

Olibanum - embedded in nanoparticles

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A substantial increase of inflammatory skin diseases such as neurodermatitis, psoriasis and actinic keratoses but also skin cancer has been observed worldwide. The serious barrier and cornification disorders involved can now be treated with frankincense, the lately discovered cosmetic agent.

Most of us associate frankincense which is also called olibanum, gum olibanum or just incense with more or less agreeable olfactory sensations in church buildings. On the occasion of the recent papal elections there was not only white smoke coming out of the chimney of Sistine Chapel but also St. Peter's Cathedral was filled with clouds of frankincense. But what does incense have to do with cosmetics? Frankincense is one of the most priced substances in the orient which in biblical times valued as highly as gold and myrrh and laid the foundations of the wealth of thousand and one nights.

The Egyptians used frankincense extracts for medical purposes and for the embalming of corpses. The Ayurvedic medicine applied frankincense resin as a well-known cure to stop inflammations and to disinfect wounds. The essential oils of frankincense were added to massage oils. And even today, the cosmetic industry is one of the biggest importers of frankincense resins.

From desert trees

Frankincense (*Boswellia serrata*, *Boswellia sacra*) is gained from desert trees. After incision of the barks a liquid resin exudes which then hardens in the sun.

The resin tears then are removed from the barks in a complicated manual procedure with the help of a specific scrape knife, and sold at incense bazaars. High-quality frankincense consists of large golden tears with shiny breaks. The chemical composition varies with the different species.

Anti-phlogistic

Besides the gum-like substances, frankincense consists of essential oils and resin components containing the pharmacologically effective boswellia acids.

Recent pharmacological research findings have identified acetyl-keto- β -boswellia acid (AKBA) as the most effective substance of frankincense. This specific boswellia acid has anti-phlogistic and anti-tumor effects com-

parable to cortisone but without any side effects. Frankincense extracts proved successful in the treatment of rheumatism, chronic enteritis and brain tumors.

AKBA acts as an inhibitor for the 5-lipoxygenase which is an enzyme of the inflammatory cascade and of the topoisomerases i.e. significant enzymes of tumor development. In cases of inflammatory skin diseases, boswellia acids have antiphlogistic effects and also inhibit the hypercornification process involved with actinic keratosis and psoriasis.

Active concentrate

The use in cosmetic products however met with difficulties as the frankincense extracts adhered to the skin and did not penetrate. Due to recent manufacturing processes however, a standardised frankincense extract could be embedded in nanoparticles. The result was an active concentrate with extraordinary dermatocosmetic properties. It is well-tolerated on the skin without being oily or adhering and already penetrates after a short period of time.

First applicability studies have been carried out and only after a two week's application a considerable reduction of the inflammatory skin conditions in cases of neurodermatitis and actinic keratoses could be observed and cornification disorders have been reduced.

Based on this frankincense extract and DMS High Classic Cream, dermatocosmetic products have recently been developed to support the prevention and therapy of skin barrier disorders within the Medical Skin Care. Additionally, new frankincense oil is used in ayurveda treatments and specifically for Pantai® Luar and Pantai® Energy treatments.

Golden tears

High-quality frankincense consists of large golden tears. In complicated manual work, the resin tears are removed from the barks with the help of a scrape knife.

Frankincense is gained from desert trees in the Middle East and in India.

After scraping the barks a liquid resin exudes which hardens in the sun. The resin tears are then removed from the barks using a special scrape knife and then sold in the frankincense bazaars of Oman and Yemen. Frankincense is one of the most prized articles in the Orient valued as highly as gold and myrrh. It is also a well-known medicine in ayurveda.

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