

In vivo* Anti-Inflammatory and Antinociceptive Activity Evaluation of Phenolic Compounds from *Sideritis stricta

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An acetone extract obtained from aerial parts of *S. stricta* Boiss. & Heldr. apud Benthām, its fractions and phenolic compounds were investigated for their *in vivo* anti-inflammatory and antinociceptive activities. For the anti-inflammatory activity and for the antinociceptive activity assessment, carrageenan-induced hind paw edema and *p*-benzoquinone-induced abdominal constriction tests were used, respectively. The acetone extract of the plant and its phenolic fraction exhibited potent inhibitory activity against both bioassay models in mice. From the active phenolic fraction a well-known phenylethanoid glycoside, verbascoside (acteoside) (**1**), and two flavonoid glycosides, isoscutellarein 7-*O*-[6'''-*O*-acetyl- β -D-allopyranosyl-(1 \rightarrow 2)]- β -D-glucopyranoside (**2**) and isoscutellarein 7-*O*-[6'''-*O*-acetyl- β -D-allopyranosyl-(1 \rightarrow 2)]-6''-*O*-acetyl- β -D-glucopyranoside (**3**), were isolated. During phytochemical studies we also isolated a methoxyflavone, xanthomicrol (**4**), from the non-polar fraction. The structures of the isolated compounds were established by spectroscopic evidence (UV, IR, 1D- and 2D-NMR, MS). Although antinociceptive and anti-inflammatory activities of the phenolic components were found not significant in the statistical analysis, compounds **1** to **3** showed a notable activity without inducing any apparent acute toxicity as well as gastric damage. Furthermore, a mixture of flavonoid glycosides (**2** + **3**) exhibited a significant inhibitory effect in both models at a higher dose.

Key words: *Sideritis stricta*, Anti-Inflammatory Activity, Antinociceptive Activity