

Exploring alternative preventative therapies for dengue

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Abstract

Although the tropical disease, dengue, has been studied exhaustively for over 60 years, we are no closer to possessing a safe and protective vaccine to prevent the estimated 390 million infections yearly. Dengue virus, which causes fever, joint and muscle pain, vomiting, and skin rash, mutates rapidly to remain a continuous biological threat to half the world's population. The overall complexities of the human immune response, together with the constantly evolving virus, make it a difficult disease to target effectively with a vaccine. Since 2017, we have been investigating a novel therapy using Defective Interfering virus Particles (DIPs), which are naturally produced by the virus during infection. We have found that these small particles can interfere, and thereby reduce, parental virus replication with the hope that the host clears infection earlier for a better disease outcome. We aim to identify and investigate the mode of action of these particles for therapeutic capability.

process involving the generation of greater-than genome length 'imprecise' intermediates"

5. "Molecular evolutionary dynamics of Ross River virus and implications for vaccine efficacy"

[International Conference on Molecular Microbiology](#); Webinar- December 07, 2020.

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Biography:

Kym Lowry completed her PhD from University of Warwick (UK, 2011) and postdoctoral studies from Queensland University of Technology and University of Queensland. Her research interests revolve around transmission and detection of viral and microbial pathogens.

Speaker Publications:

1. "Enhanced molecular surveillance in response to the detection of extensively resistant gonorrhoea in Australia"
2. "Effect of Serotype and Strain Diversity on Dengue Virus Replication in Australian Mosquito Vectors".
3. "Evaluation of the Speedx MG parC (beta) PCR assay for the rapid detection of Mycoplasma genitalium quinolone resistance-associated mutations"
4. "Recombination in enteroviruses is a biphasic replicative