

Special Issue on
**Interferons in Antimicrobial Immunity, Cancer, and
Autoimmune Diseases**

CALL FOR PAPERS

The immune system provides protection against the invasion of microbial pathogens. However, aberrant immune responses can attack healthy self-tissues, leading to autoimmune diseases. Interferons (IFNs), consisting of three types (types I, II, and III), are a group of cytokines at the nexus of mammalian innate and adaptive immunity. All these three types of IFNs signal through the JAK/STAT pathway for regulating gene expression but play distinct roles in modulating the immune response via differences in expression pattern and signaling kinetics. The biological functions of the members of each IFN subgroup often require cross-talks with other IFNs, as well as being modulated by other signaling pathways. Such signaling complexity forms the basis of the pleiotropic physiological effects of IFNs. Given the pivotal roles of IFNs in antimicrobial defense, antitumor immune responses, and autoimmunity, IFN biology and clinical practice have been a sustained focus of immunology research for the past five decades.

Recent studies of IFNs have further strengthened their importance in immunity. Suppression of IFN cellular signaling has been linked to the pathogenicity of emerging human viruses such as Zika virus. New advances have been made in elucidating the complex function of IFNs with growing evidence indicating paradoxical roles for IFNs in bacterial infections. These studies also point to new physiological cues that interplay with IFNs to define the outcome of immunologic response during infection and the development of autoimmunity. Finally, efforts continue to grow in exploring the IFN pathway in the diagnosis and treatment of various human diseases.

With this call, we invite authors to submit original research and review articles that relate to the mechanistic aspect or clinical exploration of IFN-mediated immune responses.

Potential topics include but are not limited to the following:

- ▶ Induction of IFNs under physiological or pathological challenges including infection, cancer, inflammation, and autoimmune diseases
- ▶ Outcome of IFN function in infection, cancer, inflammation, and autoimmune disease
- ▶ Mechanisms underlying IFN function, for example, molecular characterization of IFN-induced effector molecules
- ▶ Cross-talk between different types of IFNs or with other cytokines at the molecular, cellular, and tissue level
- ▶ Viral and bacterial strategies to evade or counter IFN-mediated immunity
- ▶ Development of IFN-based clinical diagnosis and therapeutics, for example, biomarker identification and vaccine development

Authors can submit their manuscripts through the Manuscript Tracking System at <http://mts.hindawi.com/submit/journals/jir/aica/>.

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