphodiesterases by R 80 122, a New Selective Cyclic AMP-Phosphodiesterase III Inhibitor: A Comparison with Other Cardiotonic Compounds Didier de Chaffoy de Courcelles, Katrien de Loore, Eddy Freyne and Paul A. J. Janssen 6

Flavonoid Potentiation of Contractile Responses in Rat Blood Vessels	Morris E. Berger, Michael S. Golub, Chwen-Tzuei Chang, Jawad A. Al-Kharouf, Michael D. Nyby, Mark Hori, Arnold S. Brickman and Michael L. Tuck	78
Carvedilol, a New Vasodilator and <i>Beta</i> Adrenoceptor Antagonist, is an Antioxidant and Free Radical Scavenger	Tian-Li Yue, Hung-Yuan Cheng, Paul G. Lysko, Patrick J. McKenna, Ron Feuerstein, Juan-Li Gu, Kathryn A. Lysko, Louisa L. Davis and Giora Feuerstein	92
A Comparison of the Potency of Selective L-Calcium Channel Blockers in Human Coronary and Internal Mammary Arteries Exposed to Serotonin	Théophile Godfraind, Chantal Dessy and Salvatore Salomone	112
Aldose Reductase and Myo-Inositol in Endothelial Cell Dysfunction Caused by Elevated Glucose	Belay Tesfamariam, Michael L. Brown and Richard A. Cohen	153
Enhanced Blood Pressure and Renal Hemodynamic Effect of Chronic vs. Acute Lisinopril Administration in the Rabbit	Ali F. Hajj-ali and Ben G. Zimmerman	158
Cardiac Effects of 3,5-Diiodothyropropionic Acid, a Thyroid Hormone Analog with Inotropic Selectivity	Gregory D. Pennock, Thomas E. Raya, Joseph J. Bahl, Steven Goldman and Eugene Morkin	163
Methylene Blue Inhibits Nitrovasodilator- and Endothelium-Derived Relaxing Factor-Induced Cyclic GMP Accumulation in Cultured Pulmonary Arterial Smooth Muscle Cells <i>via</i> Generation of Superoxide Anion	Nandor Marczin, Una S. Ryan and John D. Catravas	170
CELLULAR AND MOLECULAR PHARMACOLOGY		
Effect of Ambasilide, a New Class III Agent, on Plateau Currents in Isolated Guinea Pig Ventricular Myocytes: Block of Delayed Outward Potassium Currents	Zhi-Hao Zhang, Christopher H. Follmer, Jonnalagedda S. M. Sarma, Fuhua Chen and Bramah N. Singh	40
Imipramine's Selective Suppression of an L-Type Calcium Channel in Neurons of Murine Dorsal Root Ganglia Involves G Proteins	Jay J. Choi, Guo-Jie Huang, Elizabeth Shafik, Wen-Hsien Wu and Joseph J. McArdle	49
Effects of β-Endorphin on <i>Mu</i> and <i>Delta</i> Opioid Receptor-Coupled G-Protein Activity: Low-K_m GTPase Studies	Dana E. Selley and Jean M. Bidlack	99
On the Mechanism of Papaverine Inhibition of the Voltage-Dependent Ca^{++} Current in Isolated Smooth Muscle Cells from the Guinea Pig Trachea	Mari Iguchi, Toshiaki Nakajima, Tetsuya Hisada, Tsuneaki Sugimoto and Yoshihisa Kurachi	194
Block of Voltage-Gated Potassium Currents by Anticonvulsant U-54494A in Mouse Neuroblastoma Cells	Yu Zhu, Haesook K. Im and Wha Bin Im	207
Specific Inhibition of Isoproterenol-Stimulated Cyclic AMP Accumulation by M2 Muscarinic Receptors in Rat Intestinal Smooth Muscle	Michael T. Griffin and Frederick J. Ehler	221
Characterization of [125I]Acidic Fibroblast Growth Factor Binding to the Cloned Human Fibroblast Growth Factor Receptor, FGF-<i>flg</i>, on NIH 3T3 Cell Membranes: Inhibitory Effects of Heparin, Pertussis Toxin and Guanine Nucleotides	Michael F. Jarvis, George W. Gessner, Gregory E. Martin, Michael Jaye, Mark W. Ravera and Craig A. Dionne	253
Neuromedin B Binds with High Affinity, Elevates Cytosolic Calcium and Stimulates the Growth of Small-Cell Lung Cancer Cell Lines	Terry W. Moody, Julie Staley, Farah Zia, David H. Coy and Robert T. Jensen	311
CHEMOTHERAPY		
Tamoxifen-Resistant Human Breast Cancer Cell Growth: Inhibition by Thioridazine, Pimozide and the Calmodulin Antagonist, W-13	Jeannine S. Strobl and Virginia A. Peterson	186
DRUG METABOLISM AND DISPOSITION		
Effects of Intrauterine Position on the Hepatic Microsomal Polysubstrate Monooxygenase and Cytosolic Glutathione S-Transferase Activity, Plasma Sex Steroids and Relative Organ Weights in Adult Male and Female Long-Evans Rats	Th. van der Hoeven, R. LeFevre and R. Mankes	32

Dose-Dependent Toxicokinetics of L-689,502, a Potent Human Immunodeficiency Virus Protease Inhibitor, in Rats and Dogs	Jiunn H. Lin, I-Wu Chen and Joyce King	105
Suppression of Hepatic Drug Metabolism by the Interferon Inducer, Polyribinosinic Acid:Polyribocitidylic Acid	Hironori Sakai, Toshihiro Okamoto and Yutaka Kikkawa	381
ENDOCRINE PHARMACOLOGY		
A Mechanistic Study on Enhancement of Rectal Permeability to Insulin in the Albino Rabbit	Akira Yamamoto, Eiji Hayakawa, Yasuki Kato, Akio Nishiura and Vincent H. L. Lee	25
GASTROINTESTINAL PHARMACOLOGY		
Prejunctional Muscarinic Receptors in the Deep Muscular Plexus of Canine Ileum: Comparison with Smooth Muscle Receptors	Peter Kostka, Sultan Ahmad, Chiu-Yin Kwan, Edwin E. Daniel, Richard K. Gordon and Peter K. Chiang	226
Gastroprotective Effects of Thromboxane Receptor Antagonists	Martin L. Ogletree, Eugene H. O'Keefe, Stephen K. Durham, Bernard Rubin and Gunnar Aberg	374
NEUROPHARMACOLOGY		
Opioid Receptor Antagonists Discriminate between Presynaptic <i>Mu</i> and <i>Delta</i> Receptors and the Adenylate Cyclase-Coupled Opioid Receptor Complex in the Brain	Anton N. M. Schoffelmeer, Taco J. De Vries, Francois Hogenboom, Victor J. Hruby, Philip S. Portoghese and Arie H. Mulder	20
Release of Endogenous Norepinephrine from Rat Hypothalamus by Stimulation of N-Methyl-D-Aspartic Acid Receptors	Patrizio Blandina, David Johnson, Janice Walcott and Joseph Goldfarb	61
The Effect of the Atypical Antipsychotic Drug, Amperozide, on Carrier-Mediated Striatal Dopamine Release Measured <i>in Vivo</i>	Bryan K. Yamamoto and Herbert Y. Meltzer	180
Lack of Tolerance and Physical Dependence upon Repeated Treatment with the Novel Hypnotic Zolpidem	Ghislaine Perrault, Eliane Morel, David J. Sanger and Branimir Zivkovic	298
S-[2-(4-Imidazolyl)ethyl]isothiourea, a Highly Specific and Potent Histamine H₃ Receptor Agonist	M. Garbarg, J.-M. Arrang, A. Rouleau, X. Ligneau, M. Dam Trung Tuong, J. C. Schwartz and C. R. Ganellin	304
N-Methyl-D-Aspartic Acid (NMDA) and Non-NMDA Receptors Regulating Hippocampal Norepinephrine Release. III. Changes in the NMDA Receptor Complex Induced by Their Functional Cooperation	Anna Pittaluga and Maurizio Raiteri	327
Comparison of 5-Hydroxytryptamine_{1A}-Mediated Hyperpolarization in CA1 and CA3 Hippocampal Pyramidal Cells	Sheryl G. Beck, Kue C. Choi and Troy J. List	350
Regulation of Cholecystokinin mRNA Content in Rat Striatum: A Glutamatergic Hypothesis	Xuan-Zhou Ding and Italo Mocchetti	368
PHARMACOLOGY OF SUBSTANCE ABUSE		
Membrane Potential in Myenteric Neurons Associated with Tolerance and Dependence to Morphine	Judith A. Leedham, Jian-Qiang Kong, David A. Taylor, Stephen M. Johnson and William W. Fleming	15
Lipid Solubility of Sedative-Hypnotic Drugs Influences Hypothermic and Hypnotic Responses of Long-Sleep and Short-Sleep Mice	Nancy Ellen C. de Fiebre, Rodney J. Marley, Jeanne M. Wehner and Allan C. Collins	232
PULMONARY PHARMACOLOGY		
Pulmonary Accumulation of Propranolol <i>in Vivo</i>: Sites and Physicochemical Mechanism	Ralph E. Howell and Paul N. Lanken	130
RENAL PHARMACOLOGY		
Renal Organic Acid Transport: Uptake by Rat Kidney Slices of a Furan Dicarboxylic Acid Which Inhibits Plasma Protein Binding of Acidic Ligands in Uremia	Simon J. Henderson and W. Edward Lindup	54

Pharmacological Profile of HS-142-1, a Novel Nonpeptide Atrial Natriuretic Peptide (ANP) Antagonist of Microbial Origin. II. Restoration by HS-142-1 of ANP-Induced Inhibition of Aldosterone Production in Adrenal Glomerulosa Cells	Shoji Oda, Tomoyuki Sano, Yoshikazu Morishita and Yuzuru Matsuda	241
Gentamicin-Induced Hypercalciuria in the Rat: Assessment of Nephron Site Involved	Hugh O. Garland, Donna J. Phipps and Ernest S. Harpur	293
Effect of Thrombin on Proliferation, Contraction and Prostaglandin Production of Rat Glomerular Mesangial Cells in Culture	Christine R. Albrightson, Ponnal Nambi, Bodgan Zabko-Potapovich, George Dytko and Todd Groom	404
TOXICOLOGY		
Mechanism for the Hepatotoxicity of the Antiandrogen, Nilutamide. Evidence Suggesting that Redox Cycling of this Nitroaromatic Drug Leads to Oxidative Stress in Isolated Hepatocytes	Daniel Fau, Alain Berson, Dominique Eugene, Bernard Fromenty, Cecile Fisch and Dominique Pessayre	69
<i>In Vitro</i> and <i>in Vivo</i> Biotransformation and Covalent Binding of Benzo(a)pyrene in Gunn and RHA Rats with a Genetic Deficiency in Bilirubin Uridine Diphosphate-Glucuronosyltransferase	Zhuohan Hu and Peter G. Wells	334
Human Anti-Cytochrome P450 Antibodies in Aromatic Anticonvulsant-Induced Hypersensitivity Reactions	J. Steven Leeder, Robert J. Riley, Vicki A. Cook and Stephen P. Spielberg	360
Ca⁺⁺-Activated DNA Fragmentation and Dimethylnitrosamine-Induced Hepatic Necrosis: Effects of Ca⁺⁺-Endonuclease and Poly(ADP-Ribose) Polymerase Inhibitors in Mice	Sidhartha D. Ray, Christopher L. Sorge, Lisa M. Kamendulis and George B. Corcoran	387