



**Title: Inhibition of innate immune response ameliorates Zika virus-induced neurogenesis deficit in human neural stem cells**

**Author / Authors: Ping Wu / USA**

John S. Dunn Distinguished Chair In Neurological Recovery  
Professor, Department of Neuroscience, Cell Biology & Anatomy  
University of Texas Medical Branch

**Abstract:**

Global Zika virus (ZIKV) outbreaks and their strong link to microcephaly have raised major public health concerns. ZIKV has been reported to affect the innate immune responses in neural stem/progenitor cells (NS/PCs). However, it is unclear how these immune factors affect neurogenesis. In this study, we used Asian-American lineage ZIKV strain PRVABC59 to infect primary human NS/PCs originally derived from fetal brains. We found that ZIKV overactivated key molecules in the innate immune pathways to impair neurogenesis in a cell stage-dependent manner. Inhibiting the overactivated innate immune responses ameliorated ZIKV-induced neurogenesis reduction. This study thus suggests that orchestrating the host innate immune responses in NS/PCs after ZIKV infection could be promising therapeutic approach to attenuate ZIKV-associated neuropathology.