

Kalmegh ...

Botanical Name : Andrographis paniculata

Common Names : Kalmegh, Green chireyta, King of Bitter, Bhunimba

Introduction : Kalmegh (andrographis) is an annual herb. It is extremely bitter, acrid, cooling and laxative. In India, it is sometimes called "Indian Echinacea".

Plant Description : Kalmegh grows erect to a height of 30-110 cm in moist shady places with glabrous leaves and white flowers having rose-purple spots on the petals. Flowers are small, solitary in panicles. Fruit is approximately 2 cm long. Seeds are numerous, yellow-brown in colour.

Distribution : *Kalmegh is found throughout plain regions in India and other Asian countries.*

History : In Ayurveda the drug has been described as antipyretic and hepatoprotective. Cold infusion of the drug is mentioned in Sushruta Samhita for fever and liver disorders and recommended in Charaka Samhita for treatment of Jaundice. This herb is used by the Chinese in extract form for diseases of the throat.

Parts Used : Mostly the leaves.

Chemistry : Kalmegh (andrographis) contains bitter principles andrographolide, a bicyclic diterpenoid lactone and Kalmeghin.



Action & Uses of Kalmegh :



- Kalmegh is a blood purifier, so used to cure torbid liver, jaundice, dermatological diseases, dyspepsia, febrifuge and anthelmintic.
- Kalmegh acts to dispel heat and remove toxins.
- Kalmegh acts as antibacterial. It appears to have beneficial effect in reducing diarrhoea and symptoms arising from bacterial infections.
- Kalmegh is used in case of diseases like flu, sinusitis, upper respiratory tract infection, cough and bronchitis.
- Kalmegh plant acts as anti-typhoid against Salmonella typhae and antifungal against Helminthosporium sativum.
- **Organic Kalmegh** has a great reputation in the Tribal folklore, as one of the best remedies for Malaria even better than Quinine.

Coleus

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| Latin Name | : Coleus | forskohlii |
| Family | | : Lamiaceae |
| Sanskrit Name | | : Makandi |
| Common Name | : Coleus, | Mainmul, Karpuravali |
| Parts Used | | : Roots |



Distribution : Organic Coleus Forskohlii grows wild on sun-exposed arid and semi-arid hill slopes of the Himalayas in Uttar Pradesh (India) were from Simla eastward to Sikkim and Bhutan, Deccan Plateau, Eastern Ghats, Eastern Plateau and rainshadow regions of the Western Ghats in India.

INTRODUCTION : Coleus forskohlii is part of the mint family of plants and has long been cultivated in India, Thailand and parts of SE Asia as a spice and as a condiment for heart ailments and stomach cramps. The roots of the plant are a natural source of forskolin, the only plant-derived compound presently known to directly stimulate the enzyme adenylate cyclase, and subsequently cyclic AMP.

PLANT DESCRIPTION : This species is a perennial herb with fleshy, fibrous roots that grows wild in the warm subtropical temperate areas in India, Burma and Thailand. It is one of the 150 coleus species, which are commonly cultivated as ornamental plants, because of their colorful foliage. The roots of *C. forskohlii*, unlike other coleus species, are used for health purposes.

DISCOVERY OF FORSKOLIN : *Coleus forskohlii* belonging to the family Labiatae was collected in 1973 from Dehra Dun in North India for targeted pharmacological screening for its phylogenetic relationship to a medicinal herb, *C. amboinicus*. Diterpene Forskolin was derived as active alkaloid from the roots.

PHYTOCHEMICALS : Chief alkaloid found is Forskohlii. Many other diterpenoids as deacetyl forskolin, 9-deoxyforskolin, 1, 9-deoxyforskolin, 1, 9-dideoxy- 7-deacetylforskolin have been isolated. Other minor phytochemicals are allylroyleanone, barbatusin, plectrin, plectirion A, acetoxycoleosol, coleol, coleonone, coleosol, deoxycoleonol, crocetin dialdehyde, naphthopyrones.

PHARMACOKINETICS : Many of its effects come from a resultant increase in an enzyme called adenylate cyclase which increases the amount of cellular cyclic adenosine monophosphate (cAMP) which activates many other enzymes involved in diverse cellular functions. Increased cellular cAMP levels cause several physiological and biochemical effects such as :

- Inhibition of platelet activation and degranulation.
- Inhibition of mast cell degranulation and release of histamine and other allergic compounds.
- Increased force of contraction of the heart muscle.
- Relaxation of the arteries and other smooth muscles, vasodilation.
- Increased insulin secretion.
- Increased thyroid function (and therefore metabolic rate).
- Reduced adipose assimilation and increased lipolysis of fats.

ACTION : Anti-glaucoma, Anti-platelet, Bronchospasmolytic, Cardiotonic, Hypotensive, Anti aging, Anti allergic, Smooth muscle and arterial relaxant, Antiasthmatic.

USES AND BENEFITS OF COLEUS :



- Coleus is found to be effective in skin conditions as eczema and psoriasis.
- Coleus is primarily indicated for cardiovascular diseases including hypertension, congestive heart failure and angina.
- Studies have indicated the use of coleus for asthma, intestinal colic, uterine cramps, as well as painful urination.
- Coleus can aid in weight loss due to its ability to breakdown stored fat as well as inhibit the synthesis of adipose tissue, additionally, it increases thyroid hormone production and release thereby increasing metabolism.
- Ophthalmic preparation of forskolin to the eyes lowers eye pressure thus reducing the risk of Glaucoma.
- Coleus can aid in digestive and malabsorption disorders through its ability to stimulate secretion of saliva, hydrochloric acid, pepsin, amylase and pancreatic enzymes and increase nutrient absorption in the small intestine.