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Antiviral compounds against ZIKV in sub-genomic reporter replicon

As the Zika virus (ZIKV) continues to spread through the Americas and with hundreds of imported cases in the United States. Here, we describe a developed a Renilla luciferase reporter sub-genomic replicon of ZIKV, we also established stable cell lines harboring the replicon RNA. The cell lines will stably have expressed the non-structure part of viral RNA and proteins, which are noninfectious and can be used to quantify viral translation, RNA replication and anti-viral drug screen. We also test several clinical trial drug candidates for their EC50 both in Bhk21 and Huh7 cells and compared their differences, several potent inhibitors of ZIKV and can be used as reference inhibitor for future screen and discovery. Mutations on this replicon are also made and test for their effect on viral replication.

Biography

Rui Jin has completed his Bachelor's Degree in Biotechnology from Wuhan University, Wuhan, China, and his PhD in Biochemistry and Molecular Biology at Wuhan Institute of Virology, Chinese Academy of Sciences. His Doctoral program was aimed at investigating the autophagic mechanisms of Japanese Encephalitis viral infection and the mechanisms of immune evasion. After graduation, he undertook his Postdoctoral training at the Houston Methodist Research Institute, where his research was focused on inflammation mechanisms of *Flavivirus* infection. In 2015, he has joined EIDD with the goal of developing new dengue and zika virus replicon system for antiviral drugs testing and characterization. He has screened thousands of compounds to evaluate their antiviral effect.

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