

# What role do cytokines play in autoimmune diseases?

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Cytokines, a varied group of signaling chemicals in the body, have been described as the software that runs the immune system, but when that software malfunctions, dysregulation of the immune system can result in debilitating autoimmune diseases such as lupus, arthritis, and diabetes. Leading experts in the field of cytokine research present their most up-to-date findings and unique perspectives on the role of cytokines in autoimmune diseases in a special issue of *Journal of Interferon & Cytokine Research*.

Dhan Kalvakolanu, PhD, University of Maryland School of Medicine, Journal Co-Editors-in-Chief Ganes C. Sen, PhD, and Thomas A. Hamilton, PhD, Cleveland Clinic Foundation, together with Guest Editors Kamal Moudgil, MD, PhD, University of Maryland School of Medicine, and Divaker Choubey, PhD, University of Cincinnati have compiled a wealth of in-depth review articles, original research, and insightful perspectives from expert researchers on the evolving understanding of how cytokines can both contribute to the initiation of [autoimmune diseases](#) and control the inflammation associated with the acute phase of these diseases. This special issue of the Journal is the first in a two-volume collection of articles.

In his introductory Editorial, Dr. Kalvakolanu identifies cytokines as the first step in the onset of immune responses in which the body attacks its own cells and tissues, leading to the development of autoimmune diseases. Drs. Moudgil and Choubey present an overview of the role cytokines play in the induction, regulation, and treatment of

autoimmunity. An original research article, "Critical Cytokine Pathways to Cardiac Inflammation," by Noel Rose, PhD, The Johns Hopkins Schools of Medicine and Public Health (Baltimore, MD), describes a mouse model of autoimmune myocarditis—inflammation of the heart muscles—that is triggered by infection with Coxsackievirus B3. The model allows researchers to study the cytokine pathways involved in this disease, with the goal of identifying chemical markers that could be used to predict patients more likely to experience an autoimmune reaction after infection.

**More information:** The issue is available free online for a limited time at [www.liebertpub.com/jir](http://www.liebertpub.com/jir)

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