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Apoptotic effect of *Prunus spinosa* fruit extract on HT-29 colon cancer cell line

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Background & Purpose: Colon, large intestine cancer is the third most prevalent type of cancer, seen in both men and women, which is also the third most death-causing type of cancer. Natural compounds are mostly used lately and have shown prevention, inhibition, and dilatory effects. In this project, traditionally called Çakal Eriği, known as Güvem, *Prunus Spinosa* L. herb fruit which belongs to *Rosaceae* family is intended to be used on water extract of HT29 colon cancer cell line, to investigate apoptotic effect.

Materials & Methods: Investigations of EB/AO treatment of herb extracts on cell line with 44 ug/ml, 88 ug/ml and 4500 ug/ml concentrations, have later shown liveliness of cells. The cells have been morphologically valued, therefore alive, dead, necrotic and apoptotic cells have been distinguished. The fruit is treated on different concentrations of water extract of HT-29 cell web using EB/AO coloring method on a 24 and 48 hour basis, to differentiate the apoptotic effect on cell proliferation.

Results: By showing cytotoxic effects, *Prunus Spinosa's* water extract has also shown inhibition effect on cell life, in HT29 colon cancer cell network between 24 and 48 hour periods. In both 24 and 48 hour periods and on different concentrations cell death has increased based on control ($p<0.01$; $p<0.001$). According to EB/AO double coloring test, the Probit analysis reports, on 24 and 48 hour period, the treatment has shown the respective formation of IC50 values of 159.3 and 123.8 μg/ml.

Debate & Results: Our results on *Prunus spinosa* HT29 cell network, based on concentration and period, by showing an impact on cytotoxic and apoptotic effect, have shown inhibition effect on cell life. The anthocyanin compounds GLC, NCL-H460, A549 obtained from *Prunus Spinosa*, have also shown similar cytotoxic effects on cancer cell network. The fruit extracts, extraction of *Prunus spinosa* results in metabolites, thus more investigations and researches are to be done to detect the activeness of metabolites, and to increase the economic value by potentially integrating these as natural drugs on anti-cancer drug industry.

Biography

Egzona Qipa has completed her under-graduation from Trakya University Faculty of Sciences in Biology department. She also studied at Maltepe University, Cancer and Stem Cell Research Centre, 2015. Her areas of interest include Biology, Cancer Genetics, Cancer Cells, Cell Stems and Entomology.

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