

Immunoregulation: a New Horizon Ahead

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Immunoregulation, in terms of disease and health status, occupies an extensive research domain.

Following new discoveries in the fields of pathophysiology and molecular mechanism, and considering the comprehensive list of diseases including infectious, cancer, inflammatory, autoimmune, cardiovascular, gynaecological, dermatological, and pulmonary, one rarely finds a disease with no identified immune response role and the obvious footprint of molecular components of immune responses such as cytokines, inflammatory molecules, and antibodies.

Consequently, molecules involved in immune responses are the main reason for the exploration and drafting of the effective diagnostic and therapeutic biomarkers for the majority of diseases. In most cases, the disease is associated with dysregulation of the immune response. Therefore, consideration of immunoregulation both in health status, for the maintenance of health and prevention of the disease, and in disease status, for relief from the disease and return to health, is crucially important.

There are various immunoregulatory factors involved in immune responses and they consist of all the effective factors that regulate immunocompetent cells. These could broadly be classified as 1. Stimulators of immune responses acting as initiators (e.g. antigen); 2. Components of immune response (e.g. T cells, especially regulatory T cells, different cytokines and their regulators, antibodies, regulators of complement pathway constituents, and other important immune molecules, as well as genetic and epigenetic factors

underlying the immune system); 3. Factors other than the immune system itself, which is housed within the body (e.g. neurotransmitters and hormones, conditions generated in micro-environment of immune cells, presence and functional status of other effective cells such as antigen presenting cells, mesenchymal stem cells (MSCs), and other tissues cells); and 4. Environmental factors modulating immune responses (e.g. lifestyle factors- nutrition, physical activity, stress- as well as social inequalities- gender inequality, social class, income gap, health care-, and patient's medication). These are considered effective and impressive operators in the regulation of immune responses.

Owing to the significance of health maintenance through the regulation of immune responses and to the lack of any discussion of this important topic in universal scientific journals, we chose to focus on this topic in the Journal of Immunoregulation.

We welcome those research manuscripts that has been done to clarify the regulation and dysregulation of immune responses and potential papers about the evaluation of immune responses in health and disease. Also manuscripts aimed at regulation of the immune response; utilization of those responses for diagnostic and therapeutic purposes and finally health enhancement are appreciated. We also welcome any comment from researchers and experts in this field to enhance the quality of the papers.