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Evaluation of Cytotoxic Activity in Ethanolic Extract of *Cucumis melo* (L). fruit †

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Abstract: Cytotoxicity is the quality of being toxic to cells, and *in vitro* cytotoxicity testing procedures reduce the use of laboratory animals. The present study was designed to investigate the cytotoxic activity of the *Cucumis melo* (L) fruit against HepG2 cell lines. To prepare the extract, fresh pulps of *Cucumis melo* fruit was chopped into pieces and dried at room temperature for 24 hours. 10 g of the dried fruit powder was successively extracted with 100 ml of ethanol using Soxhlet apparatus and filtered through Whatman No 1 filter paper. The cytotoxic activity for cancer cell lines was evaluated by MTT assay. The *in vitro* cytotoxicity of different concentrations (18.75 - 300µg/mL) of the ethanolic extract of *Cucumis melo* fruit was evaluated by the MTT assay. The IC50 value is measured by the concentration of extract, causing 50% growth inhibition of cancer cells. The results indicated that the cytotoxic effect of the ethanolic extract of *Cucumis melo* fruit against HepG2 cells is dose-dependent. At low concentrations, the extract was found to be less toxic towards the HepG2 cells, whereas, at higher concentrations, the toxicity was increased. The concentration at 201.5 µg / ml was found to be an effective dose because, at this concentration, it exhibited 50 % cytotoxicity against HepG2 cells. This work revealed the potentials of ethanolic extract of *Cucumis melo* fruit as a cytotoxic agent against liver cancer cell lines. The plant can be further screened against various diseases using toxicity models in order to find out its unexplored efficacy.

Keywords: Cytotoxicity; *Cucumis melo* (L); Inhibition Concentration (IC 50); HepG2 cell lines; MTT.

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Conflicts of Interest

The authors declare no conflict of interest.