

Weekly Email Newsletter

Sign up for a look at next week's stories and experts, sent every Friday afternoon. See sample message.

USC study finds fat mass and obesity associated genes increased

June 9, 2008

San Francisco, Calif., June 8, 2008—A study from the University of Southern California (USC) suggests people of Mexican-American descent who have genetic variants of fat gene FTO and Arachidonate 5-Lipoxygenase (5-LO) had higher triglyceride and lower HDL levels. The findings were presented as an oral presentation on Sunday, June 8, at the American Diabetes Association 68th Scientific Sessions held in San Francisco.

“Our results confirm the association between FTO and fat mass and indicate that the 5-LO promoter modifies the association between FTO and lipid levels,” says Mary Helen Black, candidate for PhD in Statistical Genetics and Genetic Epidemiology, at the Keck School of Medicine of USC and lead author of the study. “The genetic interaction between 5-LO and FTO was significantly associated with an inverse relationship between triglycerides and HDL levels.”

The study examined 1286 participants from 165 Mexican American family members of a proband with a history of gestational diabetes and 107 control trios from the BetaGene study. Results suggest subjects who have the FTO rs9939609 A allele and at least one 5-LO short repeat allele had a 26 percent higher triglyceride count and 8 percent lower HDL cholesterol levels compared to participants with the FTO TT genotype. In contrast, among participants with two 5-LO long repeat alleles, those with an FTO A allele showed very little change in triglycerides or HDL compared to those with the FTO TT genotype.

“Understanding the interaction between these genes may help us understand the mechanism by which FTO affects adiposity. Because obesity and dyslipidemia are often precursors to diabetes, these gene interactions may play a vital role in future drug target development, which is another step toward advancing personalized medicine,” Black says.

###

Mary Helen Black, Jaana Hartiala, Anny H. Xiang, Enrique Trigo, Jean M. Lawrence, Thomas A. Buchanan, Richard M. Watanabe, Hooman Allayee. “Arachidonate 5-Lipoxygenase (5-LO) Modifies the Association Between Fat Mass- and Obesity-Associated Gene (FTO) and Lipids in Mexican Americans (MA),” Abstract # 206-OR.

RELATED TOPICS

- [Diabetes](#)
- [Fat Gene](#)
- [Mary Helen Black](#)
- [Obesity](#)

RELATED STORIES

- [USC Physician Anne L. Peters Receives American Diabetes Association's Distinguished Clinician Award](#)
- [USC Researchers Identify Gene That Regulates Glucose Levels And Increases Risk For Diabetes](#)
- [USC Researcher Shows Obesity Linked To Stroke Increases Among Middle-Aged Women](#)
- [Researchers At Childrens Hospital Los Angeles Discover Possible Connection Between Changes In Brain Wiring And Predisposition To Obesity](#)
- [ER Episode Impacts Viewers: Health Knowledge And Behavior](#)

Multimedia
Publications
Schools
Patient Care
Research Areas
Centers & Institutes
Meet the Media Team



Jon R. Weiner
Executive Director,
Health Sciences Public Relations
323-442-2830
jon.weiner@usc.edu



Jennifer Chan
Media Relations Representative
323-442-3941
chanj@usc.edu



Meghan Lewit
Media Relations Representative
323-442-3576
lewit@usc.edu



Jane Brust
Associate Vice President
for Health Sciences Public Relations
& Marketing
323-442-2830
jane.brust@usc.edu