Stem Cells International

Hindawi

Special Issue on

Cancer Stem Cell: A Pivotal Role in Tumor

CALL FOR PAPERS

Despite the advances in cancer treatment, many still fail therapy, resulting in disease progression, recurrence, and decreased patient survival rate. Evidences have shown that tumor tissues comprise heterogeneous cancer cells including the cancer stem cells (CSCs). CSCs are similar to normal stem cells in having the ability to self-renew and differentiate but are different in bearing the deregulated mechanisms. Comparing to regular tumor cells, the aberrant regulation of gene expression and a few signaling pathways have been observed in CSCs. This aberrant regulation contributes to the continuous expansion and the production of differentiated progeny from CSCs. In addition, CSCs can give rise to many cell types that constitute the tumor and are reported to have a pivotal role in cancer initiation, progression, metastasis, recurrence, and drug resistance.

Current cancer therapy targeting CSCs has severe limitations that frequently lead to treatment failure. Specifically, many strategies that are not sufficiently selective against CSCs can be toxic to healthy tissues. Furthermore, the non-throughout elimination of CSCs usually puts the patient in high risk of tumor recurrence and metastasis. However, current knowledge of CSCs is not well-established in that the CSC model still lacks definitive surface markers.

Understanding the biology and the cellular chemistry of CSCs is necessary for developing effective therapies to treat cancer. The development of strategies that exploit the unique characteristics of CSCs requires not only further study but also multidisciplinary cooperation. Therefore, this series will cover all recent advances in cancer stem cell research. We invite investigators in all fields to contribute high quality original articles as well as review articles.

Potential topics include but are not limited to the following:

- Strategies for studying cancer stem cells
- CSC niche: the cellular and molecular mechanisms
- Reprogramming through genetic and epigenetic alterations
- Signaling pathways altered in CSC
- Nano- and microengineered biomimicry for CSC microenvironment
- Drug resistance and therapeutic approaches for CSC

Authors can submit their manuscripts through the Manuscript Tracking System at https://mts.hindawi.com/submit/journals/sci/prtu/.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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