

Wound healing potential of an oleoresin essential oil chemotype from *Canarium schweinfurthii* Engl.

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Abstract

This study was conducted to investigate the chemical composition of essential oil (EO) extracted from an oleoresin of *Canarium schweinfurthii* widespread in the Gabonese tropical forest. A great variability in the chemical composition of EO was observed, among which a chemical profile rich in terpinolene and α -phellandrene (31.2 and 21.8%, respectively), was found and tested as a natural active ingredient for topical applications. After the evaluation of eye and skin irritancy and sensitization potentials of EO on *in vitro* and *in chemico* models, the *in vitro* modulating potential on a model of wound re-epithelialization was assessed. The terpinolene and α -phellandrene-rich chemotype have been proven to accelerate wound healing in a dose-dependent manner (concentration range from 1.8 to 9.0 $\mu\text{g/mL}$). In addition, the ability of this EO to modulate the pro-inflammatory response in human keratinocytes stimulated by UVB was observed *in vitro* by the reduction in levels of interleukin 6 (IL-6) and tumour necrosis factor-alpha (TNF- α), suggesting a possible implication during the inflammation phase of wound healing. Despite the high variability in EO composition, a method of solid-phase microextraction (SPME) of the oleoresin headspace is proposed for the *in situ* identification of the terpinolene and α -phellandrene-rich chemotype instead of conducting hydrodistillation. These results offer interesting perspectives for the development of innovative natural ingredients for the topical route, ingredients obtained in an eco-responsible and non-destructive way.



Cosmetic active ingredient derived from a non-volatile fraction of *Canarium* exudate and uses thereof

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Abstract

The invention mainly relates to an active ingredient intended to impart at least a non-therapeutic cosmetic effect, the ingredient comprising an extract consisting of a non-volatile fraction of *Canarium* exudate, preferably *Canarium schweinfurthii*. The invention also relates to the uses of an active ingredient derived from a non-volatile fraction of *Canarium* exudate as a cosmetic agent for use by topical application imparting a repairing and/or anti-inflammatory effect, but also for combating acne, excess sebum and blackheads.

