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Antioxidant and anticholinesterase constituents of Salvia poculata

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Abstract: Two triterpenoids, namely 2α,3α-dihydroxy-24-nor- 4(23),12-oleanadien-28-oic acid (1) and ursolic acid (2); 4 flavonoids, namely 5-hydroxy-7,4'-dimethoxyflavone (3), cirsimaritin (4), eupatilin (5), and salvigenin (6); a diterpenoid, namely sclareol (7); and a steroid, namely β-sitosterol (8), were isolated from the aerial parts of Salvia poculata Nab., a Turkish endemic Salvia species. Total phenolic and flavonoid contents of the crude extract were determined as pyrocatechol and quercetin equivalents, respectively. The antioxidant activity of the crude extract and the isolated compounds (2-8) was established using β-carotene bleaching, superoxide anion radical, and ABTS cation radical scavenging activity. In addition, the anticholinesterase activity of the crude extract and the isolated compounds (2-8) against the enzymes acetylcholinesterase (AChE) and butyrylcholinesterase (BChE) was determined. The phytochemistry and antioxidant and anticholinesterase activities of S. poculata were investigated for the first time in this study. The crude extract of S. poculata exhibited a significant antioxidant effect as well as butyrylcholinesterase inhibitory activity. Ursolic acid (2) and cirsimaritin (4) possessed high butyrylcholinesterase inhibitory activity.

Key Words: Salvia poculata; Lamiaceae; antioxidant activity; anticholinesterase activity.

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