Study reveal brain cells' weakest links

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(Medical Xpress)—People with degenerative neurological conditions could benefit from research that shows why their brain cells stop communicating properly.

Scientists believe that the findings could help to develop treatments that slow the progress of a broad range of brain disorders such as Huntingdon's, Alzheimer's and Parkinson's diseases.

The team at the University, led by Professor Tom Gillingwater, analysed how connection points between brain cells break down during disease and identified six proteins that control the process.

Sending signals

When connection points in the brain, known as synapses, stop working - because of injury or disease - the chain of brain signalling breaks down and cannot be repaired.

The research from The Roslin Institute and Centre for Integrative Physiology at the University will help scientists identify drugs that target these proteins.

This could eventually enable clinicians to slow the progress of these disorders.

"This study has identified key proteins that may control what goes wrong in a range of brain disorders. We now hope to identify drugs that prevent

the breakdown of communication between brain cells and, as a result, halt the progress of these devastating neurodegenerative conditions." said Dr Thomas Wishart, Career Track Fellow, The Roslin Institute at the University.

The study, published in PLoS Genetics, was funded by the Wellcome Trust and Biotechnology and Biological Sciences Research Council.

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