

SELECT BOTANICAL

GINGER

Technical-Scientific report

GENERAL INFORMATION

Select Botanical manufactures highest quality extracts following strictest Quality Management System in compliance with the "Good Manufacturing Practices" requirements, carrying on the last manufacturing steps in classified areas (Clean Rooms).

Select Botanical assures the traceability with rigorous analysis from raw material to finished product.

REGISTRY NUMBERS

CAS: 84696-15-1
EINECS: 283-634-2
INCI/ UE: ZINGIBER OFFICINALE ROOT EXTRACT

INFORMATION ABOUT PLANT ORIGIN

Botanical Description

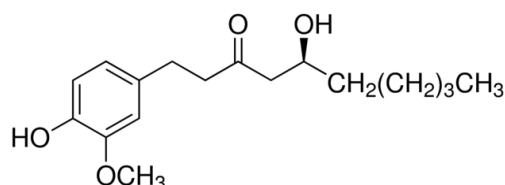
Ginger is a perennial plant up to one meter high. It is native to tropical south-east Asia and cultivated in the West Indies, Africa and China. The rhizome is considered the most useful part of the plant.

The rhizome is buff coloured, laterally compressed, bearing short, flattened, obovate oblique branches on the upper side, each sometimes having a depressed scar at the apex; the whole rhizomes are about 5-10 cm long, 1.5-3 cm or 4 cm wide and 1-1.5 cm thick, sometimes split longitudinally. The scraped rhizome with a light-brown external surface shows longitudinal striations and occasional loose fibres.

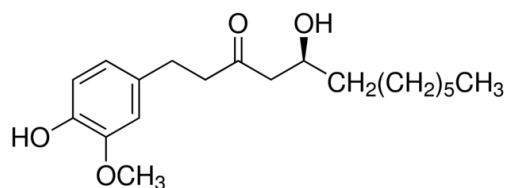
Its odour is agreeable and aromatic and its taste is agreeable and pungent. ⁽¹⁾

Analytical marker / Active principle

6-Gingerol



8-Gingerol



SPECIFICATIONS/ TECHNICAL CHARACTERISTICS

Raw material

Definition: Rhizome of *Zingiber officinale* Roscoe

Description:

- Macroscopic: Complies Ph. Eur. current Ed.
- Microscopic: Complies Ph. Eur. current Ed.

Loss on drying: ≤ 12 % w/w

Pesticides: According to Ph. Eur. current ed.

Assay (HPLC): Total gingerols (%)

Composition of Extract Preparation

Native dry extract
Maltodextrin (if it is necessary)
Colloidal silicon dioxide

Extract Specifications

Water content (KF): ≤ 5 % w/w

Total ash: ≤ 45 % w/w

Heavy metals: Analysis of Pb, Hg, Cd and As

Microbiological assay: According to Ph. Eur. current Ed "5.1.8. Point B"

Residual solvents: According to guidelines CPMP/ICH/283/95

Assay (HPLC): Total gingerols (%)

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PHARMACOLOGICAL STUDIES

- sb** *Antiemetic effects:* Most studies have demonstrated that ginger root extracts increase gastric emptying and gastrointestinal transit. Animal emesis models likewise have shown reduced emesis with the administration of ginger. Gingerols and shogaols seem to be active components.
Pharmacodynamic studies have demonstrated that powdered ginger in dosages of 1000-2000 mg modifies gastric muscular contractions and probably increases gastric emptying, and hence may have a beneficial effect in conditions associated with nausea and vomiting. ^(3, 5)
- sb** *Anti-inflammatory effects:* Many *in vitro* and experimental animal studies, demonstrate that fresh ginger root and ginger root extracts have anti-inflammatory effects. Gingerols and shogaols seem to be active anti-inflammatory components. ⁽⁵⁾
- sb** *Antioxidant effects:* Fresh ginger root and alcoholic extracts of ginger have established antioxidative capacities *in vitro* and in whole animals. The main pungent constituents, 6-gingerol and 6-shogaol, appear to be the main antioxidants. ⁽⁵⁾

PHYTOTHERAPY

Activities

- sb** Antiemetic ⁽⁵⁾
- sb** Anti-inflammatory ⁽⁵⁾
- sb** Antioxidant ⁽⁵⁾
- sb** Carminative ⁽⁵⁾

Indications:

Oral use:

- sb** Herbal medicinal product for the prevention of nausea and vomiting in motion sickness. ^(2, 3, 4)
- sb** Traditional herbal medicinal for the symptomatic relief of motion sickness. ^(2, 3, 4)
- sb** Traditional herbal medicinal product for symptomatic treatment of mild, spasmodic gastrointestinal complaints including bloating and flatulence. ⁽⁴⁾

Undesirable effects:

- sb** Heartburn and minor gastrointestinal complaints (eructation, dyspepsia and nausea), have been reported in a few cases. ^(3, 4)

Contraindications and special warnings:

- sb** In the absence of sufficient data, the use during pregnancy and lactation is not recommended. ^(2, 3, 4)
- sb** The use in children under 18 years of age is not recommended. For more information of the use in children, see the correspondent Community herbal monograph. ⁽⁴⁾

Dosage and administration:

Oral use ⁽³⁾:

Herbal preparations may be found in solid dosage forms for oral use.

For well-established use and traditional use, posology is indicated in the **EMA/HMPC/749154/2010** and **ESCOP** monographs. ^(3, 4)

BIBLIOGRAPHY AND OTHER REFERENCES SOURCES

1. Current monograph "1552: Ginger" of European Pharmacopoeia edition.
2. Blumenthal. The Complete German Commission E Monographs. Therapeutic Guide to Herbal Medicines. American Botanical Council. Austin, Texas 1998.
3. ESCOP Monographs. Second edition. 2003
4. Community Herbal Monograph on *Zingiber officinale* Roscoe, rhizoma. EMA/HMPC/749154/2010. March 2012.
5. Assessment report on *Zingiber officinale* Roscoe, rhizome. EMA/HMPC/577856/2010. March 2012.



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