

Screening of Selected Medicinal Plants from Jordan for Their Protective Properties against Oxidative DNA Damage and Mutagenicity

Authors : Karem H. Alzoubi, Ahmad S. Alkofahi, Omar F. Khabour, Nizar M. Mhaidat

Abstract : Herbal medicinal products represent a major focus for drug development and industry and it holds a significant share in drug-market all over the globe. In here, selected medicinal plant extracts from Jordan with high antioxidative capacity were tested for their protective effect against oxidative DNA damage using in vitro 8-hydroxydeoxyguanosine and sister chromatid exchanges (SCEs) assays in cultured human lymphocytes. The following plant extracts were tested *Cupressus sempervirens* L., *Psidium guajava* (L.) Gaerth., *Silybum marianum* L., *Malva sylvestris* L., *Varthemia iphionoides* Boiss., *Eminium spiculatum* L. Blume, *Pistachia palaestina* Boiss., *Artemisia herba-alba* Asso, *Ficus carica* L., *Morus alba* Linn , *Cucumis sativus* L., *Eucalyptus camaldulensis* Dehnh., *Salvia triloba* L., *Zizyphus spina-christi* L. Desf., and *Laurus nobilis* L. A fractionation scheme for the active plant extracts of the above was followed. Plants extract fractions with best protective properties against DNA damage included hexane fraction of *S. marianum* L. (aerial parts), chloroform fractions of *P. palaestina* Boiss. (Fruits), ethanolic fractions of *E. camaldulensis* Dehnh (leaves), *S. triloba* L. (leaves), and ethanolic fractions of *Z. spina-christi* L. Desf. (Fruits/leaves). On the other hand, the ethanolic extracts of *V. iphionoides* Boiss was found to increase oxidative DNA damage. Results of the SCEs are undergoing. In conclusion, plant extracts with antioxidative DNA damage properties might have clinical applications in cancer prevention.

Keywords : medicinal plants extract, fractionation, oxidative DNA damage, 8-hydroxydeoxyguanosine, SCEs, Jordan

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