

عنوان مقاله:

Cytotoxic Activity of Cytoplasmic Extraction and Medium Culture of *Nodularia harveyana* on Melanoma Cell Line

محل انتشار:

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خلاصه مقاله:

Cyanobacteria produce a wide range of biologically active compounds. Among the cyanobacterial metabolites, cytotoxins are of particular interest because of their potential to kill target cancer cells. The present study was undertaken to isolate *Nodularia harveyana* from Ardakan County (Yazd Province, Iran) soil and determine the cytotoxic effect of cytoplasmic extract and medium culture of its on the human melanoma cell line. Nitrate-free BG11 medium was used for preparing an axenic monoalgal culture of *Nodularia harveyana* ISB112. In addition, 3- to 5-week-old cytoplasmic extraction and medium were used for the cytotoxic study on human melanoma cell lines (B16). The cytotoxic effects of cytoplasmic extract, and medium culture at the concentration ranging from 5 to 50 $\mu\text{g.ml}^{-1}$ increased significantly in a concentration-dependent manner ($p < 0.05$). The 4- and 5-week-old cytoplasmic extract of *Nodularia harveyana* ISB112 was more effective than the 3-week-old extract and the viability percent of cells were 52.57% and 52.35%, respectively. The results showed that the medium culture activity in the fifth week of growth was higher than other periods and the cell's viability percent was 48.84% ($p \leq 0.05$). Overall, the results suggested that *Nodularia harveyana* ISB112 could kill tumor cells that can be used as a treatment for cancer disease.

کلمات کلیدی:

Nodularia harveyana, Cyanobacteria, Cytotoxic, Cytoplasmic extract

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