

VOLUME 56, NO. 9 DIABETES: A Journal of the American Diabetes Association®

September 2007

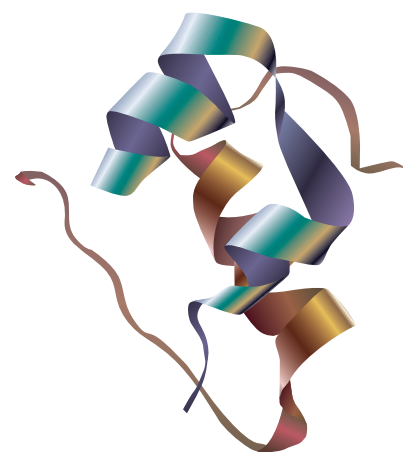
Pages 2185-2416

diabetes

SEPTEMBER 2007 VOLUME 56 NUMBER 9

A JOURNAL OF THE
AMERICAN DIABETES
ASSOCIATION®

www.diabetes.org/diabetes



METABOLISM

- Neuregulins increase mitochondrial oxidative capacity and insulin sensitivity in skeletal muscle cells
C. CANTÓ, S. PICH, J.C. PAZ, R. SANCHES, V. MARTÍNEZ, M. ORPINELL, M. PALACÍN, A. ZORZANO, AND A. GUMÀ 2185
- Contraction stimulates nitric oxide-independent microvascular recruitment and increases muscle insulin uptake
A.C. INYARD, L.H. CLERK, M.A. VINCENT, AND E.J. BARRETT 2194
- Metallothionein prevents high-fat diet-induced cardiac contractile dysfunction: role of peroxisome proliferator-activated receptor γ coactivator 1 α and mitochondrial biogenesis
F. DONG, Q. LI, N. SREEJAYAN, J.M. NUNN, AND J. REN 2201
- Physiological hyperinsulinemia has no detectable effect on access of macromolecules to insulin-sensitive tissues in healthy humans
H. WEINHANDL, C. PACHLER, J.K. MADER, D. IKEOKA, A. MAUTNER, A. FALK, M. SUPPAN, T.R. PIEBER, AND M. ELLMERER 2213

SIGNAL TRANSDUCTION

- Characterization of a protein kinase B inhibitor in vitro and in insulin-treated liver cells
L. LOGIE, A.J. RUIZ-ALCARAZ, M. KEANE, Y.L. WOODS, J. BAIN, R. MARQUEZ, D.R. ALESSI, AND C. SUTHERLAND 2218
- AMP kinase activation increases glucose uptake, decreases apoptosis, and improves pregnancy outcome in embryos exposed to high IGF-I concentrations
G.S. ENG, R.A. SHERIDAN, A. WYMAN, M.M.-Y. CHI, K.P. BIBEE, E.S. JUNGHEIM, AND K.H. MOLEY 2228
- Normalization of prandial blood glucose and improvement of glucose tolerance by liver-specific inhibition of SH2 domain-containing inositol phosphatase 2 (SHIP2) in diabetic KKA y mice: SHIP2 inhibition causes insulin-mimetic effects on glycogen metabolism, gluconeogenesis, and glycolysis
R. GREMLER, D. ZIBROVA, C. SCHOELCH, A. VAN MARLE, J.F. RIPPMANN, AND N. REDEMANN 2235

OBESITY STUDIES

- Absence of CC chemokine ligand 2 does not limit obesity-associated infiltration of macrophages into adipose tissue
K.E. INOUE, H. SHI, J.K. HOWARD, C.H. DALY, G.M. LORD, B.J. ROLLINS, AND J.S. FLIER 2242

IMMUNOLOGY AND TRANSPLANTATION

- Bone marrow is a preferential homing site for autoreactive T-cells in type 1 diabetes
R. LI, N. PEREZ, S. KARUMUTHIL-MELETHIL, AND C. VASU 2251

- Adipocyte-derived serum amyloid A3 and hyaluronan play a role in monocyte recruitment and adhesion
C.Y. HAN, S. SUBRAMANIAN, C.K. CHAN, M. OMER, T. CHIBA, T.N. WIGHT, AND A. CHAIT 2260

- Angiopoietin-1 production in islets improves islet engraftment and protects islets from cytokine-induced apoptosis
D. SU, N. ZHANG, J. HE, S. QU, S. SLUSHER, R. BOTTINO, S. BERTERA, J. BROMBERG, AND H.H. DONG 2274

ISLET STUDIES

- Impairment of the ubiquitin-proteasome pathway is a downstream endoplasmic reticulum stress response induced by extracellular human islet amyloid polypeptide and contributes to pancreatic β -cell apoptosis
S. CASAS, R. GOMIS, F.M. GRIBBLE, J. ALTIRRIBA, S. KNUUTILA, AND A. NOVIALS 2284
- Metabolic mechanisms of failure of intraportally transplanted pancreatic β -cells in rats: role of lipotoxicity and prevention by leptin
Y. LEE, M. RAVAZZOLA, B.-H. PARK, Y.K. BASHMAKOV, L. ORCI, AND R.H. UNGER 2295
- Distinct in vivo roles of caspase-8 in β -cells in physiological and diabetes models
N. LIADIS, L. SALMENA, E. KWAN, P. TAJMIR, S.A. SCHROER, A. RADZISZEWSKA, X. LI, L. SHEU, M. EWEIDA, S. XU, H.Y. GAISANO, R. HAKEM, AND M. WOO 2302

- Normal relationship of β - and non- β -cells not needed for successful islet transplantation
A.J.F. KING, J.R. FERNANDES, J. HOLLISTER-LOCK, C.E. NIENABER, S. BONNER-WEIR, AND G.C. WEIR 2312

- Ghrelin uses $G\alpha_{12}$ and activates voltage-dependent K^+ channels to attenuate glucose-induced Ca^{2+} signaling and insulin release in islet β -cells: novel signal transduction of ghrelin
K. DEZAKI, M. KAKEI, AND T. YADA 2319

- Direct effect of cholesterol on insulin secretion: a novel mechanism for pancreatic β -cell dysfunction
M. HAO, W.S. HEAD, S.C. GUNAWARDANA, A.H. HASTY, AND D.W. PISTON 2328

- Congenital hyperinsulinism-associated *ABCC8* mutations that cause defective trafficking of ATP-sensitive K^+ channels: identification and rescue
F.-F. YAN, Y.-W. LIN, C. MACMULLEN, A. GANGULY, C.A. STANLEY, AND S.-L. SHYNG 2339



DIAEAZ 56(9) 2185-2416 (2007)
ISSN 0012-1797

Table of contents continues on page vii. ➤

PATHOPHYSIOLOGY	
Reduced expression of nuclear-encoded genes involved in mitochondrial oxidative metabolism in skeletal muscle of insulin-resistant women with polycystic ovary syndrome V. SKOV, D. GLINTBORG, S. KNUDSEN, T. JENSEN, T.A. KRUSE, Q. TAN, K. BRUSGAARD, H. BECK-NIELSEN, AND K. HØJLUND	2349
Increased number of islet-associated macrophages in type 2 diabetes J.A. EHSES, A. PERRIN, E. EPPLER, P. RIBAU, J.A. POSPISILIK, R. MAOR-CAHN, X. GUERPEL, H. ELLINGSGAARD, M.K.J. SCHNEIDER, G. BIOLLAZ, A. FONTANA, M. REINECKE, F. HOMO-DELCARCHE, AND M.Y. DONATH	2356
COMPLICATIONS	
The vascular ectonucleotidase ENTPD1 is a novel renoprotective factor in diabetic nephropathy D.J. FRIEDMAN, H.G. RENNKE, E. CSIZMADIA, K. ENJOJI, AND S.C. ROBSON	2371
Proteolytic degradation of VE-cadherin alters the blood-retinal barrier in diabetes D. NAVARATNA, P.G. MCGUIRE, G. MENICUCCI, AND A. DAS	2380
GENETICS	
Alcohol consumption and type 2 diabetes: influence of genetic variation in alcohol dehydrogenase J.W.J. BEULENS, E.B. RIMM, H.F.J. HENDRIKS, F.B. HU, J.E. MANSON, D.J. HUNTER, AND K.J. MUKAMAL	2388
BRIEF REPORTS	
Hepatic lipin 1 β expression is diminished in insulin-resistant obese subjects and is reactivated by marked weight loss M.A. CROCE, J.C. EAGON, L.L. LARIVIERE, K.M. KORENBLAT, S. KLEIN, AND B.N. FINCK	2395
Screening for insulinitis in adult autoantibody-positive organ donors P. INT' VELD, D. LIEVENS, J. DE GRUISE, Z. LING, B. VAN DER AUWERA, M. PIPELEERS-MARICHAL, F. GORUS, AND D. PIPELEERS	2400
HLA-DPB1*0402 protects against type 1A diabetes autoimmunity in the highest risk DR3-DQB1*0201/DR4-DQB1*0302 DAISY population E.E. BASCHAL, T.A. ALY, S.R. BABU, M.S. FERNANDO, L. YU, D. MIAO, K.J. BARRIGA, J.M. NORRIS, J.A. NOBLE, H.A. ERLICH, M.J. REWERS, AND G.S. EISENBARTH	2405
A CTG polymorphism in the CNDP1 gene determines the secretion of serum carnosinase in cos-7-transfected cells E. RIEDL, H. KOEPPPEL, P. BRINKKOETTER, P. STERNIK, H. STEINBEISSER, S. SAUERHOEFER, B. JANSSEN, F.J. VAN DER WOUDE, AND B.A. YARD	2410
ORGANIZATION SECTION	
SI UNITS TABLE	
ONLINE LETTERS TO THE EDITOR	
http://diabetes.diabetesjournals.org	
Comment on: Hosagai et al. (2007) adipose tissue hypoxia in obesity and its impact on adipocytokine dysregulation: <i>Diabetes</i> 56:901–911 P. TRAYHURN, B. WANG, AND I.S. WOOD	e14
Comment on: Harmancey et al. (2007) adrenomedullin inhibits adipogenesis under transcriptional control of insulin: <i>Diabetes</i> 56:553–563 K. TAKAHASHI	e15
Comment on: Marchand and Polychronakos (2007) evaluation of polymorphic splicing in the mechanism of the association of the insulin gene with diabetes: <i>Diabetes</i> 56:709–713 S. RODRIGUEZ, T.R. GAUNT, I. VORECHOVSKÝ, J. KRALOVIČOVÁ, P.J. WOOD, AND I.N.M. DAY	e16
Response to comment on: Marchand and Polychronakos (2007) evaluation of polymorphic splicing in the mechanism of the association of the insulin gene with diabetes: <i>Diabetes</i> 56:709–713 L. MARCHAND AND C. POLYCHRONAKOS	e17