

# New research finds the first evidence of a rogue protein in multiple sclerosis

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Demyelination by MS. The CD68 colored tissue shows several macrophages in the area of the lesion. Original scale 1:100. Credit: [CC BY-SA 3.0](https://creativecommons.org/licenses/by-sa/3.0/) Marvin 101/Wikipedia

In a new study published today in the journal *Frontiers in Neurology*, a team of researchers led by the University of Surrey, have identified a rogue protein in multiple sclerosis, which attacks the body's central

nervous system. Researchers believe this finding could pave the way for better understanding of multiple sclerosis and new treatments against neurodegenerative diseases.

Scientists have previously known that rogue proteins cause brain damage in other diseases of the brain such as Alzheimer's, Parkinson's and Creutzfeldt-Jakob disease.

In this study, scientists from the University of Surrey, University of Texas Medical Center and PrioCam Laboratories produced unique molecules, called antibodies, to fight against these rogue proteins. They discovered that these antibodies were able to recognise rogue proteins in Creutzfeldt-Jakob disease, as well as additional molecules associated with other neurodegenerative diseases.

The antibodies were then used to investigate whether rogue proteins existed in the brain tissue and spinal fluid of patients with [multiple sclerosis](#). The scientists concluded that multiple sclerosis may be caused by a protein that permanently adopts a rogue state.

"Multiple sclerosis represents a substantial health burden, affecting the quality of life of many people," said Dr Mourad Tayebi from the University of Surrey.

"Our discovery proposes a new and alternative way to conduct research into multiple sclerosis, by, for the first time, identifying a clear link to other [neurodegenerative diseases](#). The results are important in redefining the molecular and cellular make-up of these diseases, and provides an important milestone in the quest for a laboratory test and an effective cure."

Co-Senior author, Dr Monique David from the PrioCam, said, "Our research indicates that rogue proteins share a common structure and may

share similar pathogenic mechanisms. This study consistently and reproducibly links the presence of abnormally shaped proteins to multiple sclerosis."

**More information:** Detection of Protein Aggregates in Brain and Cerebrospinal Fluid Derived from Multiple Sclerosis Patients, [DOI: 10.3389/fneur.2014.00251](https://doi.org/10.3389/fneur.2014.00251)

Provided by University of Surrey

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