Molecular pathogenesis of virus infections

Virus and prion diseases remain a major public health threat, in both developed and developing countries. The worldwide HIV pandemic is but one example of a newly emerged virus disease; other potential threats come from exotic viruses such as SARS, Ebola and Hantaan viruses. Older human viruses such as influenza, papilloma, herpes and the hepatitis viruses still cause major health problems. Furthermore, as well as causing acute infections, some viruses may also establish persistent infections which can lead to the development of chronic diseases, including cancer. This symposium book covers central factors that influence the pathogenicity of virus and prion infections. Topics range from innate and adaptive immune responses and virus evasion of host defences to details of selected virus–host interactions, including those involving dengue virus, HIV, influenza viruses, coronaviruses, hepatitis C virus, herpesviruses, papillomaviruses, African swine fever virus and poxviruses.

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Viral pathogenesis is the study of how biological viruses cause diseases in their target hosts, usually carried out at the cellular or molecular level. It is a specialized field of study in virology. Pathogenesis is a process in which an initial infection becomes a disease. Viral disease is the sum of the effects on the host caused by the replication of the virus and of the host's subsequent immune response. Viruses are able to initiate infection, disperse throughout the body, and replicate due to...