Staying slim could be in the genes

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Some people carry more weight than others, even with similar diets, because of genes that encourage fat storage.

Researchers at the University have identified a number of genes in fat tissue that may lead us to retain fat unnecessarily in the body.

Scientists compared fat tissue from mice that had been selectively bred for many generations to be increasingly fat or thin, and as a result had acquired weight-related genes.

The researchers then pinpointed genes that prevented the breakdown of fat, which were more prevalent in the fat tissue of the overweight mice compared with the fat tissue of the lean mice.

Mice were then bred from one overweight parent and one lean parent.

Those among the offspring that were born overweight were found to have the same active genes as the fatter parent mice.

This is an indication that hereditary factors play a role in fat storage and can increase the likelihood of putting on weight.

The research also found that the thin offspring had an added protection against weight gain.

When both sets of mice were given fatty foods, the thin offspring appeared able to break down fatty tissue more easily than the heavier

mice, suggesting they had inherited elusive ‘lean genes’.

The research, funded by the Wellcome Trust and published in the journal *PLoS One*, cross-referenced thousands of genes to find which ones may play a role in fat storage.

"While genes controlling appetite are known to be important in determining our fatness, our study shows that genes switched on in the fat tissue itself can play a role in determining why some people tend to hang onto their fat more easily than others," said Dr. Nik Morton, Wellcome Trust Research Career Development Fellow, Center for Cardiovascular Studies.

Provided by University of Edinburgh