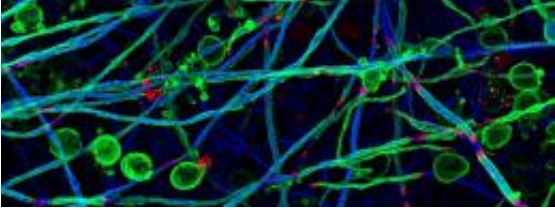


Study reveals new possibility of reversing damage caused by MS

5 December 2010



Nerve fibres in rodents showing remyelination after exposure to RXR agonist in culture. Picture by Dr Andrew Jarjour, University of Edinburgh.

Damage caused by multiple sclerosis could be reversed by activating stem cells that can repair injury in the central nervous system, a study has shown.

Researchers from the Universities of Cambridge and Edinburgh have identified a mechanism essential for regenerating insulating layers - known as myelin sheaths - that protect nerve fibres in the brain. In additional studies in rodents, they showed how this mechanism can be exploited to make the brain's own stem cells better able to regenerate new myelin.

In multiple sclerosis, loss of myelin leads to the nerve fibres in the brain becoming damaged. These nerve fibres are important as they send messages to other parts of the body.

The scientists believe that this research will help in identifying drugs to encourage myelin repair in multiple sclerosis patients.

Professor Robin Franklin, Director of the MS Society's Cambridge Centre for Myelin Repair at the University of Cambridge, said: "Therapies that repair damage are the missing link in treating multiple sclerosis. In this study we have identified a means by which the brain's own [stem cells](#) can be encouraged to undertake this repair, opening up

the possibility of a new regenerative medicine for this devastating disease."

The study, funded by the MS Society in the UK and the National Multiple Sclerosis Society in America, is published in *Nature Neuroscience*.

Professor Charles ffrench-Constant, of the University of Edinburgh's MS Society Centre for Multiple Sclerosis Research, said: "The aim of our research is to slow the progression of multiple sclerosis with the eventual aim of stopping and reversing it. This discovery is very exciting as it could potentially pave the way to find drugs that could help repair damage caused to the important layers that protect nerve cells in the brain."

[Multiple sclerosis](#) affects almost 100,000 people in the UK and several million worldwide. It often targets young adults between the ages of 20 and 40.

More information: The paper 'Retinoid X receptor gamma signaling accelerates CNS remyelination' will be published in the 05 December 2010 edition of *Nature Neuroscience*.

Provided by University of Cambridge

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