Drug Metabolism and Disposition:
the biological fate of chemicals

March/April 1993

CONTENTS


Disposition of the Flame Retardant 1,2-Bis(2,4,6-tri-bromophenoxy)ethane in Rats Following Administration in the Diet. Amin A. Nomaer, Peter M. Markham, Burhan I. Ghanyem, and Marjory Chadwick ............................. 209

Nonlinear Pharmacokinetics of Cefadroxil in the Rat. María Carmen García-Carbonell, Luis Grañero, Francisca Torres-Molina, Juan-Carlos Aristorena, Jesús Chesa-Jiménez, José María Plá-Delfina, and José-Esteban Peris-Ribera ........................................ 215

The Role of Cytochrome P-450 and Flavin-Containing Monooxygenase in the Biotransformation of 4-Fluoro-N-methylalanine. M. G. Boersma, N. H. P. Cunibben, W. J. H. van Berkum, M. Blom, J. Vervoort, and J. M. C. Rietjens .............................. 218

Metabolism and Disposition of a Thiazolobenzimida- zole Active Against HIV-1. Salah M. al-Dareer, Kathleen F. Tillery, Lucy M. Rose, Claude F. Posey, Robert F. Struck, Steven W. Stillier, and Donald L. Hill .................................................. 231


Cytochrome P-450–Mediated Dehydrogenation of 2-N-Propyl-2(E)-pentenoic Acid, A Pharmacologically Active Metabolite of Valproic Acid, in Rat Liver Microsomal Preparations. Kelem Kassahun and Thomas A. Baillie ......................................................... 242


Pharmacokinetics of Representative 3-Hydroxypyridin-4-ones in Rabbits: CP20 and CP94. Andrea M. Friedenburg, Peter J. Wedlund, Thomas L. Skinner, Lyaquatali A. Damani, Robert C. Hider, and Robert A. Yokel .................................................. 255

Microbial Models of Mammalian Metabolism: Furosemide Glucoside Formation Using the Fungus Cunninghamella elegans. Mehri Hezari and Patrick J. Davis .............................................. 259

Cholesterol Sulfation in Human Liver: Catalysis by Dehydroepiandrosterone Sulfotransferase. I. A. Aksoy, D. M. Otterness, and R. M. Weinshilboum .................................................................................. 268


Disposition, Metabolism, and Pharmacodynamics of Labelatol in Adult Sheep. Krishnaswamy Yeleswaram, Dan W. Rurak, Eddie Kwan, Caroline Hall, Ahmad Doroudian, Frank S. Abbott, and James E. Axelsson .................................................. 284

Inhibitory Effects of Non-Steroidal Anti-Inflammatory Drugs (NSAIDs) on The Metabolism of 4-(Methylnitrosamino)-1-(3-pyridyl)-1-butanone (NNK) in Mouse Lung Explants. Line Bouchard and Andre Castonguay .......................................................... 293

NADPH and Oxygen Consumption in Isoflurane-Facilitated 2-Chloro-1,1-difluoroethane Metabolism in Rabbit Liver Microsomes. Ying Wang and Max T. Baker .............................................................................. 299


Inhibition of the Enantioselective Oxidative Metabolism of Metoprolol by Verapamil in Human Liver Microsomes. Myungssoo Kim, Danny D. Shen, A. Craig Eddy, and Wendel L. Nelson .................................................. 309

Continued on next page
Effect of Tobacco Smoke Condensate on the Metabolism of 4-(Methylnitrosamino)-1-(3-pyridyl)-1-butanone by Adult and Fetal Hamster Microsomes. ROSSANA JORQUERA, ANDRE CASTONGUAY, AND HILDEGARD M. SCHULLER ........................................... 318

Identification of Major Metabolites of the Catechol-O-methyltransferase Inhibitor Nitecapone in Rat and Dog. TOM WIKBERG AND JYRKI TASKINEN .......................... 325

Effects of Arsenite Treatment on NAD(P)H:Quinone Acceptor Oxidoreductase Activity in Liver, Lung, Kidney, and Heart of the Rat: Comparison to Induction by the Polyaromatic Hydrocarbon, β-Naphthoflavone. K. CAMERON FALKNER, GORDON P. MCCALLUM, AND JOHN R. BEND ...................................................... 334

UDP-Glucuronosyltransferase Activity Toward Digitoxigenin Monodiglotoxoside in Human Liver Microsomes. BRUNO LACARELLE, JEAN-FRANCOIS RAJAONARISON, JACQUES CATALIN, ALAIN DURAND, AND JEAN-PAUL CANO ........................................... 338

Effect of P-450 Inducers on Biliary Excretion of Glutathione and Its Hydrolysis Products: Correlation Between Hepatic γ-Glutamyltranspeptidase Activity and the Proportion of Glutathione Hydrolysis Products in Bile. CHERUKURY MADHU, DAVID Y. MITCHELL, AND CURTIS D. KLAASSEN ................................................ 342

Human Liver Microsomal Enflurane Defluorination Catalyzed by Cytochrome P-450 2E1. KENNETH E. THUMMEL, EVAN D. KHRASCH, TERRY PODOLL, AND KENT KUNZE ................................................................ 350

Effects of Clarithromycin and Its Metabolites on the Mixed Function Oxidase System in Hepatic Microsomes of Rats. SHIGERU OHMORI, ITSUKO ISHII, SHIN-ICHIRO KURIYA, TOMOYOSHI TANIGUCHI, TADAHIKO KURIHISA, SEIYU HIROSE, YOSHIKO KANAKURO, AND MITSUKAZU KITA ................................................................ 358

Transplacental Pharmacokinetics and Maternal/Fetal Plasma Concentrations of Cocaine in Pregnant Macaques Near Term. ZBIGNIEW BINIENDA, JOHN R. BAILEY, HELEN M. DUHART, WILLIAM SLIKKER, JR., AND MERLE G. PAULE .................................................. 364

Anomalous Accumulation and Decay of 2',3'-Dideoxyadenosine-5'-triphosphate in Human T-Cell Cultures Exposed to the Anti-HIV Drug 2',3'-Dideoxynosine. PURBREET AHIWALIA, DAVID A. COONEY, NEIL R. HARTMAN, HIROAKI MITSUYA, ROBERT YARCOHAN, ARNOLD FRIDLAND, SAMUEL BRODER, AND DAVID G. JOHNS ...................... 369

Biotransformation and Branchial Excretion of 17α-Methyltestosterone in Trout. J. P. CRAVEDI, G. DELOUS, L. DEBRAUWER, AND D. PROME .............................................. 377

Concentration-Dependent Inhibition of Halothane Biotransformation in the Guinea Pig. RICHARD C. LIND AND A. JAY GANDOLFI ................................................................. 386

In Vitro Hepatic Biotransformation of Cocaine in Maternal and Fetal Guinea Pigs: Induction of Cocaine N-Demethylation With Cocaine Pretreatment. JENNIFER A. SANDBERG, LAINE J. MURPHEY, AND GEORGE D. OLSN ................................................................. 390

SHORT COMMUNICATIONS

Inhibition of Rat Liver Mitochondrial and Cytosolic Aldehyde Dehydrogenases by Crotonaldehyde. DAVID Y. MITCHELL AND DENNIS R. PETERSEN ............................................. 396

Naphthaldehydes as Reversible Inhibitors of Rat Hepatic Aryl Sulfotransferase IV (Tyrosine-Ester Sulfotransferase). MICHAEL W. DUFFEL AND YUQUN ZHENG ........................................................................ 400