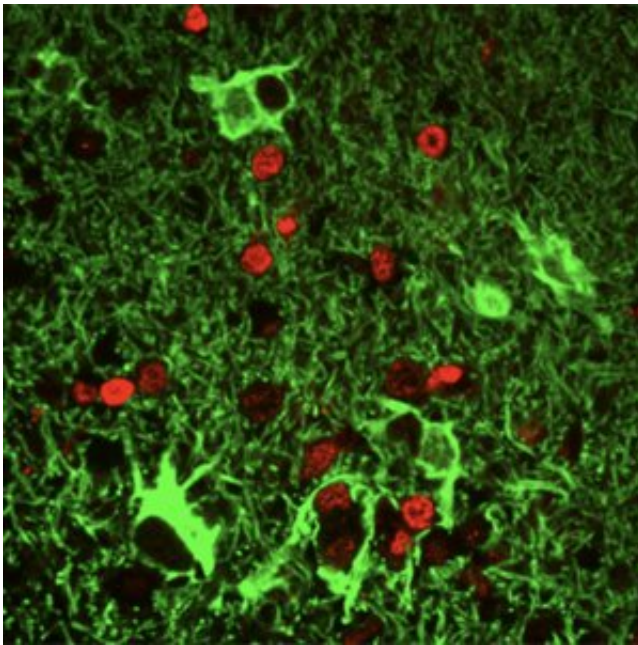


# Gene variant found in brain complicit in MS onset

December 18 2018, by Bill Hathaway

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Brain tissue from a MS patient with the risk variant showing high numbers of immune cells (red) close to astrocytes, a type of brain cells (green). Credit: Yale University

Multiple sclerosis (MS) is an autoimmune disease affecting the function of the central nervous system. Up to now, most of the 230 genetic variants associated with the disease have been linked to changes in immune cells. However, Yale scientists now report that genetic risk variants can also affect the function of brain cells, which then become complicit in triggering the potentially disabling disease.

"The risk variant we studied instructs brain cells to lower the barrier for immune cells to enter the brain, which is an important first step in the disease," said David Pitt, associate professor of neurology and senior author of the study, published Dec. 17 in the journal *Nature Communications*. "This understanding increases the number of possible targets available for treatment moving forward."

Pitt also noted that similar mechanisms might apply to other [autoimmune diseases](#) such as rheumatoid arthritis and Type 1 diabetes.

**More information:** Gerald Ponath et al. Enhanced astrocyte responses are driven by a genetic risk allele associated with multiple sclerosis, *Nature Communications* (2018). [DOI: 10.1038/s41467-018-07785-8](https://doi.org/10.1038/s41467-018-07785-8)

Provided by Yale University

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