Vaccines for vector-borne diseases of horses in Australia

Australia has several mosquito-borne viral diseases that affect both humans and horses. These include Ross River virus (RRV), Murray Valley encephalitis (MVEV), and the Kunjin strain of West Nile virus (WNVKUN). A large, unprecedented outbreak of encephalitis in horses in south-eastern Australia in 2011, associated with infection with MVEV and a particularly virulent strain of Kunjin virus has prompted calls for the introduction of veterinary vaccines to prevent these diseases. Anecdotal evidence of joint inflammation and poor performance in horses infected with Ross River virus has also been flagged as a reason to consider vaccination of racing and equestrian horses. This talk will discuss approaches to develop and implement vaccine formulations against these equine diseases.

Biography

I am Professor of Virology at the School of Chemistry and Molecular Biosciences and founding member of the Australian Infectious Diseases Research Centre at the University of Queensland. A major research interest in my lab is the structure and function of viral proteins and their role in viral pathogenesis and potential as targets for antivirals and diagnostics. These studies focus on two globally important mosquito-borne pathogens, West Nile virus (WNV) and Chikungunya virus (CHIKV) and have recently led to the development of novel vaccine candidates, potent immunotherapy agents and potential new targets for antivirals against WNV and CHIKV.

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