

Letters to Nature

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Unique astrocyte ribbon in adult human brain contains neural stem cells but lacks chain migration

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The subventricular zone (SVZ) is a principal source of adult neural stem cells in the rodent brain, generating thousands of olfactory bulb neurons every day¹. If the adult human brain contains a comparable germinal region, this could have considerable implications for future neuroregenerative therapy. Stem cells have been isolated from the human brain^{2, 3, 4, 5, 6, 7}, but the identity, organization and function of adult neural stem cells in the human SVZ are unknown. Here we describe a ribbon of SVZ astrocytes lining the lateral ventricles of the adult human brain that proliferate *in vivo* and behave as multipotent progenitor cells *in vitro*. This astrocytic ribbon has not been observed in other vertebrates studied. Unexpectedly, we find no evidence of chains of migrating neuroblasts in the SVZ or in the pathway to the olfactory bulb. Our work identifies SVZ astrocytes as neural stem cells in a niche of unique organization in the adult human brain.

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