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Hematopoietic Stem Cell Molecular Targets and Factors Essential for Hematopoiesis

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Abstract

Hematopoietic Stem Cells (HSCs) gained popularity in the area of medicine because of its remarkable potential to Cure an enormous range of human diseases. These stem cells are used for therapeutic purposes for it regenerative capacity and possessed hematopoiesis. This process reflects characteristic properties, proliferation, and differentiation these behaviors are a result of protein-mediated molecule interactions. However, these molecular interactions underlying is yet to be explored.

Thus, the present review focuses on the molecular basis of hematopoiesis where in, Significant molecular interactions which regulate differentiation and proliferation have been discussed. Primarily, we have addressed the role of cytokines, transcription factors, proliferation, and pathways involved in hematopoiesis. Also, relationship with multiple cytokines, small molecules, nutrients, cell-cell contacts and the extracellular matrix which impel a cascade of signals that controls stem cell behavior and fate has been summarized in this review A large Number of datasets of hematopoiesis is publicly available to researchers around the world. This review also provides Databases on hematopoiesis which will be very beneficial in facilitating common analysis, basic research and clinical Diagnosis for the treatment of blood-related disorders.

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