

# The Journal of PHARMACOLOGY AND EXPERIMENTAL THERAPEUTICS

VOLUME 243  
OCTOBER 1987  
NUMBER 1

## CONTENTS

<b>Acute Effects of Ethanol and Diazepam on the Acquisition and Performance of Response Sequences in Humans.</b> Stephen T. Higgins, Warren K. Bickel, David K. O'Leary and John Yingling .....	1
<b>Nociceptive Action of Excitatory Amino Acids in the Mouse: Effects of Spinally Administered Opioids, Phencyclidine and <i>Sigma</i> Agonists.</b> Linda M. Aanonsen and George L. Wilcox .....	9
<b>Effect of Age and Sex on Allyl Alcohol Hepatotoxicity in Rats: Role of Liver Alcohol and Aldehyde Dehydrogenase Activities.</b> L. E. Rikans and D. R. Moore .....	20
<b>Sources of Activator Calcium for Extrinsic Vascular Tone and Nimodipine Inhibition of That Tone in Proximal vs. Distal Rabbit Ear Arteries.</b> Mary P. Owen, Elizabeth H. Joyce and John A. Bevan .....	27
<b>Effect of <math>AlCl_3</math> and Other Acids on Cerebrospinal Fluid Production: A Correction.</b> Betty P. Vogh, David R. Godman and Thomas H. Maren .....	35
<b>Pharmacological Profile of Fezolamine Fumarate: A Nontricyclic Antidepressant in Animal Models.</b> E. R. Baizman, A. M. Ezrin, R. A. Ferrari and D. Luttinger .....	40
<b>Endothelium-Derived Relaxing Factor is a Selective Relaxant of Vascular Smooth Muscle.</b> Kazuhisa Shikano and Barry A. Berkowitz .....	55
<b>Central and Peripheral Cocaine Receptors.</b> David O. Calligaro and Mohyee E. Eldefrawi .....	61
<b>Differential Serotonin<sub>2</sub> Receptor Recovery in Mature and Senescent Rat Brain after Irreversible Receptor Modification: Effect of Chronic Reserpine Treatment.</b> George Battaglia, Andrew B. Norman and Ian Creese .....	69
<b>Mechanism of Norepinephrine Release Elicited by Renal Nerve Stimulation, Veratridine and Potassium Chloride in the Isolated Rat Kidney.</b> M. M. Mohy El-Din and K. U. Malik .....	76
<b>Effect of <math>\gamma</math>-Aminobutyric Acid on Neurally Mediated Contraction of Guinea Pig Trachealis Smooth Muscle.</b> J. Tamaoki, P. D. Graf and J. A. Nadel .....	86
<b>Evidence for the Interaction of Morphine with <i>Kappa</i> and <i>Delta</i> Opioid Receptors to Induce Analgesia in <math>\beta</math>-Funtrexamine-Treated Mice.</b> A. E. Takemori and P. S. Portoghesi .....	91
<b>Metaphit, a Proposed Phencyclidine Receptor Acylator: Disruption of Mouse Motor Behavior and Absence of Phencyclidine Antagonist Activity.</b> Edward F. Domino, Dilip Gole, and Wouter Koek .....	95
<b><i>Beta</i> Adrenergic Control of Macromolecule Synthesis in Neonatal Rat Heart, Kidney and Lung: Relationship to Sympathetic Neuronal Development.</b> Theodore A. Slotkin, William L. Whitmore, Lisa Orband-Miller, Kennedy L. Queen and Kevin Haim .....	101
<b>Enantiomeric and Diastereomeric Dioxadrols: Behavioral, Biochemical and Chemical Determination of the Configuration Necessary for Phencyclidine-Like Properties.</b> Arthur E. Jacobson, Ernest A. Harrison, Jr., Mariena V. Mattson, Michael F. Rafferty, Kenner C. Rice, James H. Woods, Gail Winger, Robert E. Solomon, Ralph A. Lessor and James V. Silverton .....	110
<b>Comparison of Binding Affinities and Negative Inotropic Potencies of the 1,4-Dihydropyridine Calcium Channel Blockers in Rabbit Myocardium.</b> Rebecca A. Boyd, John C. Giacomini, Fee Mi Wong, Wendel L. Nelson and Kathleen M. Giacomini .....	118
<b>Effects of Magnesium Chloride on Cardiovascular Hemodynamics in the Neurally Intact Dog.</b> Howard S. Friedman, Thach N. Nguyen, Abdel M. Mokraoui, Randall L. Barbour, Toshisuke Murakawa and Burton M. Altura .....	126
<b>Influence of Concomitant Aspirin or Prednisone on Methotrexate Synovial Fluid Concentration.</b> Clinton F. Stewart, Michael L. Christensen, Ronald P. Evens, Michael Cremer and William E. Evans .....	131
<b>Relation of Plasma Morphine Concentrations to Severity of Abrupt Withdrawal in Morphine-Dependent Monkeys.</b> Edward F. Domino, Bengt E. Dahlstrom, Laurence E. Domino and Steven E. Domino .....	138
<b>Pharmacokinetics of Systemically Administered Cocaine and Locomotor Stimulation in Mice.</b> Myron Benuck, Abel Lajtha and Maarten E. A. Reith .....	144
<b>Inhibition of Brush-Border Membrane <math>Na^+-H^+</math> Exchanger by Loperamide.</b> Daniel F. Balkovetz, Yusei Miyamoto, Chinnaswamy Tirupathi, Virendra B. Mahesh, Frederick H. Leibach and Vadivel Ganapathy .....	150
<b>Effect of a Protracted Antidepressant Treatment on Signal Transduction and [<math>^3H</math>](<math>-</math>)-Baclofen Binding at <math>\gamma</math>-Aminobutyric Acid<sub>B</sub> Receptors.</b> Anna Maria Szekely, Maria Luisa Barbaccia and Erminio Costa .....	155
<b>Dopaminergic Agents Selectively Alter the Post-Translational Processing of <math>\beta</math>-Endorphin in the Intermediate Pituitary of the Rat.</b> William R. Millington, Thomas L. O'Donohue and Gregory P. Mueller .....	160
<b>Differential Inhibition of Calmodulin-Sensitive Phosphodiesterase and <math>Ca^{++}</math>-Adenosine Triphosphatase by Chlorpromazine-Linked Calmodulin.</b> Walter C. Prozialeck, Thomas L. Wallace and Benjamin Weiss .....	171
<b>Mouse Thiopurine Methyltransferase Pharmacogenetics: Biochemical Studies and Recombinant Inbred Strains.</b> Diane M. Otterness and Richard M. Weinshilboum .....	180
<b>Amiodarone-Induced Block of Sodium Current in Isolated Cardiac Cells.</b> Christopher H. Follmer, Masahiro Aomine, Jay Z. Yeh and Donald H. Singer .....	187

Contents Continued on iv

<b>Effect of <math>\gamma</math>-Aminobutyric Acid<sub>A</sub> Receptor Agonists and Antagonists on the Release of Enkephalin-Containing Peptides from Dog Adrenal Gland.</b> M. Fujimoto, Y. Kataoka, A. Guidotti and I. Hanbauer	195
<b>Reversible Inhibition of Acetylcholine Contracture of Molluscan Smooth Muscle by Heavy Metals: Correlation to <math>\text{Ca}^{++}</math> and Metal Content.</b> Robert B. Raffa, C. Paul Bianchi and Srinivasa R. Narayan	200
<b>Suppression of Inhibitory Neural Input to Colonic Circular Muscle by Opioid Peptides.</b> J. R. Grider and G. M. Makhoul	205
<b>Pharmacodynamic and Pharmacokinetic Interactions between Lidocaine and Verapamil.</b> Jacques E. Chelly, Douglas C. Hill, Darrell R. Abernethy, Abdallah Dlewat, Marie-Françoise Doursout and Robert G. Merin	211
<b>Nicotine Elevates Rat Plasma ACTH by a Central Mechanism.</b> Shannon Gainey Matta, H. Stephen Beyer, Kathleen M. McAllen and Burt M. Sharp	217
<b>Inhibition and Induction of Drug Biotransformation <i>in Vivo</i> by 8-Methoxypsoralen: Studies of Caffeine, Phenytoin and Hexobarbital Metabolism in the Rat.</b> Dennis C. Mays, Sopone Nawoot, Jay B. Hilliard, Christine M. Pacula and Nicholas Gerber	227
<b><math>\mu</math> Antagonist Properties of <math>\kappa</math> Agonists in a Model of Rat Urinary Bladder Motility <i>in Vivo</i>.</b> Russell J. Sheldon, Linda Nunan and Frank Porreca	234
<b>Effects of Trimethyltin on Repeated Acquisition.</b> S. O. Idemudia and D. E. McMillan	241
<b>Gold Disposition in the Rat: Studies of Its Plasma Half-Life and Its Urinary, Biliary and Fecal Elimination Pathways.</b> Joseph W. Massarella and Robert S. Pearlman	247
<b>Actions of <math>\mu</math>, <math>\delta</math> and <math>\kappa</math> Opioid Agonists and Antagonists on Mouse Primary Afferent Neurons in Culture.</b> Mary Ann Werz, Debra S. Grega and Robert L. Macdonald	258
<b>Contractile Serotonergic Receptor in Rat Stomach Fundus.</b> Marlene L. Cohen and Laura A. Fludzinski	264
<b>Protein Kinase C and Tracheal Contraction at Low Temperature.</b> Chun-Kang Huang, Mitsuru Munakata, Jay M. Baraban and Harold Menkes	270
<b>Cocaine Disposition in the Brain after Continuous or Intermittent Treatment and Locomotor Stimulation in Mice.</b> Maarten E. A. Reith, Myron Benuck and Abel Lajtha	281
<b>Extinction of Mineralocorticoid Effects in 19-Norprogesterone Derivatives: Structure-Activity Relationships.</b> Jacques Paris, Jacqueline Botella, Philippe Fournau, Paule Bonnet and Roger Thevenot	288
<b>Effect of pH on the Inhibition of Angiotensin Converting Activity by Enalaprilat in the Rat Perfused Mesenteric Vascular Bed.</b> Charles J. Lindsey, Lusiane M. Bendhack and Antonio C. M. Paiva	292
<b>Antiarrhythmic Activity of Two Quinidine Metabolites in Experimental Reperfusion Arrhythmia: Relative Potency and Pharmacodynamic Interaction with the Parent Drug.</b> Samuel Vozeh, Kwame Oti-Amoako, Toshihiko Uematsu and F. Follath	297
<b>Possible Heterogeneity of Adenosine Receptors Present on Myenteric Nerve Endings.</b> F. L. Christofi and M. A. Cook	302
<b>Arachidonic Acid Metabolites and Airway Epithelium-Dependent Relaxant Factor.</b> Eric Tschirhart, Nelly Frossard, Claude Bertrand and Yves Landry	310
<b>Histamine Release Induced by Arg-Pro-Lys-Pro(CH<sub>2</sub>)<sub>11</sub>CH<sub>3</sub> from Rat Peritoneal Mast Cells.</b> H. Repke, W. Piotrowski, M. Bienert and J. C. Foreman	317
<b>Skeletal Muscle Thermogenesis: Its Role in the Hyperthermia of Conscious Rats Given Morphine or <math>\beta</math>-Endorphin.</b> K. Powell-Jones, W. S. Saunders, R. D. St. Onge and J. A. Thornhill	322
<b>Postnatal Ontogeny of Agonist and Depolarization-Induced Phosphoinositide Hydrolysis in Rat Cerebral Cortex.</b> Thomas A. Rooney and Stefan R. Nahorski	333
<b>Inhibition of <sup>22</sup>Na Influx by Tricyclic and Tetracyclic Antidepressants and Binding of [<sup>3</sup>H]Imipramine in Bovine Adrenal Medullary Cells.</b> Masahide Arita, Akihiko Wada, Hiroshi Takara and Futoshi Izumi	342
<b>Stereoselective Glutathione Conjugation and Amidase-Catalyzed Hydrolysis of <math>\alpha</math>-Bromoisovalerylurea Enantiomers in Isolated Rat Hepatocytes.</b> Johan M. te Koppele, Inés A. M. de Lannoy, K. Sandy Pang and Gerard J. Mulder	349
<b>Platelet-Activating Factor-acether-Induced Relaxation of Guinea Pig Airway Muscle: Role of Prostaglandin E<sub>2</sub> and the Epithelium.</b> Sandra Brunelleschi, Isabelle Haye-Legrand, Carlos Labat, Xavier Norel, Jacques Benveniste and Charles Brink	356
<b><math>\gamma</math>-Aminobutyric Acid-Induced Modulation of Acetylcholine Release from the Guinea Pig Lung.</b> J. Shirakawa, K. Taniyama and C. Tanaka	364
<b>Inhibition by Amiloride of Contractile Elements in Smooth Muscle of Guinea Pig Taenia Cecum and Chicken Gizzard.</b> Hiroshi Ozaki, Takeshi Kojima, Takahiro Moiryama, Hideaki Karaki, Norimoto Urakawa, Kazuhiro Kohama and Yoshiaki Nonomura	370
<b>A Lethal Role of Platelet Activating Factor in Anaphylactic Shock in Mice.</b> Zen-Ichi Terashita, Yoshimi Imura, Akio Shino and Kohei Nishikawa	378
<b>Inhibition and Induction of Rabbit Liver Microsomal Cytochrome P-450 by Pyridine.</b> Karen L. Kaul and Raymond F. Novak	384
<b>Electrophysiological Evaluation of a Partial Agonist of Dopamine Receptors.</b> M. F. Piercey, W. E. Hoffmann, G. D. Vogelsang and M. Travis	391
<b>Potentiation of Enkephalin Action by Peptidase Inhibitors in Rat Locus Ceruleus <i>in Vitro</i>.</b> J. T. Williams, Macdonald J. Christie, R. A. North and Bernard P. Roques	397
<b>Electrophysiologic and Biochemical Studies on the Putative <math>\text{Ca}^{++}</math> Channel Blocker MDL 12,330A in an Endocrine Cell.</b> D. Rampe, D. J. Triggie and A. M. Brown	402