



## **CONTENTS**

Editorial	
A Brief History of Insulin Resistance: From the First Insulin Radioimmunoassay to Selectively Targeting Protein Kinase C Pathways Konstantinos N. Aronis and Christos S. Mantzoros	445
Review	
The Relationship Between Vitamin D and the Renin-Angiotensin System in the Pathophysiology of Hypertension, Kidney Disease, and Diabetes  Anand Vaidya and Jonathan S. Williams	450
Basic Science	
Correction of Metabolic Abnormalities in a Rodent Model of Obesity, Metabolic Syndrome, and Type 2 Diabetes Mellitus by Inhibitors of Hepatic Protein Kinase C–1 Mini P. Sajan, Sonali Nimal, Stephen Mastorides, Mildred Acevedo-Duncan, C. Ronald Kahn, Alan P. Fields, Ursula Braun, Michael Leitges, and Robert V. Farese	459
Small Molecule Activation of Lecithin Cholesterol Acyltransferase Modulates Lipoprotein Metabolism in Mice and Hamsters Zhu Chen, Sheng-ping Wang, Mihajlo L. Krsmanovic, Jose Castro-Perez, Karen Gagen, Vivienne Mendoza, Ray Rosa, Vinit Shah, Timothy He, Steve J. Stout, Neil S. Geoghagen, Sang H. Lee, David G. McLaren, Liangsu Wang, Thomas P. Roddy, Andrew S. Plump, Brian K. Hubbard, Christopher J. Sinz, and Douglas G. Johns	470
Role of Dimethylarginine Dimethylaminohydrolase Activity in Regulation of Tissue and Plasma Concentrations of Asymmetric Dimethylarginine in an Animal Model of Prolonged Critical Illness Mariska Davids, Milan C. Richir, Marlieke Visser, Björn Ellger, Greet van den Berghe, Paul A.M. van Leeuwen, and Tom Teerlink	482
Increased Production of Active Ghrelin Is Relevant to Hyperphagia in Nonobese Spontaneously Diabetic Torii Rats Hiroharu Mifune, Yoshihiro Nishi, Yuji Tajiri, Taku Masuyama, Hiroshi Hosoda, Kenji Kangawa, and Masayasu Kojima	491
Dual Pathways of p53 Mediated Glucolipotoxicity-Induced Apoptosis of Rat Cardiomyoblast Cell: Activation of p53 Proapoptosis and Inhibition of Nrf2-NQO1 Antiapoptosis Hye Jin Wang, Eun Young Lee, Seung Jin Han, Soo Hyun Kim, Byung-Wan Lee, Chul Woo Ahn, Bong Soo Cha, and Hyun Chul Lee	496
Clinical Science	
Higher Plasma Renin Activity Is a Risk Factor for Total Mortality in Older Japanese Individuals: The Takahata Study Makoto Daimon, Tsuneo Konta, Toshihide Oizumi, Shigeru Karasawa, Wataru Kaino, Kaoru Takase, Yumi Jimbu, Kiriko Wada, Wataru Kameda, Shinji Susa, Takafumi Saito, Isao Kubota, Takamasa Kayama, and Takeo Kato	504
Uric Acid Excretion in Healthy Subjects: A Nomogram to Assess the Mechanisms Underlying Purine Metabolic Disorders Juan G. Puig, Rosa J. Torres, Eugenio de Miguel, Arantxa Sánchez, Rebeca Bailén, and José R. Banegas	512

## (Contents continued)

p.H282N and p.Y191H: 2 Novel CYP21A2 Mutations in Italian Congenital Adrenal Hyperplasia Patients	
Paola Concolino, Enrica Mello, Maria Cristina Patrosso, Silvana Penco, Cecilia Zuppi, and Ettore Capoluongo	519
Insulin Clearance Is Different in Men and Women Michael D. Jensen, Soren Nielsen, Nidhi Gupta, Rita Basu, and Robert A. Rizza	525
Childhood Risk Factors Predict Cardiovascular Disease, Impaired Fasting Glucose Plus Type 2 Diabetes Mellitus, and High Blood Pressure 26 Years Later at a Mean Age of 38 Years: The Princeton–Lipid Research Clinics Follow-Up Study  John A. Morrison, Charles J. Glueck, and Ping Wang	531
Osteocalcin and Glucose Metabolism in Postmenopausal Women Subjected to Aerobic Training Program for 8 Weeks Anna Wieczorek-Baranowska, Alicja Nowak, and Łucja Pilaczyńska-Szcześniak	542
Cannabinoid-1 Receptor Inhibition Prevents the Reduction of 24-Hour Energy Expenditure With Weight Loss Alison M. Strack, Susan Nicolich, Terry Faidley, Joana Achanfuo-Yeboah, Paul K. Cunningham, Donald Hora Jr., Donald Thompson, Gerry Hickey, Amy O. Johnson-Levonas, Tung M. Fong, and Steven B. Heymsfield	546
Racial/Ethnic and Sex Differences in the Relationship Between Uric Acid and Metabolic Syndrome in Adolescents: An Analysis of National Health and Nutrition Survey 1999-2006 Mark D. DeBoer, Lili Dong, and Matthew J. Gurka	554
Elevated Circulating Levels of the Serum Acute-Phase Protein YKL-40 (Chitinase 3-Like Protein 1) Are a Marker of Obesity and Insulin Resistance in Prepubertal Children Ioannis Kyrgios, Assimina Galli-Tsinopoulou, Charilaos Stylianou, Eleni Papakonstantinou, Malamatenia Arvanitidou, and Anna-Bettina Haidich	562
Association Between Thyroid Hormone Levels, the Number of Circulating Osteoprogenitor Cells, and Bone Mineral Density in Euthyroid Postmenopausal Women  Matteo Pirro, Maria Rosaria Manfredelli, Anna Maria Scarponi, Graziana Lupattelli, Francesco Bagaglia, Francesco Melis, and Elmo Mannarino	569
Short-Term Walnut Consumption Increases Circulating Total Adiponectin and Apolipoprotein A Concentrations, But Does Not Affect Markers of Inflammation or Vascular Injury in Obese Humans With the Metabolic Syndrome: Data From a Double-Blinded, Randomized, Placebo-Controlled Study Konstantinos N. Aronis, Maria T. Vamvini, John P. Chamberland, Laura L. Sweeney, Aoife M. Brennan, Faidon Magkos, and Christos S. Mantzoros	577
The Association Between Triglyceride to High-Density-Lipoprotein Cholesterol Ratio and Insulin Resistance in a Multiethnic Primary Prevention Cohort  Danijela Gasevic, Jiri Frohlich, G.B. John Mancini, and Scott A. Lear	583
Leisure Time and Occupational Physical Activity in Relation to Obesity and Insulin Resistance: A Population-Based Study From the Skaraborg Project in Sweden Charlotte A. Larsson, Lotte Krøll, Louise Bennet, Bo Gullberg, Lennart Råstam, and Ulf Lindblad	590
Acknowledgment to Reviewers	599