



Cellular and Molecular Mechanisms in Mycobacterial Infection 2.0

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Message from the Guest Editors

Mycobacterium tuberculosis (*M.tb*) caused an estimated 10 million cases of tuberculosis (TB) and 1.5 million deaths in 2018. The primary host cell of *M.tb*, the macrophage, serves as the first line of defense. Multiple pattern-recognition receptors sense mycobacterial molecular patterns, triggering intracellular signaling cascades and the induction of proinflammatory cytokines, chemokines, and antimicrobial molecules. Macrophage-derived cytokines such as tumor necrosis factor, interleukin-12, IL-1 β , and IL-18 are critical for host defense against tuberculosis. Adaptive responses, including antigen-specific T cells, are critical in controlling the growth of *M. tb* by producing interferon-gamma, activating macrophages, and orchestrating granuloma formation. This Special Issue will cover a selection of original research articles, short communications, and current review articles in mycobacterial research, including immunity against mycobacteria, signaling transduction in TB, host-pathogen interactions, mycobacterial metabolism, drug resistance mechanisms, biomarkers of disease, and novel drugs and vaccines within the scope of molecular biology.





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Message from the Editor-in-Chief

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