**MAIL ONLIN£**

**Why you're an apple or a pear: Scientists discover protein that determines your body shape**

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Scientists have identified a protein that can make people apple-shaped or pear-shaped.

The protein plays a part in how and where fat is stored in the body - around the hips or on the tummy.

The latest findings from Edinburgh University researchers shed light on how the protein works, which could help development of medicines to treat obesity.

Levels of the protein - known as 11BetaHSD1 - are higher when an unhealthy type of body fat is stored around the torso.

This is typical of overweight people whose 'apple-shaped' bodies put them at greater risk of heart disease.

But lower levels of the protein are found when healthier fat is stored around the hips - typical of 'pear-shaped' people - and used more safely as a source of energy.

Experts know that fat packed around the organs in the abdomen is more dangerous than fat on the hips because it's 'metabolically active', releasing more of the acids that raise heart disease risk, along with factors that increase blood pressure and blood sugar.

The latest study looked at the effect of the protein in mice put on a high fat diet for four weeks.

It found those with the protein in their bodies were more likely to have unhealthy fat tissue 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.

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**Be thankful if it all goes pear-shaped**  
**BYLINE:** Kirsteen Paterson  
  
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**LENGTH:** 209 words

SCIENTISTS have shed new light on why some dieters can't seem to take a bite out of their apple-shaped bodies.

A round middle is one of the problems for those seeking to shed extra pounds.

Researchers at Edinburgh University say the issue may be down to a protein named 11BetaHSD1.

Levels of the substance are higher in appleshaped people who store an unhealthy type of fat around the torso.

Healthier fat, linked to lower levels of the protein, tends to gather around the hips, creating a pear-shape.

Scientists put mice on a high-fat diet and found those with the protein were more likely to have unhealthy fat tissue.

Teams are now probing ways to create medicines to inhibit the protein, which is known to raise levels of hormones linked to obesity.

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

Cells normally become inflamed to kill off an infection.

However, as there is no infection in the fat tissue, the inflammation instead causes damage to healthy cells, potentially leading to diabetes.

Dr Nik Morton said: 'This study gives us a much better idea of why some fat in the body becomes unhealthy while other fat is safely stored for energy.'

The Express

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**It's better to be a 'pear'**  
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SCIENTISTS have found why some people are "apple-shaped" and others "pear-shaped" which could offer a cure for obesity-led diabetes.

Researchers believe apple-shaped people with large tummies have a protein known as 11BetaHSD1 which makes them store fat around vital organs.

The immune system attacks this fat, damaging the heart and pancreas and leading to diabetes.

But those who are "pear-shaped" are healthier because the fat is spread round their hips and thighs instead, say the Edinburgh University team, who are developing a drug to block the protein.

Dr Nik Morton said: "If all goes well, clinical trials could be under way in two to five years."