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Comparative *in vitro* analysis of the antioxidant, antigenotoxic, and anti-inflammatory properties of summer and winter savory (*Satureja* spp.)

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Satureja spp. (*Lamiaceae*) have been used in traditional medicine as muscle pain relievers, tonics, and carminative agents to treat stomach and intestinal disorders. *Satureja hortensis* L. (summer savory) is among the best-known of the savory genus. It is used as a spice and for digestion improvement. *S. montana* L. (winter savory) has a similar application and is widely used in Serbia as a tea. This study aimed to analyze and compare the biological activities of *S. hortensis* and *S. montana* methanolic extracts. Both extracts showed good antioxidant properties, higher for *S. hortensis* in comparison to *S. montana* extract. The *S. hortensis* and *S. montana* extracts were investigated *in vitro* for the ability to prevent the oxidative damage of DNA induced by hydroxyl and peroxy radicals. According to the relative electrophoretic band densities at various concentrations (25, 50, 100, and 200 µg/mL), both extracts showed a significant reduction of DNA damage against oxidative changes caused by the free radicals (HO[·] and HOO[·]). The anti-inflammatory activity was assessed based on the inhibition of cyclooxygenase-1 and -2 (COX-1 and COX-2) activities. The results for *S. hortensis* and *S. montana* methanolic extracts showed strong inhibition of COX-1 (90.87 and 87.03%, respectively) and COX-2 (66.98 and 59.56%, respectively) activities at 50 µg/mL. The obtained results suggest deeper investigations of pharmacological potential and mechanistic studies of both *Satureja* spp.

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