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We've found the gene that makes you fat, claim scientists studying obesity  
  
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The 'master switch' gene which causes obesity has been identified, scientists have claimed.

The DNA is thought to be what controls other genes found in the body's fat cells.

Researchers said the breakthrough could help treat obesity-related diseases such as heart disease and diabetes.

Scientists have already identified a gene called KLF14 as being linked to type 2 diabetes and cholesterol levels, but until now they didn't know what role it played.

The team of scientists analysed more than 20,000 genes in fat samples taken from under the skin of 800 female, British twins.

A link was found between the KLF14 gene and the levels of distant genes found in fat tissue, showing that KLF14 acts as the controller.

The findings were confirmed in 600 fat samples from a separate group of people from Iceland.

The study, published in the journal Nature Genetics, revealed that fat plays an important role in people's susceptibility to metabolic diseases like obesity, heart disease and diabetes.

Drugs could be developed to target this regulating gene.

Tim Spector of King's College London who led the study said: 'This is the first major study that shows how small changes in one master regulator gene can cause a cascade of other metabolic effects in other genes.'  
  
  
One in ten adults around the world - half a billion people - are obese. The figure has doubled since the 1980s.

In the U.S., obesity-related diseases already account for nearly 10 per cent of the healthcare budget -- an estimated $147 billion a year.

Almost two-thirds - 62 per cent - of British adults are now overweight or obese.

Type 2 diabetes, which is often linked to poor diet and lack of exercise, has reached epidemic proportions.

In their report, researchers explained that other genes found to be controlled by KLF14 are linked to a range of metabolic traits, including body mass index, obesity, cholesterol, insulin and glucose levels.

Mark McCarthy, from Oxford University who was involved in the study, said: 'KLF14 seems to act as a master switch controlling processes that connect changes in the behaviour of subcutaneous fat to disturbances in muscle and liver that contribute to diabetes and other conditions.

'We are working hard to understand these processes and how we can use this information to improve treatment of these conditions.'

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# <http://uk.reuters.com/article/2011/05/16/us-obesity-genes-idUKTRE74E2I920110516>

# REUTERS

# Scientists find "master switch" gene for obesity

**LONDON** | Mon May 16, 2011 6:46am BST

(Reporting by Kate Kelland, editing by Mark Heinrich)

Scientists have found that a gene linked to diabetes and cholesterol is a "master switch" that controls other genes found in fat in the body, and say it should help in the search for treatments for obesity-related diseases.

In a study published in the journal Nature Genetics, the British researchers said that since fat plays an important role in peoples' susceptibility to metabolic diseases like obesity, heart disease and diabetes, the regulating gene could be target for drugs to treat such illnesses.

"This is the first major study that shows how small changes in one master regulator gene can cause a cascade of other metabolic effects in other genes," said Tim Spector of King's College London, who led the study.

More than half a billion people, or one in 10 adults worldwide, are obese and the numbers have doubled since the 1980s as the obesity epidemic has spilled over from wealthy into poorer nations.

In the United States, obesity-related diseases already account for nearly 10 percent of medical spending -- an estimated $147 billion a year.

Type 2 diabetes, which is often linked to poor diet and lack of exercise, is also reaching epidemic levels worldwide as rates of obesity rise.

Scientists have already identified a gene called KLF14 as being linked to type 2 diabetes and cholesterol levels, but until now they did know what role it played.

Spector's team analyzed more than 20,000 genes in fat samples taken from under the skin of 800 British female twin volunteers.

They found a link between the KLF14 gene and the levels of many other distant genes found in fat tissue, showing that KLF14 acts as a master switch to control these genes.

They then confirmed their findings in 600 fat samples from a separate group of people from Iceland.

In a report of their study, the researchers explained that other genes found to be controlled by KLF14 are linked to a range of metabolic traits, including body mass index, obesity, cholesterol, insulin and glucose levels.

"KLF14 seems to act as a master switch controlling processes that connect changes in the behavior of subcutaneous fat to disturbances in muscle and liver that contribute to diabetes and other conditions," said Mark McCarthy from Britain's Oxford University, who also worked on the study.

"We are working hard...to understand these processes and how we can use this information to improve treatment of these conditions."