

EFFECTS OF CARICA PAPAYA ON DENGUE HEMORRHAGIC FEVER

Benjamin B. Jularbal, PhD
St. Paul University Philippines
bjularbal@spup.edu.ph

ABSTRACT

Dengue virus infections cause life-threatening dengue hemorrhagic fever (DHF). Individuals with DHF have high plasma concentrations of Plasminogen Activator Inhibitor Type I (PAI-1) and Transforming Growth Factor Beta 1 (TGF-B1). Moreover, increasing the plasma concentrations of CysteinyI Aspartate Protease-1 among dengue-infected individuals can be explored to reduce the apoptosis of dengue virus-infected cells. In this study, the investigation was carried out on Carica papaya leaf, seed, and root methanolic extract to determine their ability to regulate the expression of PAI-1, CASP-1, and TGF-B1 genes on blood cells using RT-PCR. Results showed that the extract was able to downregulate the expression of PAI-1, CASP-1, and TGF-B1 in vitro, suggesting that the extract can be a promising agent against the hemorrhagic effects of dengue virus. The results further suggest possible molecular effects of the extract on the MEK/ERK, CASPASE, and RAS/RAF signaling pathway which is induced by the PAI-1, CASP-1, and TGF-B1, respectively.

Keywords: CASP-1, PAI-1, RT-PCR, TGF-B1