Antifungal and antibacterial activity of the essential oil of Chamaecyparis lawsoniana from Spain.


Source

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Abstract

The essential oils extracted from the young stems and leaves of Chamaecyparis lawsoniana (A.Murray) Parl. have been analysed by Gas Chromatography and Gas Chromatography coupled to Mass Spectrometry. A total of 66 compounds were identified representing around the 99% of the total oil. The oil was richer in monoterpenes than in sesquiterpenes. The only main component was limonene with a percentage composition of 77.7%. The rest of compounds that contribute to the fragrance had percentage composition lower that the 3.0%: p-cymen-7-ol (3.0%), myrcene (2.4%), camphor (2.1%), delta-elemene (1.6%), oplopanonyl acetate (1.6%), methyl perillate (1.3%), terpinen-4-ol (1.0%) and beta-oplopenone 1.0%. The antibacterial and antifungal activity of this oil was also tested against different microorganisms. The only fungus tested, Candida albicans, was very sensitive to the treatment with an inhibition halos of 20mm. The oil was more effective with the Gram (+) than with Gram (-) bacteria. The inhibition halos were 12mm, 12-13mm and 12-13mm for Bacillus subtilis, Staphylococcus aureus and Micrococcus luteus respectively. We report new data of the antibacterial and antifungal activity of the essential oil of this species. The essential oil of C. lawsoniana could be considered as a good natural antibacterial and antifungal agent.

PMID: 23157017