

Toshio Suda

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Toshio Suda studies hematopoietic stem cells (HSCs) and HSC niches. Although stem cells differentiate along with a cell autonomous intrinsic program, this process is influenced by the microenvironment of the stem cells niche. His past work encompasses the purification of HSCs, identification of cytokine signaling in hematopoiesis, and the characterization of HSC niches in bone marrow (BM). He identified the endosteal niche for HSC niche (Cell, 2004), and subsequently established the new field of oxidative stress and stem cell aging (Nature, 2004 and Nature Med, 2006). Dr. Suda has shown that niche cells regulate stem cells through direct adhesion and through the secretion of humoral niche factors such as cytokines, chemokines and extracellular matrix molecules. Together, these niche components and stem cells are thought to form a functioning unit to maintain tissue homeostasis.