Message from the Guest Editors

This special issue focuses on the many roles of host factors in virus infection and pathogenesis. Viral infection induces vigorous host responses at the genetic, cellular, and organismal levels, which can be hijacked by the virus to facilitate replication or evade antiviral immune responses. Furthermore, although host responses are thought to promote virus clearance, in some cases, unregulated antiviral or inflammatory responses can themselves exacerbate or cause pathology. Recent technological advances in ‘omics methods and analyses have dramatically advanced our understanding of the complex, multi-faceted interactions between host and virus that drive infection, pathogenesis, disease outcome, and immunity. New models and larger population studies have also demonstrated that host susceptibility and functional responses to infection, treatment, or immunization can be very individualized. Thus developing more effective, personalized means of treating viral pathogens may indicate a precision medicine approach. The contributions included in this special issue will review current efforts to elucidate the many ways that host responses shape virus infection and pathogenesis.

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