



Molecular Basis of Mast Cells Activation and Medical Implications

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Message from the Guest Editors

Mast cells respond to environmental cues and inflammatory signals. This response translates into complex roles in immunity, tissue homeostasis, and diseases, particularly allergy and hypersensitivity reactions. They are activated through various receptors, including the high-affinity IgE receptor, cytokine receptors, and pattern recognition receptors. Subsequently, intracellular signaling pathways and calcium signaling events lead to mast cell degranulation, mediator release, and the development of a wide range of immediate hypersensitivity medical conditions, from local urticaria to anaphylaxis. Over the last decade, significant progress has been made in understanding mast cell activation and the regulation mechanisms that may be involved in the development and progression of allergy and hypersensitivity reactions. The aim of this Special Issue is to highlight recent advances in this field, which may be useful in the prevention of individuals of developing immediate hypersensitivity reactions and in the development of pharmacotherapeutic strategies through the evaluation of novel effective molecular targets.





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