

## عنوان مقاله:

Effects of Biebersteinia multifida hydro-ethanol extract on proliferation and apoptosis of human prostate cancer and human embryonic kidney cells

## محل انتشار:

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## خلاصه مقاله:

Objective: Biebersteinia (Geraniaceae) has a history of use in traditional medicine in some countries including Iran. In the present study, cytotoxic and apoptogenic properties of hydro-ethanol extract of B. multifida was investigated on human prostate cancer cell lines (PC3 and DU 145) and human embryonic kidney 293 (HEK293) cells. Materials and Methods: Cells were cultured in RPMI-1640 medium supplemented with 10% FBS at 37°C in a humidified atmosphere of 95% air and 5% CO<sub>2</sub>. The root of the plant was macerated with EtOH 70%. Cytotoxic activity of ethanol extract of B. multifida was assessed using alamarBlue® assay after 48 hr of treatment. Apoptotic cells were stained with propidium iodide (PI) and detected by flow cytometry (sub-G1 peak). Results: B. multifida had cytotoxic effect on malignant cells and normal HEK293 cells in a dose-dependent manner and significantly decreased the cell viability (IC<sub>50</sub> values were between 199.2 and 302.9 µg/ml). B. multifida increased the sub-G1 peak in flow cytometry histogram of treated PC3 cells compared to control showing the induction of apoptosis and DNA fragmentation. Conclusion: Due to cytotoxic and apoptotic activity of B. multifida, the plant is suggested for further phytochemical analysis and mechanistic evaluation.

## کلمات کلیدی:

Biebersteinia multifida, Cytotoxicity, Apoptosis, Geraniaceae

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/930386>



