Bone Marrow Research

Special Issue on
Development of Expansion and Gene Editing Technologies in Hematopoietic Stem Cells

CALL FOR PAPERS

It has been one of the challenges of stem cell field to expand hematopoietic stem and progenitor cells (HSPC) *ex vivo* because of many underlying reasons. These include loss of self-renewal of HSCs with increased differentiation during the course of expansion, limited understanding of regulators of HSPC activity, and failure to mimic *in vivo* HSPC microenvironment components in *ex vivo* expansion procedures. Various studies addressed defining *ex vivo* culture conditions to expand functional HSPCs. These studies highlight considerate use of growth factors and cytokines and targeting of cellular quiescence, cell cycle inhibitors, and inhibitory factors during *ex vivo* HSC expansion. In addition, studies aiming to expand gene edited and single cell selected HSPCs require development of HSPC expansion technologies.

We invite investigators to contribute review and original research articles related to identification of molecular mechanism of HSPCs expansion and development of HSPC expansion and gene editing technologies in HSPCs.

Potential topics include, but are not limited to:

- *Ex vivo* expansion of HSPCs for cell therapy and gene therapy
- Small molecule induced HSPC expansion
- Single cell selection and expansion of HSPCs following gene editing of hereditary blood disorders
- *In vivo* HSPC expansion and mobilization
- Identification of hematopoietic factors involved in expansion of HSPC pool
- Development of HSPC transfusion products and their potential use in medicine
- Development of erythroid transfusion products
- *Ex vivo* umbilical cord blood HSPC culture and expansion
- Noncoding RNA, miRNA, and antagomir induced HSPC expansion
- Epigenic modifications and mechanisms involved in HSC expansion
- Prospect use of CRISPR-CAS9 gene editing technologies in HSPC expansion strategies
- Hematopoietic cell expansion strategies for immunotherapy
- HSPC expansion from pluripotent stem cells

Authors can submit their manuscripts via the Manuscript Tracking System at http://mts.hindawi.com/submit/journals/bmr/dege/.

Lead Guest Editor
Fatih Kocabas, Yeditepe University, Istanbul, Turkey
fatih.kocabas@yeditepe.edu.tr

Guest Editors
Cheng C. Zhang, UT Southwestern Medical Center, Dallas, USA
alec.zhang@utsouthwestern.edu

Jun K. Zheng, Shanghai Jiao Tong University, Shanghai, China
zhengjunke@sjtu.edu.cn

Manuscript Due
Friday, 25 November 2016

First Round of Reviews
Friday, 17 February 2017

Publication Date
Friday, 14 April 2017