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Referred to by: [A Malignant Oligarchy: Progenitors Gover...](#)

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#### Highlights

- Progenitor rather than stem cell origin for oligodendroglioma
- Oligodendroglioma display properties of oligodendrocyte progenitor cells
- Distinguishing characteristics between oligodendroglioma and astrocytoma cells

#### Summary

Malignant astrocytic brain tumors are among the most lethal cancers. Quiescent and therapy-resistant neural stem cell (NSC)-like cells in astrocytomas are likely to contribute to poor outcome. Malignant oligodendroglial brain tumors, in contrast, are therapy sensitive. Using magnetic resonance imaging (MRI) and detailed developmental analyses, we demonstrated that murine oligodendroglioma cells show characteristics of oligodendrocyte progenitor cells (OPCs) and are therapy sensitive, and that OPC rather than NSC markers enriched for tumor formation. MRI of human oligodendroglioma also suggested a white matter (WM) origin, with markers for OPCs rather than NSCs similarly enriching for tumor formation. Our results suggest that oligodendroglioma cells show hallmarks of OPCs, and that a progenitor rather than a NSC origin underlies improved prognosis in patients with this tumor.