عنوان مقاله:

Evaluation of Cytotoxic Effect and Antioxidant Activity of Grape Seed Extract, Crocin, and Phenytoin

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خلاصه مقاله:

Antioxidant compounds inhibit formation of free radicals, chelate catalytic metals, and scavenge free radicals in biological systems. In addition, antioxidants play a decisive role in prevention of numerous physiological dysfunctions, cancers, and metabolic disorders. This study sought to evaluate the antioxidant capacity and cytotoxic effect of grape seed extract (GSE), crocin (CRO), and phenytoin (PHEN) on a human breast cancer cell line (MCF-۷). Methanol extracts of the three mentioned agents were prepared and their antioxidant activity was evaluated by diphenyl-۱-picrylhydrazyl method, using Quercetine (QUER) as positive control. The ۳-(۴, ۵-dimethylthiazol-۲-yl)-۲,۵-diphenyl tetrazolium bromide (MTT) assay was used to evaluate the cytotoxic effect of the extracts on Michigan Cancer Foundation-۷MCF-۷ cell line, using doxorubicin hydrochloride (DOX) as the positive control. Given the results, greater scavenging activity was achieved by using GSE in comparison to CRO and PHEN. Further, a significant correlation was found between the antioxidant activity and cytotoxic effects of these agents, and GSE had the highest antioxidant capacity and cytotoxic effect in comparison to CRO and PHEN.

کلمات کلیدی:

Antioxidant activity, Crocin, Cytotoxicity, Grape Seed Extract, Phenytoin