

In Vitro Dengue Virus Inhibition by Aqueous Extracts of *Aegle marmelos*, *Munronia pinnata* and *Psidium guajava*

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Abstract

Dengue is an arboviral (insect-transmitted) infection of global concern. Currently, there are still no specific dengue antiviral agents to treat the disease. Plant extracts have been used in traditional medicine for treating various viral infections — thus, in the present study, aqueous extracts of dried flowers of *Aegle marmelos* (AM), whole plant of *Munronia pinnata* (MP) and leaves of *Psidium guajava* (PG) were investigated for their potential capacity to inhibit dengue virus infection of Vero cells. The maximum non-toxic dose (MNTD) and the 50% cytotoxic concentration (CC_{50}) were determined by using the MTT assay. A plaque reduction antiviral assay was carried out with dengue virus types 1 (DV1), 2 (DV2), 3 (DV3) and 4 (DV4), in order to calculate the half-maximum inhibitory concentration (IC_{50}). AM extract inhibited all four virus serotypes tested; MP extract inhibited DV1, DV2 and DV4, but not DV3; PG extract inhibited DV1, DV2 and DV4, but not DV3. Thus, the results suggest that AM is a promising candidate for the pan-serotype inhibition of dengue viral activity.