Abstract

A new lupene triterpenetriol was isolated from the acetone extract of the aerial parts of Salvia sclareoides and characterised as (1β,3β)-lup-20(29)-ene-1,3,30-triol (1). In addition, nepetidin (2), nepeticin (3), lupendiol (4), (1β,11α)-dihydroxy-lup-20(29)-en-3-one (5), ursolic acid (6), sumaresinolic acid (7) and hederagenin (8), were identified in this Salvia sp. To the best of our knowledge, the compounds 2 and 7 are new constituents in Salvia spp. The acetone, ethanol, butanol and water extracts of the plant were screened for the in vitro inhibitory activity of acetylcholinesterase (AChE) and butyrilcholinesterase (BChE), enzymes which play a role in the Alzheimer disease. All extracts inhibited acetylcholinesterase activity at 10 µg/ml, a remarkable activity since the standard drug rivastigmine does not inhibit acetylcholinesterase at the same concentration. Regarding the butyrilcholinesterase, the acetone extract at 1000 µg/ml was able to inhibit completely the enzyme activity and the butanol and ethanol extracts, at this concentration, produced a potent inhibition of BChE.

Keywords: Salvia sclareoides; Medicinal-plants; essential oil; Triterpenoid; (1β,3β)-Lup-20(29)-ene-1,3,30-triol; Acetylcholinesterase; Butyrilcholinesterase