



## Macrophage Polarization: Learning to Manage It

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### Message from the Guest Editor

Dear colleagues,

Macrophages are crucial components of innate immunity. They possess high plasticity and the ability to differentiate in response to numerous stimuli. There is a plethora of different specialized functional phenotypes, among which inflammatory (M1) and reparative (M2) subtypes are proposed, which are almost exactly opposite to each other. Two key cytokines, IFN- $\gamma$  and TNF- $\alpha$ , are responsible for M1, or classical activation, while alternate activation in M2 is mediated mainly by IL-4 and IL-13. Interestingly, microRNAs and some immunomodulators are critical regulators of macrophage polarization. The link with many human diseases and infections, including cancer, autoimmunity, and periodontitis, is to be found in the dysregulation of macrophage plasticity. Furthermore, recent studies on naturally occurring compounds emphasize their regulatory effects on macrophage polarization, suggesting that some of them could be promising for the treatment of sensitive diseases.

This Special Issue aims to cover all areas of molecular research, but is not limited to this, as it may include clinical studies with biomolecular experiments.

Dr. Nadia Lampiasi





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## Message from the Editor-in-Chief

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