

Medicinal properties of frankincense

Frankincense, also called *olibanum* (Arabic: *luban*) is an aromatic resin obtained from trees of the genus *Boswellia*, particularly *Boswellia sacra*, *B. carteri*, *B. thurifera*, *B. frereana*, and *B. bhaw-dajiana* of the family Burseraceae. It is used in incense and perfumes. The lost city of Ubar, sometimes identified with Irem in what is now the town of Shisr in Oman, is believed to have been a center of the frankincense trade along the recently rediscovered 'Incense Road' in Dhofar — southern region of Oman. Dhofar produces the highest grade of frankincense from *B. sacra*, known as *Hojari*.

Frankincense is used in perfumery, aromatherapy, and religious rites. Frankincense essential oil is obtained by steam distillation of the dry resin. It has bitter, strong-smelling, antiseptic, expectorant, and decongestant properties. The chemical composition of frankincense includes acid resins, gum, 3-acetyl-beta-boswellic acid, alpha-boswellic acid, 4-O-methyl-glucuronic acid, incensole acetate, terpinenes, α -pinene, phellandrene, and pentacyclic triterpenoids.

Frankincense resin is edible and often used as traditional medicine in many Asian countries to cure bronchial and urinary infections. In China it is used to relieve menstrual pain, gum, mouth, and throat complaints, and also as a rejuvenating medicine in India. The essential oil of frankincense contains monoterpenes, sesquiterpenes, monoterpinols, sesquiterpinols, and ketones. Boswellic acid has been

found to have anti-proliferative effects on various tumor cell lines, melanoma, glioblastomas, and liver cancer *in vitro*, based on apoptosis. Frankincense oil has been found to distinguish cancerous cells from normal bladder cells and suppress cancer cell viability. However, frankincense smoke produces a psychoactive substance, tetrahydrocannabinol, which helps to expand consciousness. It helps in clearing the lungs and other mucus-related problems, lightens heavy periods in females, and eases postnatal depressions. It helps in healing wounds, sores, ulcers, carbuncles, hemorrhoids, and inflammations. The essential oil of the frankincense possesses antiseptic, astringent, carminative, digestive, diuretic, sedative, uterine, and vulnerary therapeutic properties. In Ayurvedic medicine Indian frankincense (*B. serrata*), commonly referred to as '*dhoop*,' has been used for hundreds of years, for treating arthritis, healing wounds, strengthening the female hormone system, and purifying the atmosphere from undesirable germs.

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