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ERRATA

- 3142** Erratum. Deletion of ATF4 in AgRP Neurons Promotes Fat Loss Mainly via Increasing Energy Expenditure. *Diabetes* 2017;66:640–650
J. Deng, F. Yuan, Y. Guo, Y. Xiao, Y. Niu, Y. Deng, X. Han, Y. Guan, S. Chen, and F. Guo
- 3142** Erratum. Pathophysiological Mechanism of Bone Loss in Type 2 Diabetes Involves Inverse Regulation of Osteoblast Function by PGC-1 α and Skeletal Muscle Atrogenes: AdipoR1 as a Potential Target for Reversing Diabetes-Induced Osteopenia. *Diabetes* 2015;64:2609–2623
M.P. Khan, A.K. Singh, A.A. Joharapurkar, M. Yadav, S. Shree, H. Kumar, A. Gurjar, J.S. Mishra, M.C. Tiwari, G.K. Nagar, S. Kumar, R. Ramachandran, A. Sharan, M.R. Jain, A.K. Trivedi, R. Maurya, M.M. Godbole, J.R. Gayen, S. Sanyal, and N. Chattopadhyay
- 3143** Erratum. Mediobasal Hypothalamic SIRT1 Is Essential for Resveratrol's Effects on Insulin Action in Rats. *Diabetes* 2011;60:2691–2700
C.M. Knight, R. Gutierrez-Juarez, T.K.T. Lam, I. Arrieta-Cruz, L. Huang, G. Schwartz, N. Barzilai, and L. Rossetti
- 3144** Erratum. Direct Substrate Delivery Into Mitochondrial Fission-Deficient Pancreatic Islets Rescues Insulin Secretion. *Diabetes* 2017;66:1247–1257
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- 3144** Erratum. DDB1-Mediated CRY1 Degradation Promotes FOXO1-Driven Gluconeogenesis in Liver. *Diabetes* 2017;66:2571–2582
X. Tong, D. Zhang, N. Charney, E. Jin, K. VanDommel, K. Stamper, N. Gupta, J. Saldate, and L. Yin
- 3145** Erratum. Genetic Disruption of Adenosine Kinase in Mouse Pancreatic β -Cells Protects Against High-Fat Diet-Induced Glucose Intolerance. *Diabetes* 2017;66:1928–1938
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ISSUES AND EVENTS

- 3146** Issues and Events

On the cover: Visualization of diabetogenic T cells undergoing tolerance induction in the spleen. Shown in this image are diabetogenic NOD.BDC2.5 TCR transgenic T cells, labeled in red, that have been transferred to a NOD.CD11c-YFP mouse. This recipient mouse has dendritic cells that express the yellow fluorescent protein under the control of the CD11c-specific promoter. Polyclonal NOD CD4⁺ T cells were labeled blue with cell trace violet. A time-lapse series was imaged for this region to determine the dynamic motility in vivo of activated diabetes inducing NOD.BDC2.5 CD4⁺ T cells (red) in a spleen interacting with yellow CD11c dendritic cells 18 h after transfer and blue polyclonal T cells. Image courtesy of Jason Mitchell, Justin A. Spanier, and Brian T. Fife from the University of Minnesota Department of Medicine, Center for Immunology, Minneapolis, MN. The article “Increased Effector Memory Insulin-Specific CD4⁺ T Cells Correlate With Insulin Autoantibodies in Patients With Recent-Onset Type 1 Diabetes,” appears in this issue of *Diabetes* (p. 3051).