

Seminar Announcement

Cellular and Molecular Mechanism of Alphavirus Pathogenesis: Implications for Disease Interventions

Date: 3 March 2016, Thursday

Time: 11.00am to 12.00pm

Venue: SBS Classroom 2 (SBS-01n-22)

Host: Professor Peter Preiser



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Abstract

Keywords: Chikungunya virus, ISGs, TLRs, Neutralizing antibodies, Treatment

Vector-borne infectious diseases have been emerging or resurging due to socio-demographic changes, and to genetic mutations in the pathogens. The changing disease pattern, and adaptation of viruses from different mosquito vectors are important new features that impact public health. Indeed, the spread of the *Aedes* mosquito in temperate countries introduces a new risk of epidemics in countries where the entire population is immunologically naive.

Chikungunya fever has re-emerged as an important human arboviral infection, causing severe morbidity with extensive incapacitation in naïve populations. Importantly, the exact nature of the protective immune defense and the pathogenic mechanisms of debilitating arthralgia and arthritis upon virus infection are still poorly known. Studies have found that the interplay between the levels of viral load, interferon-stimulated genes (ISGs), TLRs, and the induction of neutralizing antibodies, could mediate efficient viral clearance and protect against severe diseases. Understanding some of these cellular and molecular mechanisms will provide insight into future control and therapeutic strategies.