'Molecular switch' may halt disease

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A so-called "molecular switch" that can stop Huntington's disease from developing has been discovered.

US researchers found that the mutated huntingtin protein, which causes the hereditary disorder, could be prevented in mice by a chemical modification.

The breakthrough has been described as an "exciting new avenue" in possible treatments for the neurological condition, which affects a person's movement, mood and reasoning.

Up to 8,500 people in the UK are thought to have Huntington's disease. There is no cure for the illness and treatment currently focuses on managing the symptoms.

It is known that a protein mutation is the basis for the disease, but it is not yet clear how that mutation causes the condition.

In the latest study, published in Neuron magazine, researchers from the University of Los Angeles, California, found a part of the mutated protein that can be modified by phosphorylation - a chemical process that alters how proteins function.

In mice they found blocking phosphorylation caused the animals to develop symptoms of the disease. But when the scientists tried to carry out the process themselves, the disease did not develop.

Study leader Dr William Yang said it suggested a new direction of research.

"We were surprised to find that subtle modification of only two amino acids in this very large protein can prevent the onset of disease," he said.

"This finding suggests an exciting new avenue to develop therapeutics for Huntington's disease."