

Phytochemical and Pharmacological Studies of an Acetonic Extract of *Marrubium globosum* Montbr. et Auch. ex Benth. ssp. *libanoticum* Boiss. (Lamiaceae)

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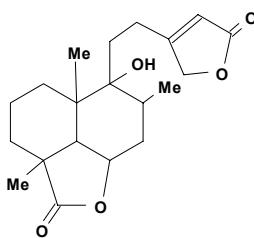
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The genus *Marrubium* (Lamiaceae) comprises around 97 species, indigenous in the Mediterranean area, Europe and Asia. Many *Marrubium* species are reported in the literature to be used in folk medicine for the treatment of a variety of diseases, especially gastroenteric and respiratory disorders. As chemical constituents of *Marrubium* sp., flavonoids, phenylethanoid glycosides and labdane diterpenoids have been reported. In this communication we describe the anti-inflammatory activity of an acetonic extract of *M. globosum* ssp. *libanoticum*, as well as the isolation and identification of a new diterpenic compound. Plant material (550 g) was collected in August from flowering plants from Lebanon. The powdered plant was extracted with Me₂CO and the residue was chromatographed on silica gel eluting with petrol and petrol-EtOAc. The further purification by HPLC gave pure marrubalibanoside (**1**). The structure of this new compound was elucidated by spectral methods (IR, UV, MS, NMR). The anti-inflammatory effect of *M. globosum* extract was investigated using carrageenin-induced paw oedema. Oedema was induced in male Wistar rats by subplantar injection into the right hind paw of 0.1 ml saline containing 1 % λ-carrageenin. The volume of the paw was measured by plethysmometer immediately after the injection. Subsequent readings of the volume of the same paw were carried out at 1 h intervals up to 5 h and compared to the initial readings. The increase in paw volume was taken as oedema volume. The *M. globosum* extract (100 mg/kg) given by oral gavage 1 hour before the injection of the phlogistic agent, showed a significant anti-inflammatory activity reducing paw swelling. The effect was comparable with that of the standard drug acetylsalicylic acid. Additional pharmacological and phytochemical studies are in progression in order to clarify the mechanism of action and to identify the chemical compounds responsible for the pharmacological effect of *M. globosum*.



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