



A service of the [U.S. National Library of Medicine](#)
and the [National Institutes of Health](#)

Select **19560736**

1: [Neurotherapeutics](#). 2009 Jul;6(3):458-64.



Novel treatment strategies for malignant gliomas using neural stem cells.

[Oh MC](#), [Lim DA](#).

Department of Neurological Surgery, University of California, San Francisco, San Francisco, California 94143-0112.

Recent studies in stem cell biology have refined our understanding of the origin and progression of cancer. Identification and characterization of endogenous neural stem cells (NSCs), especially those in the adult human brain, have inspired new ideas for selectively targeting and destroying malignant gliomas. Gliomas consist of a heterogeneous population of cells, and some of these cells have characteristics of cancer stem cells. These brain tumor stem cells (BTSCs) share certain characteristics with normal NSCs. It is still unclear, however, whether malignant gliomas in human patients originate from these aberrant BTSCs. Nonetheless, the cellular and molecular similarities between BTSCs and normal NSCs suggest a common research landscape underlying both normal and cancer stem cell biology, wherein findings of one field are relevant to the other. Furthermore, the natural tropism of NSCs to gliomas has generated the idea that modified NSCs can deliver modified genes to selectively destroy malignant brain tumor cells, and even BTSCs, while leaving healthy surrounding neurons intact. These studies and others on the basic biology of both BTSCs and NSCs will be crucial to expanding our treatment strategies for malignant gliomas.

PMID: 19560736 [PubMed - in process]
