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Chemical composition and cytotoxicity of Garcinia urophylla Scort. ex King essential oil

(2024) *Rivista Italiana delle Sostanze Grasse*, 101 (1), pp. 45-49.

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Abstract
Essential oils, a volatile mixture derived from plants, have shown a wide biological activity, and have been used as ancient remedies for the treatment of various diseases. The objective of this study was to investigate the chemical composition and cytotoxicity of the essential oil obtained from Garcinia urophylla leaves collected from Malaysia. Eighteen components were identified using gas chromatography-flame ionisation detection (GC-FID) and gas chromatography/mass spectrometry (GC-MS), which represent 99.9% of the essential oil. The major components were β-caryophyllene (56.2%), α-humulene (26.3%), and α-gurjunene (6.3%). The cytotoxicity of essential oil was evaluated using an MTT assay. The essential oil exhibited cytotoxicity against three cancer cell lines which are HepG2, MCF7, and A549 with the IC50 values of 71.5, 56.2, and 68.5 µg/ mL, respectively. To the best of our knowledge, this is the first report on the essential oil composition obtained from Garcinia urophylla, which may have implications on the pharmaceutical and therapeutic applications of Garcinia genus essential oils.

Author Keywords
cytotoxicity; Essential oil; Garcinia urophylla; β-caryophyllene

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Publisher: INNOVHUB - Stazioni Sperimentali per l'Industria S.r.l - Area Oli e Grassi

ISSN: 00356808
Language of Original Document: English
Abbreviated Source Title: Riv. Ital. Sostanze Grasse
2-s2.0-85191151370
Document Type: Article
Publication Stage: Final
Source: Scopus