Drug Metabolism and Disposition: the biological fate of chemicals

April 1996

CONTENTS

ARTICLES


(14C)-Ethoxycoumarin Metabolism by Precision-Cut Rat Hepatic Slices. Simon E. Ball, Victoria E. Thiel, Cesario O. Tio, Heng-Keang Lim, John Kao, Samuel F. Sisenwine, and JoAnn Scatina ................................................................. 383

Excretion and Identification of Methacrylonitrile Metabolites in the Bile of Male F344 Rats. Burhan I. Ghanyem and Leo T. Burka ................................................................. 390

Metabolism of 2-Amino-α-carboline: A Food-Borne Heterocyclic Amine Mutagen and Carcinogen by Human and Rodent Liver Microsomes and by Human Cytochrome P4501A2. Haider Raza, Roberta S. King, R. Burke Squires, F. Peter Guengerich, Dwight W. Miller, J. Patrick Freeman, Nicholas P. Lang, and Fred F. Kadlubar ................................................................. 395

Endotoxemia in Rats Is Associated with Induction of the P4504A4 Subfamily and Suppression of Several Other Forms of Cytochrome P450. Marion B. Sewer, Dennis R. Koop, and Edward T. Morgan ................................................................. 401

A Comparative Study of Hepatic and Colonic Metabolic Enzymes in Inbred Mouse Lines before and after Treatment with the Colon Carcinogen, 1,2-Dimethylhydrazine. Don A. Delker, Theo K. Bammler, and Daniel W. Rosenberg ................................................................. 408


Conjugation of Glutathione with a Toxic Metabolite of Valproic Acid, (E)-2-Propyl-2,4-pentadienoic Acid, Catalyzed by Rat Hepatic Glutathione-S-Transferases. Wei Tang, Anthony G. Borel, and Frank S. Abbott ................................................................. 436

Significance of Metabolism in the Disposition and Action of the Antidysrhythmic Drug, Dofetilide: In Vitro Studies and Correlation with In Vivo Data. Donald K. Walker, Colin T. Alabaster, Gillian S. Congrave, Martin B. Hargreaves, Ruth Hyland, Barry C. Jones, Lisa J. Reed, and Dennis A. Smith ................................................................. 447

Concentration-Dependent Tubular Secretion of Acetazolamide and Its Inhibition by Salicylic Acid in the Isolated Perfused Rat Kidney. David R. Tipt, Dennis J. Chapron, Donna J. Fournier, and Kevin R. Sweeney ................................................................. 456

In Vitro Hydroxylation and Epoxidation of Some Isomeric Lauric Acid Analogs by Rat Liver Microsomes: Identification of Metabolites and Effects of Clofibrate or Phenobarbital Pretreatment. Jean-Luc Boucher, Marcel Delaporge, Jean-Pierre Salau, Franck Pinot, Francis Durst, Philippe Pfieger, and Charles Moskowski ................................................................. 462

Bioactivation of Carbamazepine in the Rat In Vivo: Evidence for the Formation of Reactive Aren Oxide(s). Stephen Madden, James L. Maggs, and B. Kevin Park ................................................................. 469

Continued on next page

DRUG METABOLISM AND DISPOSITION (DMD/ISSN 0090-9556) is an official publication of The American Society for Pharmacology and Experimental Therapeutics and is published monthly beginning in January 1995 by Williams & Wilkins, 351 West Camden Street, Baltimore, MD 21201-2436. Second class postage paid at Baltimore, MD and at additional mailing offices. POSTMASTER: send address changes to DRUG METABOLISM AND DISPOSITION, 351 West Camden Street, Baltimore, MD 21201-2436. Subscription Rates: U.S.: Personal $90.00; Institutional $150.00; Single copy $24.00. Outside the U.S., except Japan: Personal $115.00; Institutional $175.00; Single copy $39.00. Foreign prices exclude Japan. See Information for Subscribers for detailed instructions. The GST Tax Number for Canadian subscribers is 123394371. Country of origin USA. PRICES ARE SUBJECT TO CHANGE. Indexed by Index Medicus, Current Contents (Life Sciences), Excerpta Medica, Reference Update/Research Information Systems, and BIOSCIENCES Information Service. Copyright © 1996 by the American Society for Pharmacology and Experimental Therapeutics.
Announcement

FOURTH INTERNATIONAL DERMATOLOGY SYMPOSIUM BERLIN

THE SEBACEOUS GLAND AND ITS DISORDERS
Basic and Clinical Research, Clinical Entities, and Treatment

September 13–15, 1996
University Medical Center Benjamin Franklin
Docent Dr. med. Ch. C. Zouboulis (Secretary)

For further information, contact:
Department of Dermatology
University Medical Center Benjamin Franklin
The Free University of Berlin
Hindenburgdamm 20
D-12200 Berlin, Germany
Phone: 49-30-8445-2808
Fax: 49-30-8445-4262

Contents (cont’d.)

Diversion or Prevention of Biliary Outflow from the Liver Diminishes the Renal Uptake of Injected Inorganic Mercury. RUDOLFS K. ZALUPS AND DELON W. BARFUS. 480

Identification of the Human Hepatic Cytochromes P450 Involved in the In Vitro Oxidation of Antipyrine. JANE E. SHARER AND STEVEN A. WRIGHTON 487

Incorporation of Codeine and Metabolites into Hair: Role of Pigmentation. STEVEN P. GYGI, ROBERT E. JOSEPH, JR., EDWARD J. CONE, DIANA G. WILKINS, AND DOUGLAS E. ROLLINS 495

SHORT COMMUNICATION

Effect of Total Parenteral Nutrition Containing Lipid Calories on Hepatic Drug Metabolism in Rats. REBECCA B. RAFTOIANI, MICHAEL R. FRANKLIN, AND RAYMOND E. GALINSKY 502