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Cytotoxicity of *Euphorbia bungei* on HeLa and HT29 tumor cells

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Background and Aims: Euphorbia species were used traditionally for cancer treatment. Also, in the last decade there are studies showing cytotoxic effects of different species of euphorbia on tumor cell lines. In this study we sought to determine if Euphorbia bungei possess any cytotoxicity.
Methods: Euphorbia bungei was collected from Daran (Isfahan) and Qom-Kashan area, respectively. Methanol-water (70-30), methanol, ethyl acetate, heptane, dichloromethane and acetone extracts of arial parts of E. bungei were prepared by maceration method. After preliminary phytochemical analyses, the cytotoxicity of the extracts against HeLa and HT29 tumor cells was carried out using MTT assay. Briefly, cells were seeded in microplates and different concentration of extract were added. Cells were incubated for 72 h and their viability was evaluated by addition of tetrazolium salt solution. After 3 h medium was aspirated, DMSO was added and absorbance was determined at 540 nm with an ELISA plate reader. Cytotocicity was considered when more than 50% reduction on cell survival was observed.
Results: Dichloromethane, acetone, ethyl acetate and methanolic extracts of E. bungei significantly and dose-dependently reduced viability of HeLa and HT29 cells. However, methanol-water and heptane extracts of E. bungei did not show considerable cytotoxicity on both cell lines in tested concentration. For E. Turcomanica, all extracts except ethyl acetate showed cytotoxicity on HeLa cells, but when they tested on HT29 cells only aceton extract did not show cytotoxicity.
Conclusions: From these experiments, It can be concluded from these experiments that E. bungei is a good candidate for further study for cytotoxic agents.

Keywords: *Euphorbia bungei*; HeLa; HT29; MTT assay