

VASACA

Biological sources: It is dried and fresh leaves of *Adhatoda vasica* or Malabar nut. belongs to the family Acanthaceae.

Chemical constituents/Phytochemicals:

- The chemical constituents of vasaca are alkaloids, tannins, flavinoids, terpenes, sugar and glucosides.
- The major chemical constituents of vasaca are its several alkaloids, and the chief one is vasicine.
- Leaves composed of major constituents which are vasicine and vasicinone.
- Also the leaves of vasaca contain vitamin C in large amount.
- They also have carotene and essential oil in large amount.
- The roots of this plant contain vasicinolone, vasicol, peganine, sitosterol.
- They have beta – glucoside galactose and deoxyvasicine and 2- hydroxyl – 4 –glucosyl-oxychalcone in roots.
- The flowers of this plant contain b-sitosterol-D- glucoside, kaempferol.
- Its glycosides and quercetin minor alkaloids include adhatinine and vasinol.

Medicinal Uses:

- It is used in the treatment of various disease because of its ability of formation of secondary metabolites such as tannins, alkaloid, saponins, flavanoids ,reducing sugar and anthraquinones which have ability to restore health and heal many disease.
- The leaves of vasaca are used to treat cough, asthma, fever, tuberculosis, piles, jaundice, bleeding gum.
- It is also used as an expectorant.
- It has ability of bronchodilator.
- Its decoction has ability to treat cold and rheumatism.
- The extract of leaves, bark and flower is used to treat bronchial, asthmatic and pulmonary affection.

- It has property of speed delivery during childbirth.
- It has various pharmacological activity such as antimicrobial, haepatoprotective and antioxidant activity.
- It is used to treat leprosy, blood disorders, heart troubles, thirst, vomiting.
- It has property to treat loss of memory, leucoderma, tumors, sore-eye and gonorrhoea.
- It has property of sedative, antispasmodic, anti-inflammatory, antidiabetic.
- It has anthelmintic property.
- It is used to treat infertility.
- It also has anti-ulcer activity.
- It has antihistaminic activity.
- It has moderate hypotensive activity.

BALSAM OF TOLU

Synonyms

Tolu Balsam; Thomas balsam; opobalsam; resin tolu; balsam of tolu; balsamum toluatanum.

Biological Source

Tolu Balsam is obtained by incision of stem of *Myroxylon balsamum* (L.) Harms., belonging to family Papilionaceae.

Chemical Tests

1. Alcoholic solution of Balsam Tolu (1 g) gives green colour with ferric chloride due to tolueresinotannols.
2. Alcoholic solution of Balsam Tolu is acidic to litmus paper.
3. To filtered solution of Balsam Tolu (1 g) in water (5 ml) aqueous potassium permanganate solution is added and heated for 5–10 min. Odour of benzaldehyde is produced due to oxidation of cinnamic acid.

Chemical Constituents

Tolu Balsam contains resin (80%) which is a mixture of resin alcohols combined with cinnamic and benzoic acids.

The aromatic acids are also present in free state in proportions 8–15%. The other constituents reported in the drug are benzyl benzoate, benzyl cinnamate, vanillin, styrene, eugenol, ferulic

acid, 1, 2-diphenylethane (bibenzyl), mono-and sesquiterpene hydrocarbons, alcohols, and triterpenoids. Tolu Balsam contains 35 to 50% of total balsamic acids calculated on the dry alcohol-soluble matter.

Uses

Balsam of Tolu is used as an expectorant, stimulant, and antiseptic. It is an ingredient of cough mixtures and compound benzoin tincture. It is also used as a pleasant flavouring agent in medicinal syrups, confectionery, chewing gums, and perfumery.