

**TITLE:** VIRUCID ACTIVITY FOR D2 AND D3 OF *Eugenia jambolana* (Lam.).

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**ABSTRACT:**

Dengue is an viral infectious disease caused by a virus of the genus *Flavivirus* of the family *Flaviviridae*, transmitted mainly by the chopped of the mosquito *Aedes aegypti*. There are four serotypes of the dengue virus, which are DENV-1, DENV-2, DENV-3 and DENV-4. The dengue virus stands out because it is RNA type, spherical, enveloped and measuring around 40 to 50 nanometers in diamete. For lack of a vaccine that is accessible to the population, as well as a specific drug treatment that acts in the direct combat to the virus, has stimulated researchers to look for products that have an antiviral activity, standing out the investigation in natural products. The existing biological diversity is a rich source for the production of new drugs, in view of the different substances that may be present. Thus, the search for compounds provided with antiviral activity, which can be identified by in vivo and in vitro research methods, fits in this scenario. Folk medicine is an excellent guide in identifying the possible antiviral therapeutic actions of plants. *Eugenia jambolana* (Lam.), a species native to India, but very present in the northeastern region of Brazil, where it is popularly known as black olives or jamelão, has as biological action proven the use in stomatites and affections of the throat. The present study aimed to evaluate the *in vitro* antiviral activity of the *Eugenia jambolana* (Lam.) plant against serotypes 2 and 3 of the dengue virus. The essential oil of the plant (1000, 500, 250, 125, 62.5 and 31.25 µg / ml) was used in the search. In the early phase, the cytotoxicity of the sample was evaluated in Vero cells. The sample had no cytotoxic potential. Then, the antiviral activity was screening, three methodological strategies (pre-treatment, post-treatment and virucidal) were used, varying the treatment time of the cells with the samples (1000; 500 and 250 µg / mL) in viral infection. The *Eugenia jambolana* (Lam.) exerted only virucidal activity, for both DENV-2 and DENV-3. The findings of this screening revealed that the plant studied is promising in the investigation of an antiviral drug against the dengue virus. The studied material presents antiviral potential, although they have low index of selectivity. It was possible, in addition to screening the antiviral activity, elucidate a probable mechanism of action of the plant, relating the action of the plant to the phase of the viral replicative cycle that was inhibited.

**Keywords:** Dengue, Antiviral, Biological Products.

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