



Cytotoxicity evaluation of *Dionysia revoluta* Boiss. on VERO and Hep-2c cell lines

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Background and objectives: Evaluating the safety of pharmaceutical products by *in vitro* methods like cell culture, and *in vivo* tests on animals, is one of the regulatory steps in development of drugs which is called the preclinical stage. If acceptable results are obtained, the drug can be used in clinical studies. In this study, we have investigated the cytotoxic effect of various extracts of *Dionysia revolute* Boiss. at various concentrations. **Methods:** Total methanol extract was prepared with the standard method of maceration. Different fractions were prepared by liquid-liquid fractionation. The extracts were then dried with rotary evaporator. After determination of bactericidal concentration of the extracts, 150 ug/mL, the cytotoxicity was tested at various concentrations up to 4 times of the bactericidal concentrations by MTT test. Hep-2c and VERO cell lines were used in MTT test. A range of concentrations (10-500 ug/mL) of the extracts were added to 70% confluent 96 well plates. After exposure for 48 h, MTT solution was added to the wells, and 4 h later formazan crystals were solubilized and optical densities were recorded at 570 nm. **Results:** The results indicated different fractions of the extract were not cytotoxic at the concentrations up to three times the minimum bactericidal concentration and showed a promising therapeutic index. **Conclusion:** According to the results *Dionysia revoluta* extract and fractions could be used at concentrations up to 400 ug/mL.

Keywords: cytotoxicity, *Dionysia revoluta*, MTT
