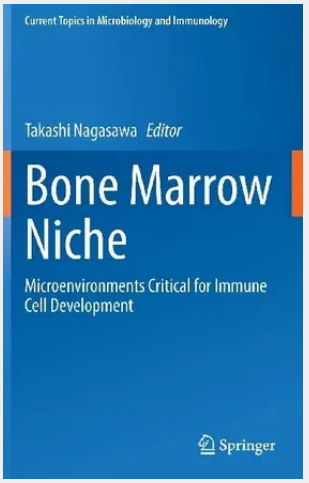
Nagasawa

Bone Marrow Niche

Microenvironments Critical for Immune Cell Development



This volume summarizes recent advances in research on mesenchymal cell populations in the bone marrow. It explores how mesenchymal cells create niches for immune cells in extramedullary organs and it discusses new concepts of lympho-hematopoietic microenvironments. Readers are introduced to the fundamentals of hematopoietic stem cells (HSCs) differentiation to all types of blood cells, including immune cells, in the bone marrow. The book highlights how this process is supported and regulated by the individual microenvironments of stem cells, termed niches.

The identity of HSC niches has been subject to longstanding debates. Recent studies identified the population of mesenchymal stem cells as the major cellular component of niches, for hematopoietic stem and progenitor cells (HSPCs) and their candidate developmental origin. Furthermore, candidate cellular niches for immune cells in lymph nodes and adipose and connective tissues were identified. The authors of this volumefocus on shared features between those and HSPC niche cells in the bone marrow.

Covering latest research results, this book serves as fascinating read for researchers and clinicians in hematology and immunology.

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