



Journal of Immunology Research

Special Issue on

**Virus-Host Interactions in Arthropods**

# CALL FOR PAPERS

The interaction between viruses and arthropod hosts is a hot topic of research with several modes of antiviral response being identified, including the innate immune RNAi response, virus-induced Vago cytokine, and the regulation of viral infection by the background microbial flora of the arthropod. Viral infection and persistence in arthropod vectors such as insects and arachnids is a crucial step in the transmission cycle of many important viral diseases of humans, animals, and plants. Arthropods do not have an adaptive immune response and thereby rely solely on the innate immune response to regulate virus infection. Therefore, knowledge of the immune mechanisms and other virus-host interactions that regulate viral infection and transmission by arthropod vectors is important in understanding the ecology and epidemiology of these viruses and for developing novel methods for controlling their transmission.

In addition, some viruses infect only arthropods (flies, caterpillars, etc.) and cause either no apparent pathology or no lethal consequences in these hosts. The interplay between virus and the innate immune responses in the arthropod vector is suggested to decide the virus infection outcome (clearance, pathogenesis/death, or persistence). Therefore, these mechanisms, which render arthropods susceptible to viral infections or provide them with antiviral resistance, are highly significant for understanding the arthropod response to infection and for developing biological agents to control arthropod vectors and pests.

This special issue invites authors to contribute original research and review articles relevant to virus-host interaction in arthropods. Regulation of viral infection by the arthropod microbiome and barriers to virus dissemination and transmission in arthropods, such as availability of host cell molecules for viral infection and replication, are also suitable topics for this issue.

Potential topics include, but are not limited to:

- ▶ Host innate immune response to infection of arthropods such as
  - ▶ RNAi pathways (microRNA, siRNA, and piRNA molecules)
  - ▶ Other immune pathways (Imd, Toll, and Jak-STAT, Vago and other cytokines, autophagy, and melanization)
- ▶ Virus immune evasion strategies

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

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