Stem Cell Rev and Rep (2017) 13:5
DOI 10.1007/s12015-017-9726-4

Stem Cell Reviews and Reports: Cell Trafficking, Stem Cell Mobilization and Homing, and Hematopoiesis Section

Louis M. Pelus [1]

Published online: 16 February 2017

Hematopoietic Stem Cell (HSC) therapies offer curative treatments for malignant and non-malignant hematological diseases and inherited blood disorders and other diseases. HSC transplantation has been used for more than a half century, but there are many limitations and areas for improvement, particularly in the areas of cell mobilization, homing and engraftment. Exciting developments in genetic therapy and gene editing using HSC offer the potential for curative therapies, but also rely on mobilizing the best populations of HSC and there is need to enhance homing and engraftment of transduced or edited cells.

The new section on cell trafficking, stem cell mobilization and homing, and hematopoiesis will focus on the hematopoietic biology at the root of cell trafficking that can be taken advantage of for both directed movement of HSC to the peripheral blood where they can be collected for therapies and for efficient and improved delivery of HSC back to their bone marrow niches. This section seeks to publish rigorous primary studies on mechanistic biology on trafficking responses of HSC populations including effects on HSC, the hematopoietic niche and their interactions, and interventions both physiological and induced by stresses including radiation, age, sex, and pharmacologic agents. In addition, we invite reviews on state of the art and current advances in HSC and hematopoietic niche biology to further the development of HSC based cellular therapies for the treatment of human diseases.

In summary, the primary goal of the section on Cell trafficking, Stem cell mobilization and homing, and Hematopoiesis is to publish primary rigorous scientific studies on intrinsic and extrinsic mechanisms that impact hematopoiesis, particularly in the context of how this biology affects HSC function and can be potentially leveraged to enhance HSC cellular therapies, and a forum for exchange of ideas on HSC based cellular therapy.

We look forward to receiving your high-quality contributions and are also interested in your opinions and feedback on the newly-reorganized structure of – and future changes to – our journal.

✉ Louis M. Pelus
lpelus@iupui.edu

[1] Indiana University School of Medicine, Indianapolis, IN, USA