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Press release

Identification of one of the keys allowing entry of Zika virus into brain cells

A team led by Ali Amara, Inserm Research Director at Unit 944, “Pathology and Molecular Virology” (Inserm/CNRS/Paris Diderot University) describes, in an article published in *Cell Reports*, the mechanisms that allow Zika virus to infect the cells of the nervous system.

The ZIKAlliance project, coordinated by Inserm and funded under the Horizon 2020 programme of the European Commission’s Directorate-General for Research and Innovation, is aimed at characterising the fundamental and clinical aspects of infection by Zika virus, an emerging pathogen in America. The infection is generally mild, but the virus can also cause severe neurological diseases and congenital microcephaly in the foetus.

The researchers have shown that the Axl protein, which is expressed in numerous glial cells, facilitates entry of Zika virus into the brain. Entry of the virus into these cells requires a second protein, Gas6. The latter constitutes a mediator between the viral particles and glial cells.

The researchers also discovered that activation of the Axl protein lowers the immune response to Zika virus, thus promoting infection.

This study improves the state of knowledge of the molecular interactions that take place at the moment the virus enters the glial cells. These results represent a major step in understanding the neurological complications of the infection. Furthermore, they demonstrate *in vitro* that inhibition of the Axl pathway could represent a potential therapeutic target, although any side-effects associated with blocking it have yet to be identified.

Sources

Axl mediates ZIKA virus entry in human glial cells and modulates innate immune responses

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