Abstract

The Anti-Tumoral Effects of Wolfberry (*Lycium barbarum*) on Experimentally Induced Ehrlich Ascites Carcinoma in Mice [†]

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Abstract: Wolfberry (*Lycium barbarum*) shows strengthen immune system, antioxidant and anticancerogenic effect. In this research, the effects of Wolfberry's extract fractions, cultivated in Kayseri, investigated on Ehrlich ascites tumor (EAT) using *in vivo* and *in vitro* techniques. For *in vivo* study, 200 mg/kg fractions of Wolfberry extract (above and below 50 kDa) were injected ip to EAT injected Balb/C mice. EAT cells were also cultured in the presence of Wolfberry's extract fractions (1500, 2000 µg/ml) to examine cell vitality and apoptosis using the Muse Cell Analyzer. Histopathological examination of intra-abdominal organs showed that there were decrease in the EAT cells adherence in the Wolfberry applied tissue groups when compared to the control. According to *in vitro* results, the both extract fractions (above and below 50 kDa) increased apoptosis in cancer cells. However, total apoptotic cell percentage was higher and statistically significant in groups above 50 kDa (1500, 2000 mg/ml) ($p < 0.05$). Previous literature and the results of the present study reveal that the consumption of wolfberry—which is also produced in Turkey—might be effective in preventing the formation of cancer and the deceleration of its progress.

Keywords: Ehrlich ascites tumor; Wolfberry; apoptosis; *in vivo*; *in vitro*

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