Epilepsy gene identified in mice

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Jenna the mouse.

Researchers from the Wellcome Trust Centre for Human Genetics at Oxford University have discovered a gene in mice which is involved in epilepsy and learning disabilities in humans.

The team of scientists, led by Professor Jonathan Flint, noticed that one of the mice they were studying was hyperactive and performed poorly on memory-based tasks. They examined the DNA of the mouse, which was named Jenna, and found that its unusual behaviour was due to changes in a gene called alpha tubulin, which makes one of the protein building-blocks of cells and is present in almost all species, including sweetcorn, lobsters and roses.

Intrigued by Jenna's behaviour, the team decided to compare the particular alpha tubulin gene sequence to that in humans suffering from lissencephaly, a disease in which patients suffer from epilepsy and learning disabilities. They found changes in alpha tubulin in patients with

this disease.

The findings were published in the journal Cell www.cell.com. It is hoped that the discovery will provide further insight into how the brain functions and into diseases such as epilepsy.

Professor Flint said: 'Our work shows the value of the mouse as a model for finding genetic alterations in humans which can lead to serious diseases. This is a good example of how basic research can help in the clinic'.

Source: University of Oxford