

Abstract

Potential Cytotoxic Activity of *Psephellus pyrrhoblepharus* Extracts [†]

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Abstract: Many species of *Psephellus* and *Centaurea* genres have pharmacological activities including antiinflammatory, antipyretic, cytotoxic etc. *Psephellus pyrrhoblepharus* (Boiss.) Wagenitz (*Centaurea pyrrhoblephara*), an endemic plant, was collected from Elazığ, Turkey. Liver cancer is affecting millions of people all over the world. Recent days interest in use of plant-derived compounds for therapeutic purposes in cancer is increasing. So any approach to treat liver cancer is extremely valuable. We aimed to evaluate the cytotoxic potential of extracts (methanol:water 1:1, chloroform and n-hexane) of aerial parts of *P. pyrrhoblepharus* using human liver cancer cell (HepG2) by utilizing the 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazoliumbromide (MTT) assay in different concentrations (50,100,200 µg/mL) and time points (6, 12, 24 h). Regarding the cytotoxicity, cell viability was decreased following extract exposures at different time points. However, the highest cytotoxic activity was observed in 100 µg/mL concentrations of chloroform extract at 24 h. Chloroform extract of plant showed the highest cytotoxic activity in 200 µg/mL concentrations when compared to methanol:water and n-hexane extracts at 12 h. It can be suggested that used extracts of *P. pyrrhoblepharus* exert cytotoxic effect in HepG2 carcinoma cells in a dose- and time-dependent manner. Generally, results provide information regarding the threshold concentrations of *P. pyrrhoblepharus* extracts that might be used in different applications without toxicity hazards.

Keywords: *Psephellus pyrrhoblepharus*; cytotoxic activity; HepG2



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