


# Cancer Research



**March 16-19, 2008**  
**Advances in Cancer Research**  
 From the Laboratory to the Clinic  
 King Hussein Bin Talal Convention Center  
 Dead Sea, Jordan



**The Role of Cancer Stem Cells in the Initiation and Propagation of Tumorigenesis**  
 Feb. 12-15, 2008 • Los Angeles, CA

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## Reviews

## Cancer Stem Cells in Radiation Resistance

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Highly tumorigenic subpopulations of several solid cancers share characteristics with somatic stem cells. We showed recently that cancer stem cells, or tumor-initiating cells, derived from human glioblastoma surgical specimens and xenografts display resistance to radiation due to increased activation of the DNA damage checkpoint. We additionally showed that these same tumor subpopulations promote tumor angiogenesis through increased expression of vascular endothelial growth factor. These studies and subsequent reports from other researchers support critical roles for cancer stem cells in determining tumor response to therapy. Hypoxia and stem cell maintenance pathways may provide therapeutic targets to sensitize cancer stem cells to cytotoxic therapies to improve cancer patient treatments. [Cancer Res 2007;67(19):8980-4]

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