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ABSTRACT BOOK

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PISTACIA EURYCARPA INHIBITS CELL PROLIFERATION AND INDUCES APOPTOSIS IN COLORECTAL CANCER BY MODULATING APOPTOTIC PATHWAY GENES

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Object: Colorectal cancer (CRC) is the third most common cancer. Its global incidence and mortality have been on the rise. Recent strategy of therapies has involved the use of non-steroid anti-inflammatory drugs and cyclooxygenase-selective inhibitors [1]. The genus Pistacia consists of small trees of the cashew nut family Anacardiaceae and is native to tropical and subtropical Asia where its members have long been cultivated for a variety of uses. The trunk of Pistacia species produces a characteristic exudate called mastic gum. The mastic gum and oil are medicinally used against rabies, snake bites, baldness, scabies, as well as in prescriptions for stomach, intestine, bladder, and liver inflammations, oral and dental diseases [2]. In this study, growth-inhibiting and pro-apoptotic effects of hexane, chloroform and methanol extracts of Pistacia eurycarpa in HT- 29 colorectal cancer cell line were investigated.

Material and Method: Aerial parts of Pistacia eurycarpa were collected in Bingöl province. Hexane, chloroform and methanol extraction were done by Soxhlet extractor. Dose and time dependent cytotoxic and apoptotic effects of Pistacia eurycarpa were evaluated by MTT Cell Proliferation Kit and Cell Death Detection Elisa Kit, respectively (Roche Diagnostics, Germany). Manufecturer's protocol was followed for analyses. Combination of 5-FU and Pistacia eurycarpa were also applied to HT-29 colorectal cell line for detecting the synergism. pTEN, AKT, MAPK, mTOR, VEGF Receptor 2, p53 and β-actin gene expression levels were measured by RT-PCR. Western blot analyze were used to determine pTEN, AKT, MAPK, mTOR, VEGF Receptor 2, p53 and β-actin protein levels.

Results: According to Cell viability rates, gene and protein expression levels results, there is a synergism between Pistacia eurycarpa and 5-FU.

Conclusion: In conclusion, Pistacia eurycarpa extracts represents a potential source for anti-proliferative and apoptotic agents in combating CRC.

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