



## Cytotoxic activity of plants from Ardebil province

B. Eslami Tehrani, R. Shahrestani, B. Bahmani, M. Mosaddegh, N. Nader \*

*Traditional Medicine and Materia Medica Research Center, Shahid Beheshti University of Medical Sciences, Tehran, Iran.*

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**Background and objectives:** Cancer is the third leading cause of mortality and morbidity in Iran and kills out about 30000 people a year. The drugs used to treat cancer have many side effects. So developing novel and effective drugs with lower side effects has a great importance. Located in the north-west of Iran, Ardebil province has a rich plant diversity which the biological effects of most of them are unknown. In this study, the cytotoxic effects of 18 plants collected from Ardebil have been investigated. **Methods:** The cytotoxic effect of total methanol extract and petroleum ether, chloroform and methanol fractions were investigated by using MTT assay against 4 selected human cancer cell lines MCF7, HepG-2, A-549, HT-29 and also a normal cell line, MDBK. **Results:** Total methanol extract and chloroform fraction of the aerial parts of *Onopordon acanthium* showed significant cytotoxic effect against all cell lines with  $12.51 \leq IC_{50} \leq 55.72$  and  $6.49 \leq IC_{50} \leq 31.5$ , respectively. **Conclusion:** The plant could be a candidate for further investigations on its cytotoxicity mechanism and also identification of active ingredients.

**Keywords:** Ardebil, cytotoxicity, medicinal plants

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