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The Molecular Mechanisms behind Mast Cell Allergic and Innate Immune Responses

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Message from the Guest Editor

Dear Colleagues,

Exocytosis is the final step in the secretory pathway, serving a central role in cell communication with its environment and the coordination of its cellular functions. In immune cells, such as mast cells, regulated exocytosis mediates their immediate response, which leads to the release of a variety of inflammatory mediators that are pre-formed and stored in cytoplasmic secretory granules (SGs). Mast cell exocytosis is crucial in mediating mast cell pathological responses in allergy and anaphylaxis, and their physiological innate immune responses, in their capacity as sentinel cells of the immune system. Yet, the mechanisms that underlie mast cell degranulation and the one behind the biogenesis of the mast cell SGs aren't clear. Given the heterogeneity of mast cells and their SGs, the multiple stimuli mast cells respond to and the fact that mast cells can utilize distinct modes of exocytosis to release their SG content, it is argued that mechanisms that control mast degranulation and the release of their SG content are not unifying. The Issue welcomes articles that address different aspects of mast cell secretion.

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Special Issue



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