



## Investigation of the essential oil of *Tanacetum albipannosum* Hub.-Mor. & Grierson for cholinesterase inhibitory and antioxidant activities

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The genus *Tanacetum* L. (Emend. Briq.) (Asteraceae) is represented in the world by 160 species and in the Flora of Turkey by 46 species (1). A number of phytochemicals and biological properties have been reported for *Tanacetum* species (2-4). *Tanacetum albi pannosum* Hub.-Mor. & Grierson has earlier been reported for its sesquiterpenic lactones and flavonoids (5). Cholinesterase inhibitory potential and partenolide content in the extract of *T. albi pannosum* has been evaluated (6). *Tanacetum albi pannosum* was collected in Sivas province of Turkey and subjected to hydrodistillation using a Clevenger-type apparatus. Composition of the essential oil was investigated using GC/FID and GC/MS techniques. The oil was subjected to *in vitro* biological activity tests. Cupric reducing antioxidant capacity and free radical scavenging properties of the oil were investigated with CUPRAC and DPPH tests. Cholinesterase inhibitory (anti-AChE) potential of the essential oil was evaluated in Ellman's colorimetric assay. The main compounds of the essential oil were found as bisabolone oxide A (36.0 %), 1,8-cineole (18.3 %),  $\alpha$ -bisabolol oxide A (7.2 %),  $\alpha$ -bisabolol oxide B (4.5 %) and  $\alpha$ -pinene (4.2 %). Anti-AChE activity was compared to galantamine as a standard while antioxidant activity was tested against to butylated hydroxytoluene and gallic acid. The essential oil of *T. albi pannosum* demonstrated weak anticholinesterase ( $>30$  mg mL<sup>-1</sup>) and antioxidant potential ( $>34$  mg mL<sup>-1</sup>) when compared to the standards.

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