



**North Aegean Greek Islands Propolis Antibacterial-Antifungal Activities against *Malassezia***

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**Abstract**

The chemical composition of propolis is highly variable and depends mainly on the local flora. Greece is characterized by high biodiversity flora, assuming different propolis composition. Due to its complex chemical constitution and its pharmaceutical and nutraceutical use worldwide, it is necessary to characterize the quality of propolis and to guarantee a reproducible quality, in order to ensure a safe use<sup>1</sup>. As a part of a systematic research on different propolis, especially from Mediterranean area, we report in this study the chemical analysis of three samples from Northeast Aegean Greek islands (Samos, Chios and Lesvos) performed by GC/MS after silylation.

In these samples diterpenes (abietic acid, imbricataloic acid, isoagatholal, agathadiol, communic acid, pimaric acid, 13-*epi*-cupressic acid, isocupressic acid totarol) have been identified as major constituents. Especially Samos and Chios propolis samples showed high diterpene percentages (58 and 50%, respectively). These findings confirm that both samples belong to the recently defined “Mediterranean type”<sup>2</sup>, probably due to the presence of conifer trees as main propolis plant sources. All the ethanolic extracts of propolis samples have been evaluated for their total phenolic content and showed significant antibacterial activity against nine Gram-negative and -positive human pathogenic bacteria and three fungi, probably due to the large amounts of diterpenes. Furthermore they were evaluated for their inhibitory effects against 18 *Malassezia* strains (reference and clinical)<sup>3</sup>, concluding that rich diterpene propolis may have interesting applications to control *Malassezia* fungal-derived diseases.

**References:**

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