



Special Issue on **Dedifferentiation, Transdifferentiation, and Reprogramming on Regeneration, Malignancy, and Stress in Endoderm Derived Guts, in Particular, Liver**

CALL FOR PAPERS

Dedifferentiation is a conversion process in which somatic cells with specialized function turn into undifferentiated progenitor/stem cells, and dedifferentiation provides the basis for tissue regeneration or tumorigenesis/carcinogenesis and the formation of new normal or malignant stem cells.

Reprogramming is the reversal of the somatic cells to typically undifferentiated embryonic-like state known as induced pluripotent state. Reprogramming-induced stem cells hold the same potential in tissue regeneration as embryonic stem cells do. The reprogramming of the somatic cells using Yamanaka factors, many of which are associated with tumorigenicity, provides new insight into how malignant stem cells may originate.

Stress is a response to a stressor from an environmental condition or a stimulus and is a threat to homeostasis and influence on the function of the tissue or cells. Severe stress with a prolonged period can induce alteration in the stress response (plasticity), and thus stressful conditions lead to cell fate changes. It has been shown that dedifferentiation and reprogramming are involved in this stress-induced cell plasticity.

Regeneration plays an important role in maintaining homeostasis and tissue repair in gastrointestinal (GI) tract such as daily fresh villus of the intestine and colon and liver regeneration and repair; carcinogenesis in GI tract is worldwide the leading cancer occurrences, especially liver cancers which led to 8.2 million deaths in the world in 2012 from WHO report; and stress leads to various GI disorders. Thus, we invite investigators to contribute peer reviewed original research articles as well as review articles that will help in understanding the roles of dedifferentiation and reprogramming in tissue regeneration, malignancy, and stress in endoderm derived guts, in particular, liver.

Potential topics include, but are not limited to:

- ▶ Transdifferentiation of somatic cells between different germ layer or/and different tissue stem cells
- ▶ Reprogramming of somatic cells into tissue stem cells, progenitors, or patient/disease-specific iPS cells for personalized medicine study
- ▶ Stem cell identification and differentiation or/and direct reprogramming or conversion to tissue specific (stem) cells
- ▶ Mechanism on cancer stem cells, including reprogramming, dedifferentiation, epithelial-mesenchymal transition (EMT), and epigenetic changes
- ▶ Cancer and the concerned reprogramming factors
- ▶ Stress, epigenetic changes, and cancers as well as concerned transcription factors
- ▶ Treatment on GI cancer stem cells, hypoxia, and chemotherapy

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

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Manuscript Due

Friday, 27 November 2015

First Round of Reviews

Friday, 19 February 2016

Publication Date

Friday, 15 April 2016