

عنوان مقاله:

Effects of Coriandrum sativum extracts on glucose/serum deprivation-induced neuronal cell death

محل انتشار:

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خلاصه مقاله:

Objective: This study was planned to investigate whether *Coriandrum sativum* (*C. sativum*) is capable of protecting neurons against glucose/serum deprivation (GSD)-induced cytotoxicity. **Material and Methods:** The PC12 cells were cultivated for 24 h in standard media (high-glucose DMEM containing Fetal Bovine Serum) or for 6 h in GSD condition (glucose-free DMEM, without serum) in the absence or presence of various concentrations (0.1, 0.2, 0.4, 0.8 and 1.6 mg/ml) of hydro-alcoholic extract (HAE), water fraction (WF), ethyl acetate fraction (EAF) or N-butanol fraction (NBF) of this plant. At the end of the treatments, the cell viability was determined using MTT assay. **Results:** With the exception of 1.6 mg/ml of EAF or NBF which decreased cell survival, the HAE and its fractions exhibited no cytotoxicity under standard condition. Exposure of the cells to GSD condition showed 52% decrease in the viability. In this condition, the HAE, EAF and NBF not only failed to increase cell viability but also increased the toxicity. On the other hand, WF at 0.4, 0.8 and 1.6 mg/ml significantly attenuated the GSD-induced decrease in cell survival. **Conclusion:** The present study revealed that *C. sativum* bearing water-soluble compound(s) could induce neuroprotective activity. Also, we showed that some constituents from this plant may serve as cytotoxic agents under stressful conditions like hypoglycemia and serum limitation.

کلمات کلیدی:

Coriandrum sativum, Glucose/serum deprivation, Neuroprotective, PC12

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