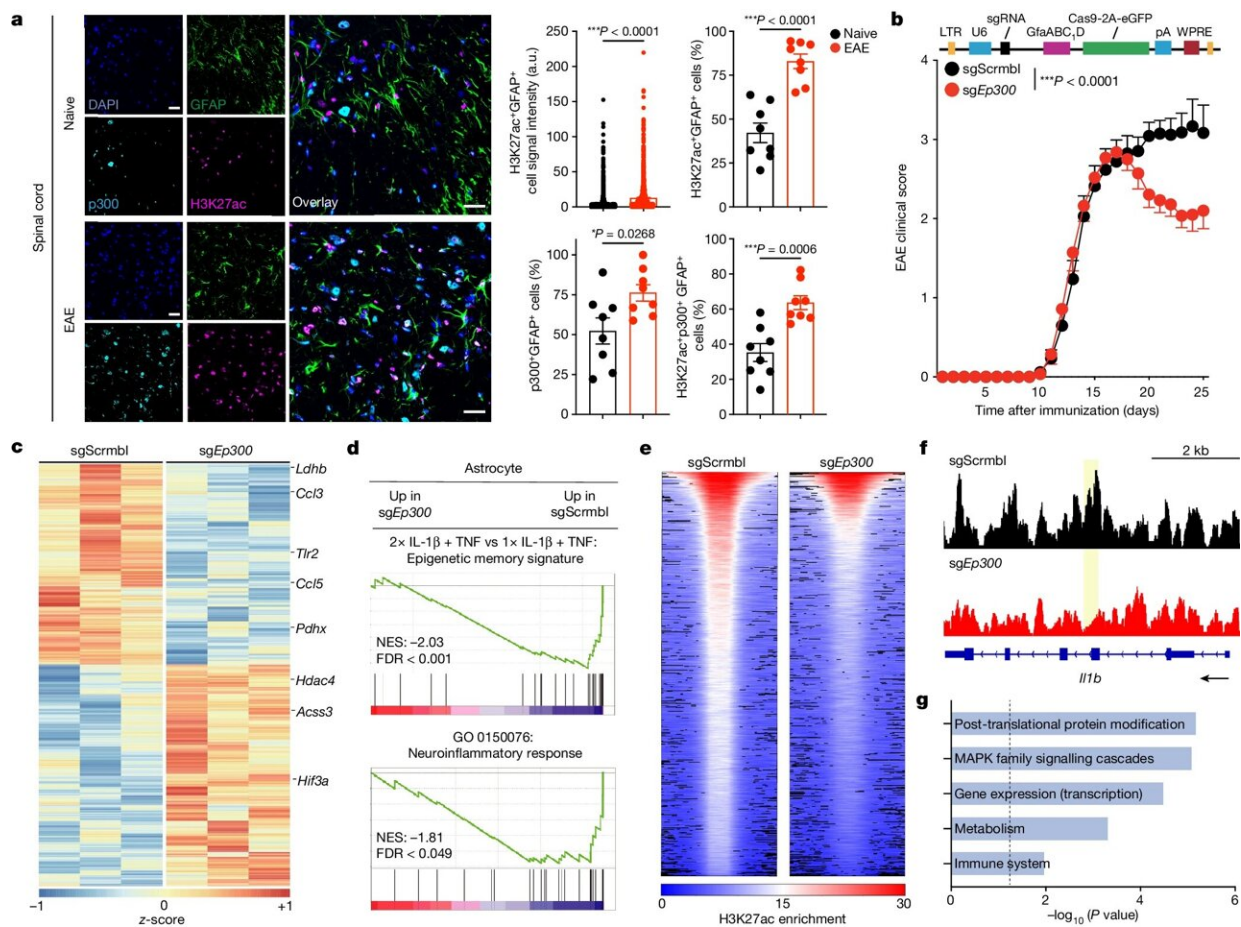


# Study finds non-immune brain cells can acquire immune memory, may drive CNS pathologies like multiple sclerosis

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p300 promotes astrocyte epigenetic memory in EAE. **a**, Immunostaining (left) and quantification (right) of H3K27ac<sup>+</sup> and p300<sup>+</sup> astrocytes in mice with or without EAE ( $n = 8$  spinal cord sections;  $n = 3$  mice per group). Astrocyte H3K27ac levels were calculated as the mean signal intensity (arbitrary units) per

GFAP<sup>+</sup> cell using automated unbiased quantification. Unpaired two-sided *t*-test. Scale bars, 25  $\mu$ m. **b**, EAE curves in mice treated with non-targeting single guide RNA (sgScrambl) ( $n = 17$ ) or single guide RNA (sgRNA) targeting *Ep300* (sg*Ep300*) ( $n = 14$ ) mice. Representative data of three independent experiments. Two-way repeated measures of ANOVA. **c**, Differential gene expression determined by RNA-seq in astrocytes from sgScrambl- and sg*Ep300*-transduced mice 23 days after EAE induction ( $n = 3$  per group). **d**, GSEA comparing sgScrambl- and sg*Ep300*-transduced astrocytes. **e,f**, ChIP-seq analysis of sgScrambl- and sg*Ep300*-transduced astrocytes ( $n = 3$  per group). **e**, Heat map showing dynamic H3K27 acetylation marks. **f**, Genome browser snapshots showing the *Il1b* locus. Regions showing a significant decrease (*P*

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