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IN VITRO CYTOTOXICITY OF *Carica papaya* CRUDE LEAF EXTRACT

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Plant-based compounds are an option for the development of new antiviral drugs. Asians commonly use papaya (*Carica papaya*) leaves to treat dengue without an understanding of its toxicity, if any. The objective of the study was to screen *in vitro* cytotoxicity of *C. papaya* leaf extract against normal African green monkey kidney epithelial cell line (Vero) cells. CytoTox 96® Non-Radioactive Cytotoxicity Assay (Promega, USA) is a colourimetric assay, which quantitatively measures lactate dehydrogenase (LDH) released upon cell lysis. *Carica papaya* leaf extract was prepared in a two-fold dilution series. Two, 96 well assay plates, were prepared with Vero cells and, the assay was set up with an analytical system based (i) Negative control - without Vero cells, (ii) Vehicle control - untreated cells, (iii) Positive control - lysis solution with four replicates. *Carica papaya* extract was added to the test wells at different concentrations and, one set of plates was incubated for 5 h at 37 °C and the other set for 24 h at 37 °C. The absorbance data were measured using a standard 96-well plate reader (Labtech LT-4500, Singapore) and the percentage cytotoxicity was calculated for each concentration tested. Colour intensity and the absorbance values decreased with the decrease of concentration of leaf extract. The percentage cytotoxicity for dilutions, 1/4, 1/8, 1/16, 1/32, 1/64, 1/128, 1/256, 1/512, 1/1024 was 95.60, 71.53, 74.77, 82.16, 79.91, 40.25, 7.37, 0.16, -1.24, respectively, for the 5 h and 141.61, 133.24, 127.78, 121.88, 109.79, 106.67, 30.64, 22.67, 25.39, respectively for 24 h. Higher concentrations of the extract caused higher cell lysis showing cytotoxic effects Vero cells at dilutions < 1/256. The information about the cytotoxicity levels helps select the minimum toxic concentrations of *C. papaya* leaf extract against the antiviral activity of the dengue virus.

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Keywords: *Carica papaya*, Crude leaf extract, Cytotoxicity, Vero cells