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Zika virus infection controlled by mollusk mucus

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Zika virus fever is a disease caused by a virus of the genus *Flavivirus*, family Flaviviridae, transmitted by mosquitoes of the genus *Aedes*. Patients may present maculopapular rash, pruritus, low or absence of fever, headache, non-pruritic and non-purulent conjunctival hyperemia, pain and edema in the wrists and ankles. Terrestrial gastropods secrete mucus from the body surface, when they move, to protect the body against mechanical injury, desiccation or contact with harmful substances. Mollusks mucus has been studied as a source of new natural compounds with biological properties, including their antiviral capacity. Studies involving *Phyllocaulis boraceiensis* mucus have elucidated the presence of substances capable of inhibiting the growth of Measles, Influenza, Rubella and Herpes viruses. These molecules act in the disintegration of the viral envelope factor that confers them the antiviral activity. Following this premise, it was determined that these molecules also act to disintegrate the viral envelope of Zika virus, since all viruses have a similar type of viral envelope. The objective of this study is to optimize the process of obtaining these molecules and others potentially active fractions present in the mucus of *P. boraceiensis*. Antiviral action was determined “*in vitro*” using vero cells infected with Zika virus and analyzed by RT-PCR. Chromatographic and spectrometric processes were proceeded to obtain the molecules in order to be tested.

Biography

Ana Rita de Toledo Piza is the CEO/Scientific Director of Limace Biotecnologia, the first Brazilian company to develop pharmaceuticals and cosmetics from natural molluscan products. She has completed her PhD in Biotechnology from the Institute of Biomedical Sciences of the University of São Paulo and Master in Sciences by the Coordination of Disease Control (SES/SP). She has experience in the field of macromolecule chemistry and bioprospecting active compounds from molluscs. She also works in the areas of zoology, microbiology, biochemistry, cell biology, virology and molecular phylogeny.

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