

عنوان مقاله:

Estragole and methyl-eugenol-free extract of *Artemisia dracunculus* possesses immunomodulatory effects

محل انتشار:

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خلاصه مقاله:

Objective: Some evidence suggests that chronic uptake of estragole and methyl-eugenol, found in the essential oil of *Artemisia dracunculus* (tarragon), may be associated with an increased risk of hepato-carcinogenicity. The present study was conducted to investigate the immunomodulatory and anti-inflammatory potentials of estragole and methyl-eugenol free extract of tarragon. Materials and Methods: Aqueous, hydroalcoholic, methanol and hexane extracts of dried and milled tarragon was prepared and analyzed by GC-MS. The estragole and methyl-eugenol free extract was characterized and used for evaluation of immunity in NMRI mice after challenging with sheep red blood cells. Results: It was shown that the aqueous extract of tarragon was free from potentially harmful estragole or methyl-eugenol. Moreover, the immunomodulatory effect of the aqueous extract of tarragon (100 mg/kg for 21 consecutive days) was investigated. The extract significantly increased the level of anti-sheep red blood cells (SRBC (antibody and simultaneously decreased the level of cellular immunity in the treatment group. Moreover, tarragon caused a significant reduction in the production of pro-inflammatory IL-17 and IFN- γ in parallel with a reduction in the ratio of INF- γ to IL-10 or IL-17 to IL-10 in the splenocytes. In addition, the levels of the respiratory burst and nitric oxide production in peritoneal macrophages were significantly decreased. Additionally, the phagocytosis potential of macrophages was significantly increased in treated mice. Conclusion: These data showed that the aqueous extract of tarragon may be used as a natural source to modulate the immune system, because it can inhibit pro-inflammatory cytokines and induce anti-inflammatory macrophages.

کلمات کلیدی:

Artemisia dracunculus (tarragon), Humoral immunity, Cellular immunity, Macrophage

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