

**CYTOTOXIC EFFECTS OF *Carica papaya* LEAF EXTRACT AGAINST C6/36
Aedes albopictus CELLS**

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Carica papaya is a widely used medicinal plant to treat dengue. The CytoTox 96® Cytotoxicity Assay (Promega, USA) is a colorimetric assay that quantitatively measures lactate dehydrogenase (LDH) released upon cell lysis. The objective of the current study was to measure the cytotoxic effect of *C. papaya* leaf extracts against C6/36 *Aedes albopictus* cells. *Carica papaya* leaf extract was prepared in a two-fold dilution series. Two 96 well assay plates were prepared with C6/36 cells nourished by culture medium with essential nutrients. The analytical system consisted of a negative control without C6/36 cells (only culture medium), vehicle control (untreated cells) and positive control (lysis solution) with replicates of eight wells for each. The test wells were treated with *C. papaya* leaf extracts at different concentrations. One plate was incubated at 37 °C for 5 h (LDH has a half-life of approximately nine h) and another plate was incubated for 24 h (test exposure period is 24 h for virus). Visible wavelength absorbance data were collected using a standard plate reader to enumerate the cytotoxicity of *C. papaya* leaf extracts. The experiment was conducted only once with eight replicates each. Percentage cytotoxicity in dilutions of 1/4, 1/8, 1/16, 1/32, 1/64, 1/128, 1/256, 1/512 and 1/1024 for the plate incubated for 5 h were 92.46, 56.35, 47.71, 46.74, 45.70, 44.43, 42.81, 16.56 and 13.14, respectively, and for the plate incubated for 24 h were 226.71, 135.63, 96.69, 58.39, 39.47, 28.35, 26.82, 15.52 and 15.04, respectively. Colour intensity and absorbance values decreased with the *C. papaya* leaf extract in decreasing concentrations. Higher concentrations of *C. papaya* extract have higher LDH activity and cell lysis. High concentrations of *C. papaya* leaf extracts were cytotoxic to C6/36 cells. Further, cytotoxicity testing of *C. papaya* leaf extracts will help to select the minimum toxic concentrations of the extract for antiviral activity against dengue viral infections.

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Keywords: Absorbance, *C. papaya*, Cell lysis, Color intensity, Cytotoxicity