

VIRAL MODULATION OF THE IMMUNE RESPONSE



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(adscrición temporal desde marzo 2004)

Summary

The main objective of our laboratory is the understanding of the interaction of large DNA viruses (poxviruses and herpesviruses) with the host immune system. The battle between viruses and the immune system has been going on for millions of years of virus-host co-evolution. Our hypothesis is that viruses have influenced the evolution of various aspects of

immunity and viral genomes can be considered repositories of information on the host immune system. A better understanding of viral immune evasion strategies will provide information on viral pathogenesis, the function of the immune system and new strategies of immune modulation with therapeutic applications. Our research can be divided into several areas: (1) identification and characterization of novel poxvirus and herpesvirus proteins that mimic host cytokine receptors and inhibit the activity of cytokines and chemokines; (2) investigations on mousepox, a disease caused by ectromelia virus, as a natural mouse model of infection to understand the contribution of viral proteins to pathogenesis and immune modulation; and (3) the development of viral immune modulatory proteins as anti-inflamma-

tory reagents that may be used in the clinic to treat human diseases caused by immunopathological reactions.

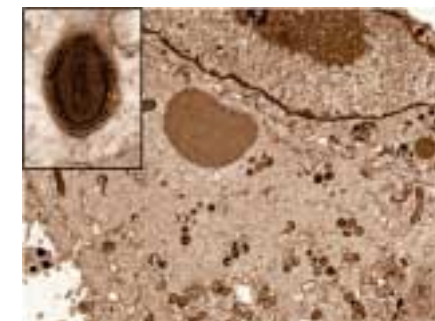


Figure 1. Electron micrographs of cells infected with ectromelia virus.

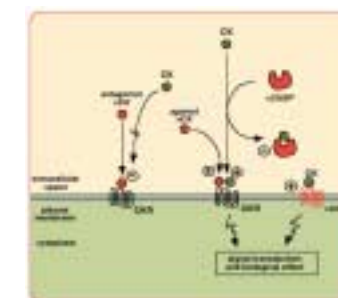


Figure 2. Viral modulation of chemokine activity: viral chemokine binding proteins (vCCKBP) and molecular mimicry of chemokines (vCK) and chemokine receptors (vCCKR).

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PUBLICATIONS

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