



Stem Cells International

Special Issue on

Cells of Origin and Cancer Stem Cells in Solid Tumors

CALL FOR PAPERS

There is considerable evidence that most types of tumors are hierarchically organized and sustained by a subpopulation of self-renewing cells that can generate the full repertoire of tumor cells. These cancer stem cells (CSCs) that display tumor reinitiating properties have been identified in several types of sarcomas (bone, muscle, fat, cartilage, etc.) and carcinomas (colon, breast, prostate, skin, lung, pancreas, etc.). Since CSCs subpopulations are responsible for tumor relapses and metastasis and are resistant to standard chemotherapy and radiotherapy treatments, there is a need for the development of new therapeutic strategies able to efficiently target CSCs in order to improve the limited clinical response of high-grade tumors to current treatments. These subpopulations emerge during tumor evolution from the cell-of-origin, which are the normal cells that acquire the first cancer-promoting mutations and initiate tumor formation. The cell-of-origin for a particular tumor could be an early precursor cell or a more committed cell type that undergoes genetic/epigenetic reprogramming. The development of tumor models derived from the cell-of-origin constitutes unparalleled systems to improve our understanding of the mechanisms governing the initial steps of tumorigenesis, leading to the testing of specific therapies able to target CSCs subpopulations derived from them.

We invite investigators to submit original research articles as well as review articles that will contribute to the identification and characterization of CSCs subpopulations in solid tumors (sarcomas and carcinomas), as well as developing and testing new therapeutic strategies able to eliminate these drug-resistant subpopulations, both using relevant tumor models or patient samples.

Potential topics include, but are not limited to:

- ▶ Development and characterization of cell-of-origin and/or patient-derived models of solid tumors
- ▶ Optimized methodologies for isolation, expansion, characterization, and *in vivo* tracing of CSC subpopulations
- ▶ Analysis of altered signaling in CSC subpopulations, including genomic, proteomic, and metabolomic approaches
- ▶ Characterization of molecular mechanisms involved in angiogenesis, invasion, metastasis, and drug resistance
- ▶ Characterization of CSC niche in solid tumors
- ▶ Development and preclinical testing of new therapeutic approaches directed against the cell-of-origin and/or CSC subpopulations
- ▶ Clinical trials reporting the effect of treatments in CSCs subpopulations

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

Lead Guest Editor

Rene Rodríguez, Hospital Universitario Central de Asturias, Oviedo, Spain
renerg@ficyt.es

Guest Editors

Javier Garcia-Castro, Instituto de Salud Carlos III, Madrid, Spain
jgcastro@isciii.es

Nicola Baldini, University of Bologna and Istituto Ortopedico Rizzoli, Bologna, Italy
nicola.baldini@ior.it

Ander Abarrategi, Francis Crick Institute, London, UK
ander.abarrategi@crick.ac.uk

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First Round of Reviews

Friday, 10 June 2016

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