In 2016 the Zika virus emerged as an urgent global health priority, prompting researchers throughout the world to focus on better understanding this rapidly spreading condition and its devastating side effects, including brain malformations and other birth defects in unborn babies.

Research to date demonstrates the Zika virus attacks key cells responsible for creating neurons and helping the brain develop as the embryo grows. Previous studies had suggested that Zika enters these cells, called neural progenitor cells or NPCs, by attaching to a protein named AXL on the cell’s surface.

However, scientists at the Harvard Stem Cell Institute (HSCI) are utilizing state-of-the-art technologies, including induced pluripotent stem cells (iPS cells) and genome editing to more closely examine NPCs, and have found AXL is not the only entrance point for Zika during their infection.

In the News

Unlocking the Barrier

New research from HMS shows that omega-3 fatty acids appear to play a critical role in preserving the integrity of the blood-brain barrier, which protects the central nervous system from blood-borne bacteria, toxins, and other pathogens. Read more »

Probe of Alzheimer's Follows Paths of Infection

A new avenue of investigation into the causes of Alzheimer's disease focuses on whether the development of amyloid beta plaques in the brain might, in many cases, be a response to infection. Read more »

The Power of Picturing Thoughts

A recent study found that even when they were prompted to use verbal thinking, people created visual images to accompany their inner speech, suggesting that visual thinking is deeply ingrained in the brain while speech is a relatively recent evolutionary development. Read more »