



Stem Cells International

Special Issue on

Cancer Stem Cells and Cancer-Associated Stem Cells

CALL FOR PAPERS

The microenvironment is a recently recognized key determinant in carcinogenesis, immune evasion, drug resistance, and other steps of metastasis. Over the past decade, the concept of adult stem cell contribution to cancer development and progression has received significant attention. Tumor-associated stem cells are being investigated as key players in microenvironment-driven cancer progression, therapeutic target cells, and novel anticancer peptide delivery tools. Moreover, the concept of the cancer stem cell (CSC) or tumor-initiating cell is becoming increasingly accepted in certain types of cancer, such as breast cancer, while the putative CSC remains controversial and elusive in other types of cancer, such as multiple myeloma. Moreover, CSCs, when present and identifiable, are crucial cells in understanding resistance, dormancy, and tumor recurrence and hold great potential as effective therapeutic targets.

In disease models, noncancerous stem cells, such as mesenchymal stem cells (MSCs), can be differentiated into tissue engineered organs that can be used to model cancer growth in different microenvironments. These disease models can then be used to study cancer biology and cancer cell response to drugs, inflammation, hypoxia, cytokines, or specific cellular components. Stem cells, such as HSCs (hematopoietic stem cells), may also play diverse roles in tumorigenesis. Hence, the development of more physiologically relevant *in vitro* models to study the roles of stem cells in cancer is a critical area of investigation. Moreover, the field investigating stem cell homing to tumors is evolving as models and technologies improve. In translational research, greater understanding of the roles of MSCs in oncogenesis is necessary before clinical translation of “therapeutic MSCs,” MSCs engineered to express antitumor peptides, can proceed. The unique properties and underlying mechanisms of stem cells in disease hence deserve further investigation.

We invite overview and original papers describing the roles of stem cells in cancer in *in vitro*, *in vivo*, or clinical studies from researchers across the globe. Moreover, we encourage submissions investigating cancer stem cells or related to current and expected challenges and benefits in translating stem cells from bench to bedside and novel solutions to the use of stem cells in cancer. In sum, all insightful manuscripts, both experimental and theoretical, regarding cancer stem cells or noncancerous stem cells as they relate to cancer, are welcomed.

Potential topics include, but are not limited to:

- ▶ Characterization of disease-associated stem cells and the roles of stem cells in oncogenesis, disease progression, resistance, metastasis, angiogenesis, recurrence, dormancy, and so forth
- ▶ In vitro and in vivo model development, characterization, and utilization in investigating the roles of stem cells in cancer, or CSCs
- ▶ Applications of stem cells to treat diseases such as cancer or stem-cell delivered therapies
- ▶ Cancer stem cell/tumor initiating cell characterizing, tracking, targeting, or modeling
- ▶ Mutations in stem/progenitor cells leading to cancer; stem cell niche-driven oncogenesis
- ▶ Tissue-specific stem cells (adipose stem cells, bone marrow stem cells, umbilical blood stem cells, MSCs, HSCs, etc.) as they relate to cancer

Authors can submit their manuscripts via the Manuscript Tracking System at <http://mts.hindawi.com/submit/journals/sci/csc/>.

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