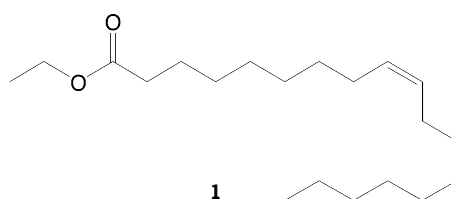


A143 Isolation of inhibitors of cholinesterase from the bulbs of *Crinum powellii*

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In our ongoing search for new inhibitors of cholinesterase from the Amaryllidaceae, the bulbs of *Crinum powellii* Hort. ex Baker were investigated. The ethanolic extract demonstrated a marked activity on this enzyme in a thin-layer chromatographic assay (1). An activity-guided microfractionation using LC/DAD-UV and LC/UV/MS led to the isolation of the major compound responsible for the enzyme inhibition. Its structure was determined by spectroscopic methods including (EHMS, ^1H , ^{13}C and 2D NMR experiments) as the ethyl ester of (9Z,12Z)-octadecadienoic acid, also known as ethyl linoleate (1). This compound is suspected to be an extraction artefact of linoleic acid. Ethyl linoleate and linoleic acid were tested both in the TLC bioassay and in solution for their inhibition of acetylcholinesterase. Both compounds were found to be active. Considering these results, a larger screening of fatty acids and fatty acid ethyl esters has been performed using the same assays.



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Reference: 1. Marston, A. et al. (2002) *Phytochem. Analysis* 13: 51-54.

A144 Anxiolytic effect of *Biebersteinia multifida* evaluated by elevated plus maze in mice.F. Saidmohammadi^a, H.R. Monsef^a, M.A. Faramarzi^a and M.H. Ghahremani^b^a Department of Pharmacognosy and ^b Department of Toxicology and Pharmacology, Faculty of Pharmacy, Tehran University of Medical Sciences, Tehran 14155, Iran.

Traditional preparations of *Biebersteinia multifida* DC (Geraniaceae), a native plant of Iran, have been used for different therapeutical indications. In Ruin, at north-east part of Iran, decoction of roots has been used orally for treatment of phobia in human and domestic animals. In this study we have evaluated the anxiolytic effect of total extract of root in an elevated plus maze test in mice. The total extract was prepared from powdered root, using a soxhlet extraction with methanol and the extract was evaporated to dryness (4%). We have employed elevated plus-maze to test the anxiolytic effect of plant extract. In this method the time spent in open arms compared to time spent in closed arm is used as an index of anxiety behavior in animal. Male Swiss mice received different doses of plant extract resuspended in aqueous vehicle, saline or diazepam i.p. After 30 min, each mouse was placed in the central platform facing toward closed arm. The cumulative time spent in open or closed arms was recorded for 5 min and used as plus-maze performance. The animals receiving plant extract (45 mg/kg) spent 50.7±8.2 percent in open arms and 45.6±5.3 percent in closed field (n= 5) whereas vehicle treated animals spent 22.7±3.1 percent and 60.7±4.1 percent in open and closed arms, respectively. The anxiolytic behavior of animals receiving plant extract is comparable to diazepam treatment (1 mg/kg) where the mice spent equal time in open or closed arms (42.4±9.3; 33.3±8.6 percent, n=5). The preliminary results indicate that this effect is dose dependent since in animals received 35 mg/kg of the extract, the percent time spent in open and closed arms are 33.6±2.7 and 56.7±4.6 (n=5), respectively. Taken together, these preliminary results suggest that the total extract of *Biebersteinia multifida* root has anxiolytic effect comparable to diazepam in elevated plus-maze test. Bio-guided isolation of active compounds, using the elevated plus-maze test, is in process.