

# NEWSLETTER

## Knowledge of Herbs- *Alpinia galanga* (Linn.) Willd.

By Total Herb Solutions

*Alpinia galanga*, a plant in the ginger family, is an herb used in cooking. It is also a primary herb in both Ayurvedic and Tibetan medicine. The Latin generic name “Alpinia” was given to commemorate Prospero Alpini (1553-1617), an Italian botanist who catalogued and described exotic plants. The common name “Galangal” is derived from the Arabic Khalanjan, perhaps a perversion or an adaptation of the Chinese Liangtiang (meaning ‘mild ginger’). It is one of the important medicinal crops which are cultivated in India.

### Taxonomy Hierarchy

Kingdom : Plantae

Division : Magnoliophyta

Class : Liliopsida

Order : Zingiberales

Family : Zingiberaceae

Subfamily: Alpinioideae

Tribe : Alpinieae

Genus : Alpinia

Species : A galanga



### Other Common Names

Beng: Kurchi vaca, Eng: The Greater Galangal, Guj: Kulinjan, Hind: Kulanjan, Kan: Dumparasmī, Mal: Peraratta, Mar: Kosht-Kulinjan, Tam: Perarattai, Tel: Pedda dumparashtram

### Description

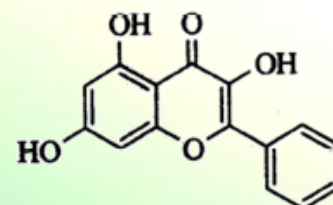
*Alpinia galanga*, is a plant in the ginger family, is an herb used in cooking, especially in Indonesian and Thai cuisines. It is one of four plants known as galangal. The herb grows to a height of about 5 feet, the leaves being long, rather narrow blades, and the flowers, of curious

formation, growing in a simple, terminal spike, the petals white, with deep-red veining distinguishing the lippetal. The branched pieces of rhizome are from 1 ½ to 3 inches in length, and seldom more than ¾ inch thick. The plant grows from rhizomes in clumps of stiff stalks. The robust rhizome has a sharp, sweet taste and smells like a blend of black pepper and pine needles.

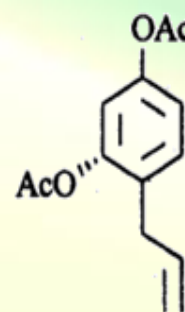
### Chemical constituents

Major: Essential oil composed of a-pinene, B-pinene, limonene, terpinen-4-ol, linalool, methyl eugenol, and eugenol

Others: Quercetin, isorhamnetin, kaempferide, quercetin 3 methyl ether, galangin, galangal A and B, galanolactone. The rhizome also contains flavonoids some of which have been identified as Alpinine and galangine, kaempferol. The potent anti-ulcer principles of *Alpinia galanga*, 1'-acetoxychavicol acetate (1) and 1'-acetoxyeugenol acetate (2), were isolated from seeds of *Alpinia galanga* and established by chemical syntheses. Besides, three sesquiterpenes, caryophyllene oxide (10), caryophyllenol-I (11) and caryophyllenol-II (13), along with n-pentadecane, n-7-heptadecene and fatty acid methyl esters, were also isolated. *Alpinia galanga* rhizome contains the flavonol galangin.



Galangin



1'S'-1'-acetoxychavicol acetate

### Useful Properties

*Alpinia galanga* rhizomes possess carminative, antitubercular, abortifacient and stimulant properties. The pungent principal compound, 1 S-1 acetoxychavicol acetate has been reported to possess various biological activities such as antitumor, anti inflammatory, antifungal, antioxidative, and xanthineoxidase inhibitory activity. Rhizomes of *Alpinia galangal* have been extensively used as condiment for flavoring and as local medicines for the stomachache, carminative and treating diarrhea, arthritis, inflammations, coughs and tubercular glands. It is also useful in vata, bronchitis and diseases of the heart.

### Pharmacological activities

In Ayurveda, an Indian medicinal system the rhizome is used to improve appetite, taste and voice. The essential oils from fresh and dried rhizomes of *Alpinia galanga* showed an antimicrobial activity against gram-positive bacteria, yeast and some dermatophytes. The main components of the oils were also tested and terpinen-4-ol was found most active. An n-pentane/diethyl ether extract of dried rhizomes was active against *Trichophyton mentagrophytes*. Ground rhizome is also used in the treatment of skin infections such as

eczema, ringworm, etc. It has been shown that essential oils from both fresh and dried rhizomes of galangal have antimicrobial activities against bacteria, fungi, yeast and parasite.

### **Adulterants/Substitutes**

Alpinia galangal is adulterated with Alpinia officinarum, which is known as lesser galang.

### **Dosage and Safety Aspects**

The drug is traditionally considered to be safe at the dosage of Kulinjan powder **1 to 2 gm** daily.

### **References:**

<http://www.hillgreen.com/pdf/ALPINIA%20GALANGA.pdf>

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