IBI SEMINAR

“Cytomegalovirus: the Rule Breaker of Virology”

Monday – May 27, 2013 – 2:15 p.m.
EPFL – room AI 1 153

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host: Prof. J. Jensen

Abstract

The field of virology is a world of paradigms. For example, viruses with DNA genomes inactivate tumor suppressors to prevent antiviral effects. Also, viruses with RNA genomes are genetically highly variable, whereas genetic information carried by DNA viruses is stable by virtue of proofreading activity associated with DNA replicases. Cytomegaloviruses (CMV) are common herpesviruses that coevolved with vertebrates. Human CMV is perhaps the most ancient virus that infects Homo sapiens. Recent studies have suggested that HCMV does not follow paradigms very well. Data will be presented that shows HCMV inducing a robust DNA damage response in infected cells, which activates the “antiviral” p53 tumor suppressor, yet HCMV requires this DNA damage response to replicate. Likewise, evidence of genomic diversity and rapid evolution of HCMV populations has been uncovered. The significance of these findings to HCMV infections and fundamental notions of genomic stability of DNA genomes will be discussed in the context of paradigms in virology.

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