Special Issue

The Role of the Bone Marrow Microenvironment in Normal Hematopoiesis and Leukemia Development

Message from the Guest Editors

The bone marrow microenvironment (BMM) is considered the main sanctuary of hematopoietic stem and progenitor cells (HSPCs). The BMM is composed of many different cell types, including stromal cells, endothelial cells, and neuronal cells, and regulates the generation of blood through direct contact or the secretion of different signaling molecules. Any alterations in the BMM due to aging, infection, or malignant transformation alter HSPC potential and consequently hematopoiesis. Due to their uncanny resemblance to HSPCs, leukemia cells reside in the same microenvironment. Not only do some physiological conditions, such as the aging of the BMM, favor leukemia development, but the leukemic cells in turn modulate the BMM in a way that supports their progression. Understanding the interplay between normal and malignant cells in the bone marrow microenvironment can hopefully provide insight into new therapeutic targets in different malignancies of the blood. This Special Issue aims to shed light on the role of this complex environment and how it works under normal and malignant conditions.

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