Title: Genetic or Epigenetic Alterations to Confer Stemness in Tumor Microenvironment

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(Guest Editor)

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Proposal

Cancer is a highly heterogeneous disease driven by its complex pathogenesis, which involves diverse genetic or epigenetic dysregulations in numerous functional pathways. Over the past few decades, there have been substantial advances in developing molecular targeted therapy for cancer by elucidating diverse molecular alterations.

Targeting tumor microenvironment is the next issue. The tumor microenvironment is created by the tumor and dominated by various tumor-induced interactions, such as inhibition of immune cell functions, apoptosis of anti-tumor effector cells and expansion of cancer stem cells (CSCs), which are accomplished through the activation of one or several molecular mechanisms. It is well known that a CSC subset is responsible for tumor initiation, migration, recurrence, chemo-resistance, and radio-resistance; therefore, targeting the small proportion of CSCs in the tumor microenvironment is essential for the prevention of relapse. Thus identification and characterization of signaling pathways and biomarkers functionally associated with stemness are priorities for developing new paradigms of molecular cancer therapeutics. This special issue welcomes the submission of original research, short communication or review manuscripts which describes about (1) novel defnition of target genes and/or functional pathways, (2) elucidation of cellular and molecular explanations how they confer stemness in tumor microenvironment, and (3) emerging therapeutic strategies to eliminate stemness.

Keywords: genetic regulation, epigentic regulation, altered expression, stemness, cancer stem cells, macrophages, immune cells, tumor microenvironmnet, molecular target, targeted therapy, small molecule inhibitors, antibodies, peptides