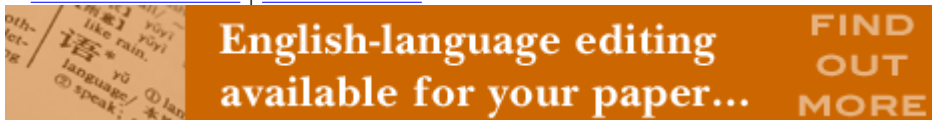


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## COMMENTARY

### "Destemming" Cancer Stem Cells

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Cancer stem cells have been variously defined as cells within a cancer that have the exclusive ability to self-renew and to differentiate into the heterogeneous lineages of cancer cells that comprise the tumor. Interest in cancer stem cells is currently high, arising from recent reports identifying cell surface markers that can be used to sort such cells from primary human tumors. However, use of the term cancer stem cell may be misleading. A better term might be cancer-initiating cells because it remains to be demonstrated that cancer stem cells have the properties that define normal stem cells, including multipotency and the ability to undergo asymmetric and symmetric divisions. Many properties of cancer stem cells remain unclear, particularly the stability of their phenotype. These uncertainties must be considered in the development and testing of compounds targeted against putative cancer stem cells. Tumors apparently contain very few cancer stem cells, so that when tests of compounds targeted to such cells are designed, short-term response trials may not be informative and long-term

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trials must be planned, particularly if the drugs could also kill normal stem cells.

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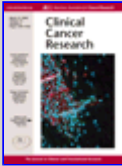
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