

عنوان مقاله:

Evaluation of the inhibitory effect of Trachyspermum copticum fractions on AGEformation in the diabetic model on in vitro

محل انتشار:

بیستمین کنگره ملی و هشتمین کنگره بین المللی زیست شناسی ایران (سال: 1397)

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خلاصه مقاله:

Increasing the level of intracellular glucose leads to the formation of advanced glycation end products (AGEs) through non-enzymatic glycation in intracellular and extracellular proteins, and as a result, proteins lose their normal function. Active oxygen species are involved in the process of glycosylation of proteins. Therefore, in this study, we investigated the antioxidant activity and inhibitory effect of Trachyspermum copticum organic fractions on the formation of AGE compounds in the diabetic model on in vitro. The phenolic and flavonoid content of the organic fractions was measured by Folin- Ciocalteu and Ammonium Chloride method, and their antioxidant activity was measured by trapping DPPH radicals. Hydroxyl radicals were produced by sugar autoxidation and measured by benzoate hydroxylation. The diabetic model was designed with glycation of BSA (bovine serum albumin) on in vitro. AGE formation was measured by fluorescence absorption at the excitation and emission maxima at 335 nm and 385 nm, respectively. Our results show that the fraction of ethyl acetate of Trachyspermum copticum at different concentrations (10- 500 $\mu\text{g/ml}$) has the highest antioxidant activity, phenolic, and flavonoid content, respectively, IC_{50} : 7.9 $\mu\text{g / ml}$, 275.7 ± 3 and 175.7 ± 3.2 mg of gallic acid per gram of dried extract as well as the highest inhibitory effect on the formation of AGE compounds and autoxidation of sugars

کلمات کلیدی:

Advanced glycation endproducts, Diabetes, Trachyspermum copticum, Antioxidant Activity

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