



# Chemical constituents, anti-inflammatory, and antioxidant activities of *Anisotes trisulcus*

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## Abstract:

*Anisotes trisulcus* (Forssk.) Nees. (family Acanthaceae) aerial part is used in folk medicine in the Arabian peninsula for treatment of hepatic conditions. It showed different activities such as antibacterial, hepatoprotective, and cytotoxicity. It is a rich source of alkaloids and is used as an antidiabetic, bronchodilator, hypotensive, and local anesthetic. To the best of our knowledge, there is no report on the phenolic constituents of *A. trisulcus*. Therefore, this study aims to identify the constituents and establish antioxidant and anti-inflammatory activities of the total methanolic extract and different fractions. One new benzoyl flavonol: 7,8,30-trihydroxy-5-methoxy-40-benzoyl flavonol (5), along with eight known compounds: a-amyrin (1), b-sitosterol (2), stigmasterol (3), (2S,3S,4R)-2[(20R)-20-hydroxytetracosanoyl amino]-octadecane-1,3,4-triol (4), allopateuletin (6), veratric acid (7), vanillic acid (8), and b-sitosterol-3-O-b-D-glucopyranoside (9) were isolated from *A. trisulcus* aerial parts. Their structures were established by physical, chemical, and spectral data (UV, IR, MS, and 1D NMR), as well as comparison with authentic samples. The anti-inflammatory activity of the total methanolic extract and different fractions was evaluated using carrageenan-induced paw edema method at a dose of 400 mg/kg. Also, the antioxidant activity was determined using DPPH assay at concentrations 0.25, 0.5, and 1 mg/mL. The total MeOH extract and EtOAc fraction showed high antioxidant activity 75% and 68% (Conc. 1 mg/mL), respectively while, the n-hexane and EtOAc fractions exhibited significant anti-inflammatory effects.

## Keywords:

*Anisotes trisulcus*; Acanthaceae; Flavonol; Antioxidant; Anti-inflammatory

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