

3rd International Conference and Exhibition on **Obesity & Weight Management**

December 01-03, 2014 DoubleTree by Hilton Hotel San Francisco Airport, USA



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Energy expenditure and obesity - Unexpected outcomes

Beige or brite fat is a relatively recently recognized third kind of adipose tissue. Similar to brown fat, it expresses uncoupling protein 1 (UCP1) and when activated utilizes energy for the production of heat. Fully activated beige or brown fat can consume an impressive load of nutrients, having a substantial positive impact on whole-body glucose and lipid metabolism and weight despite relatively small quantities being present compared to whole-body mass. It is now well described that sympathetic drive, in particular β -agonists, as well as cold-stimulus increase activation of brown and beige fat. However, understanding of the pathways which increase or drive differentiation to beige fat to increase mass of beige fat is less complete. In this talk I will address the role of hormones and nutrients on beige fat, and discuss their potential roles as obesity therapies.

Biography

Jenny E Gunton received her PhD from the University of Sydney in 2003 for work in the area of metformin action. She completed her post-doctoral fellowship in Ron Kahn's lab at the Joslin Diabetes Center and Harvard Medical School in 2005. She returned to Australia to the Garvan Institute and set up the Diabetes and Transcription Factors lab. In 2012 she became the President of the Australian Diabetes Society and this year has become Chair of Medicine at Sydney University, Westmead Hospital. Her lab will be moving to the new Westmead Millennium Institute in late 2014. Her research interests include diabetes, obesity, and vitamin D. She is particularly interested in the intersection of transcription factors and their regulation by nutrients.

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