

IN THIS ISSUE

315 In This Issue of *Diabetes*

BANTING LECTURE

317 Deciphering Metabolic Messages From the Gut Drives Therapeutic Innovation: The 2014 Banting Lecture
D.J. Drucker

PERSPECTIVES IN DIABETES

327 New Insights Into Gestational Glucose Metabolism: Lessons Learned From 21st Century Approaches
A.R. Angueira, A.E. Ludvik, T.E. Reddy, B. Wicksteed, W.L. Lowe Jr., and B.T. Layden

COMMENTARIES

335 Why Do Exercise and Dietary Restriction During Pregnancy Affect Glucose Tolerance in Opposite Ways?
K.T. Borer

338 An Absorbing Sense of Sweetness
F.M. Gribble

341 Further Insight on the Limits of Success of Glycemic Control in Type 1 Diabetes
B.E.K. Klein and R. Klein

TECHNOLOGICAL ADVANCES

344 Noninvasive In Vivo Imaging of Diabetes-Induced Renal Oxidative Stress and Response to Therapy Using Hyperpolarized ¹³C Dehydroascorbate Magnetic Resonance
K.R. Keshari, D.M. Wilson, V. Sai, R. Bok, K.-Y. Jen, P. Larson, M. Van Criekinge, J. Kurhanewicz, and Z.J. Wang

METABOLISM

353 Regulation of AMPK Activation by CD36 Links Fatty Acid Uptake to β -Oxidation
D. Samovski, J. Sun, T. Pietka, R.W. Gross, R.H. Eckel, X. Su, P.D. Stahl, and N.A. Abumrad

360 Methotrexate Promotes Glucose Uptake and Lipid Oxidation in Skeletal Muscle via AMPK Activation
S. Pirkmajer, S.S. Kulkarni, R.Z. Tom, F.A. Ross, S.A. Hawley, D.G. Hardie, J.R. Zierath, and A.V. Chibalin

370 Molecular Mechanisms of Glucose-Stimulated GLP-1 Secretion From Perfused Rat Small Intestine
R.E. Kuhre, C.R. Frost, B. Svendsen, and J.J. Holst

383 Delayed Skeletal Muscle Mitochondrial ADP Recovery in Youth With Type 1 Diabetes Relates to Muscle Insulin Resistance
M. Cree-Green, B.R. Newcomer, M.S. Brown, A.D. Baumgartner, B. Bergman, B. Drew, J.G. Regensteiner, L. Pyle, J.E.B. Reusch, and K.J. Nadeau

393 Glucocorticoids Transcriptionally Regulate miR-27b Expression Promoting Body Fat Accumulation Via Suppressing the Browning of White Adipose Tissue
X. Kong, J. Yu, J. Bi, H. Qi, W. Di, L. Wu, L. Wang, J. Zha, S. Lv, F. Zhang, Y. Li, F. Hu, F. Liu, H. Zhou, J. Liu, and G. Ding

405 Anorexia and Impaired Glucose Metabolism in Mice With Hypothalamic Ablation of Glut4 Neurons
H. Ren, T.Y. Lu, T.E. McGraw, and D. Accili

418 ATGL-Catalyzed Lipolysis Regulates SIRT1 to Control PGC-1 α /PPAR- α Signaling
S.A. Khan, A. Sathyanarayan, M.T. Mashek, K.T. Ong, E.E. Wollaston-Hayden, and D.G. Mashek

427 Exercise Before and During Pregnancy Prevents the Deleterious Effects of Maternal High-Fat Feeding on Metabolic Health of Male Offspring
K.I. Stanford, M.-Y. Lee, K.M. Getchell, K. So, M.F. Hirshman, and L.J. Goodyear

434 GLP-1 Plays a Limited Role in Improved Glycemia Shortly After Roux-en-Y Gastric Bypass: A Comparison With Intensive Lifestyle Modification
M.L. Vetter, T.A. Wadden, K.L. Teff, Z.F. Khan, R. Carvajal, S. Ritter, R.H. Moore, J.L. Chittams, A. Iagnocco, K. Murayama, G. Korus, N.N. Williams, and M.R. Rickels

447 5 α -Reductase Type 1 Deficiency or Inhibition Predisposes to Insulin Resistance, Hepatic Steatosis, and Liver Fibrosis in Rodents
D.E.W. Livingstone, P. Barat, E.M. Di Rollo, G.A. Rees, B.A. Weldin, E.A. Rog-Zielinska, D.P. MacFarlane, B.R. Walker, and R. Andrew

459 Hypothalamic Orexin Prevents Hepatic Insulin Resistance via Daily Bidirectional Regulation of Autonomic Nervous System in Mice
H. Tsuneki, E. Tokai, Y. Nakamura, K. Takahashi, M. Fujita, T. Asaoka, K. Kon, Y. Anzawa, T. Wada, I. Takasaki, K. Kimura, H. Inoue, M. Yanagisawa, T. Sakurai, and T. Sasaoka

Keep up with the latest information for *Diabetes* and other ADA titles via Facebook (/ADAJournals) and Twitter (@ADA_Journals).

All articles in *Diabetes* are available online at diabetes.org/diabetes, are available free to print subscribers, or can be purchased as e-prints or reprints.

ADA's Diabetes Core Update podcast is available at diabetesjournals.org and through iTunes.

Icons shown below appear on the first page of an article if more information is available online.



Free Article



Video



Podcast



Supplementary Data



Companion Article

- 471** Inorganic Nitrate Promotes the Browning of White Adipose Tissue Through the Nitrate-Nitrite-Nitric Oxide Pathway
L.D. Roberts, T. Ashmore, A.O. Kotwica, S.A. Murfitt, B.O. Fernandez, M. Feelisch, A.J. Murray, and J.L. Griffin

SIGNAL TRANSDUCTION

- 485** Human Muscle Fiber Type-Specific Insulin Signaling: Impact of Obesity and Type 2 Diabetes
P.H. Albers, A.J.T. Pedersen, J.B. Birk, D.E. Kristensen, B.F. Vind, O. Baba, J. Nøhr, K. Højlund, and J.F.P. Wojtaszewski

OBESITY STUDIES

- 498** Vertical Sleeve Gastrectomy Restores Glucose Homeostasis in Apolipoprotein A-IV KO Mice
J.W. Pressler, A. Haller, J. Sorrell, F. Wang, R.J. Seeley, P. Tso, and D.A. Sandoval
- 508** Adiponectin Resistance and Proinflammatory Changes in the Visceral Adipose Tissue Induced by Fructose Consumption via Ketohexokinase-Dependent Pathway
G. Marek, V. Pannu, P. Shanmugham, B. Pancione, D. Mascia, S. Crosson, T. Ishimoto, and Y.Y. Sautin
- 519** Tuberous Sclerosis Complex 1–Mechanistic Target of Rapamycin Complex 1 Signaling Determines Brown-to-White Adipocyte Phenotypic Switch
X. Xiang, H. Lan, H. Tang, F. Yuan, Y. Xu, J. Zhao, Y. Li, and W. Zhang

ISLET STUDIES

- 529** PD-L1–Driven Tolerance Protects Neurogenin3-Induced Islet Neogenesis to Reverse Established Type 1 Diabetes in NOD Mice
R. Li, J. Lee, M.-s. Kim, V. Liu, M. Moulik, H. Li, Q. Yi, A. Xie, W. Chen, L. Yang, Y. Li, T.H. Tsai, K. Oka, L. Chan, and V. Yechoor
- 541** Inhibition of Ca²⁺-Independent Phospholipase A₂β (iPLA₂β) Ameliorates Islet Infiltration and Incidence of Diabetes in NOD Mice
R.N. Bone, Y. Gai, V. Magrioti, M.G. Kokotou, T. Ali, X. Lei, H.M. Tse, G. Kokotos, and S. Ramanadham
- 555** Placental Insufficiency Decreases Pancreatic Vascularity and Disrupts Hepatocyte Growth Factor Signaling in the Pancreatic Islet Endothelial Cell in Fetal Sheep
P.J. Rozance, M. Anderson, M. Martinez, A. Fahy, A.R. Macko, J. Kailey, G.J. Seedorf, S.H. Abman, W.W. Hay Jr., and S.W. Limesand

IMMUNOLOGY AND TRANSPLANTATION

- 565** Assessment of β-Cell Mass and α- and β-Cell Survival and Function by Arginine Stimulation in Human Autologous Islet Recipients
R.P. Robertson, L.D. Bogachus, E. Oseid, S. Parazzoli, M.E. Patti, M.R. Rickels, C. Schuetz, T. Dunn, T. Pruet, A.N. Balamurugan, D.E.R. Sutherland, G. Beilman, and M.D. Bellin

- 573** Citrullinated Glucose-Regulated Protein 78 Is an Autoantigen in Type 1 Diabetes
D. Rondas, I. Crèvecoeur, W. D’Hertog, G.B. Ferreira, A. Staes, A.D. Garg, D.L. Eizirik, P. Agostinis, K. Gevaert, L. Overbergh, and C. Mathieu


- 587** Preserved β-Cell Function in Type 1 Diabetes by Mesenchymal Stromal Cells
P.-O. Carlsson, E. Schwarcz, O. Korsgren, and K. Le Blanc

- 593** B-1a Lymphocytes Attenuate Insulin Resistance
L. Shen, M.H.Y. Chng, M.N. Alonso, R. Yuan, D.A. Winer, and E.G. Engleman

PATHOPHYSIOLOGY

- 604** Inflammation and Hyperglycemia Mediate *Deaf1* Splicing in the Pancreatic Lymph Nodes via Distinct Pathways During Type 1 Diabetes
L. Yip, R. Fuhlbrigge, C. Taylor, R.J. Creusot, T. Nishikawa-Matsumura, C.C. Whiting, J.M. Schartner, R. Akter, M. von Herrath, and C.G. Fathman

COMPLICATIONS

- 618** Arachidonate 12/15-Lipoxygenase–Induced Inflammation and Oxidative Stress Are Involved in the Development of Diabetic Cardiomyopathy
H. Suzuki, Y. Kayama, M. Sakamoto, H. Iuchi, I. Shimizu, T. Yoshino, D. Katoh, T. Nagoshi, K. Tojo, T. Minamino, M. Yoshimura, and K. Utsunomiya
- 631** Effect of Intensive Diabetes Therapy on the Progression of Diabetic Retinopathy in Patients With Type 1 Diabetes: 18 Years of Follow-up in the DCCT/EDIC
 The Diabetes Control and Complications Trial (DCCT)/Epidemiology of Diabetes Interventions and Complications (EDIC) Research Group
- 643** Combination Therapies Prevent the Neuropathic, Proinflammatory Characteristics of Bone Marrow in Streptozotocin-Induced Diabetic Rats
J.M. Dominguez II, M.A. Yorek, and M.B. Grant
- 654** The Haptoglobin 1 Allele Correlates With White Matter Hyperintensities in Middle-Aged Adults With Type 1 Diabetes
T. Costacou, C. Rosano, H. Aizenstein, J.M. Mettenburg, K. Nunley, R.E. Ferrell, and T.J. Orchard

ISSUES AND EVENTS

- 660** Issues and Events

e-LETTERS – COMMENTS AND RESPONSES

- e1** Comment on Malik. Which Test for Diagnosing Early Human Diabetic Neuropathy? *Diabetes* 2014;63:2206–2208
J.C. van der Heyden, E. Birnie, D. Mul, H.J. Veeze, J.H. Blok, and H.-J. Aanstoot
- e2** Response to Comment on Malik. Which Test for Diagnosing Early Human Diabetic Neuropathy? *Diabetes* 2014;63:2206–2208
I.N. Petropoulos, M. Tavakoli, A. Marshall, and R.A. Malik