

An Alzheimer's Disease Risk Variant of TREM2 Confers Sex-Specific Changes in Adult Hippocampal Neurogenesis

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Public-facing abstract

Alzheimer disease disrupts memory circuits, and the hippocampus depends partly on the brain's ability to keep generating new neurons. This project examines TREM2, an immune-related gene in microglia whose variants raise Alzheimer risk, to see how it changes adult hippocampal neurogenesis. In young adult mice, the R47H risk variant did not broadly alter proliferation or differentiation, but female mice showed increased neural progenitor survival. That sex-specific signal matters because Alzheimer risk is not evenly distributed, and it suggests that microglia, neurogenesis, and sex biology may intersect in ways that future therapies should take seriously.