

## **Efficacy of a chimpanzee adenoviral Zika vaccine and its potential to prevent viral dissemination into immune-privileged tissue.**

Since its re-emergence, Zika virus spread has developed into an epidemiological emergency. Infection has been associated with Guillain Barré syndrome in adults and multiple congenital defects, including microcephaly, cataracts etc. More recently, the confirmation of viral persistence in seminal and cerebrospinal fluids has brought with it new implications with respect of controlling vertical dissemination and possible neurological sequels in infected adults. Although, there are a number of vaccine candidates undergoing clinical trials, to date there are no licensed vaccines or antivirals available to prevent or treat a Zika virus infection.

Our project aims to assess efficacy of a recombinant, replication-deficient Chimpanzee Adenovirus vector platform-based vaccine, with the ability to recognize and mount strong cellular responses against Zika virus pre-Membrane, and Envelope viral proteins. Further modifications to the expression of these proteins include deletion of its transmembrane domain, which allows for its soluble secretion enhancing the production of neutralizing antibodies. Additionally, we will assess this vaccine candidate's ability to limit viral dissemination into immune privileged tissue focusing on male and female reproductive tract, as well as, the nervous system. It's worth noting, this platform is currently used in leading vaccine development efforts against the current SARS-CoV2 pandemic.