## Abstract

Mast cells contribute to the activities of innate and adaptive branches of the immune system. They participate in pro-inflammatory responses to a wide range of pathogens, such as parasites, bacteria, and other foreign agents. These beneficial properties are in contrast to the contribution of mast cells to certain pathologies, such as asthma, allergy, autoimmune disorders, anaphylaxis, and systemic mastocytosis. Thorough knowledge of mast cell biology in health and disease is critical for the development of new therapeutic approaches. However, molecular mechanisms that control mast cell development and function are still incompletely defined. Our preliminary data indicate that the transcription factor C/EBPγ is a key player in mast cell biology. Here, using in vitro and in vivo models, we determine how C/EBPγ regulates the commitment of hematopoietic progenitors towards mast cells, and modulates mast cells function. These efforts provide novel insights to the role of C/EBPγ in hematopoiesis, and contribute to a better understanding of the mechanisms governing mast cell biology.

**Key words**

Mast cells, C/EBPγ, transcription factors, bone marrow-derived mast cell cultures, mast cell development, *Cebpg* conditional knockout mice