

## **Cancer Stem Cells**

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Cancer stem cells (CSC) are recently proposed to be the cancer initiating cells responsible for tumorigenesis and contribute to cancer resistance. Advances have been made in identifying and enriching CSC in leukemia and several solid tumors, including breast, brain and lung cancers. These studies suggest that, like normal stem cells, CSCs should be rare, quiescent, and capable of self-renewing and maintaining tumor growth and heterogeneity. Although the concept of CSC originates from that of normal stem cells, CSCs are not necessarily aberrant counterparts of normal stem cells. In fact, they may arise from stem cells or committed progenitors of corresponding tissues, and even cells from other tissues. At the molecular level, the alteration of stem cell self-renewal pathway(s) has been recognized as an essential step for CSC transformation. Better understanding of CSC will no doubt lead to a new era of both basic and clinical cancer research, re-classification of human tumors and development of novel therapeutic strategies specifically targeting CSC.