

Protein study helps shape understanding of body forms

March 9 2011

Scientists have shed light on why some people are apple-shaped and others are pear-shaped.

Researchers at the University of Edinburgh have pinpointed a [protein](#) that plays a part in how fat is stored in the body.

The latest findings give greater understanding of how the protein works, which could help development of medicines to treat obesity.

Levels of the protein – known as 11BetaHSD1 – tend to be higher in the presence of an unhealthy type of body fat which tends to be stored around the torso – typical of "apple-shapes".

Healthier fat, linked to lower levels of the protein, tends to be stored around the hips and is used more safely by the body as a source of energy - typical of people who are "pear-shaped".

The study found that mice with the protein in their bodies were more likely to have unhealthy fat tissue after four weeks on a high fat diet, compared with mice without the protein.

Scientists are already looking at ways to make medicines that inhibit this protein, which is known to raise levels of hormones linked to obesity.

The research, published in the journal *Diabetes* was funded by the Wellcome Trust and British Heart Foundation.

Dr Nik Morton, of the University of Edinburgh's Centre for Cardiovascular Science, said: "This study opens up new avenues for research, and gives us a much better idea of why some fat in the body becomes unhealthy while other fat is safely stored for energy. Inflammation in of the unhealthy fat leads to reactions that can cause harm locally to tissues and affect the whole organism, promoting diabetes. Limiting the presence of this protein could help combat this."

As well as being more likely to be stored around vital organs in the torso, fat with higher levels of 11BetaHSD1 is considered to be unhealthy as it is associated with an over-reaction in the immune system.

Cells normally become inflamed in order to kill off an infection, but as there is no infection in the fat tissue the inflammation instead causes damage to healthy cells.

Provided by University of Edinburgh

Citation: Protein study helps shape understanding of body forms (2011, March 9) retrieved 27 April 2024 from <https://medicalxpress.com/news/2011-03-protein-body.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.