

SELECT BOTANICAL

HORSE CHESTNUT

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: 8053-39-2
EINECS: 232-497-7
INCI/ UE: AESCULUS HIPPOCASTANUM SEED EXTRACT

INFORMATION ABOUT PLANT ORIGIN

SPECIFICATIONS/ TECHNICAL CHARACTERISTICS

Raw material

Definition: Seeds of *Aesculus hippocastanum* L.
Description:
- Macroscopic Complies bibliographic reference
- Microscopic Complies bibliographic reference
Loss on drying: $\leq 6\%$ w/w
Pesticides: According to Ph. Eur. current ed.
Assay (UV/Vis): Triterpene saponins calc. as Aescin

Composition of Extract Preparation

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

Extract Specifications

Loss on drying: $\leq 6\%$ w/w
Total ash: $\leq 15\%$ 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 (UV/Vis): Triterpene saponins calc. as Aescin (dry basis)

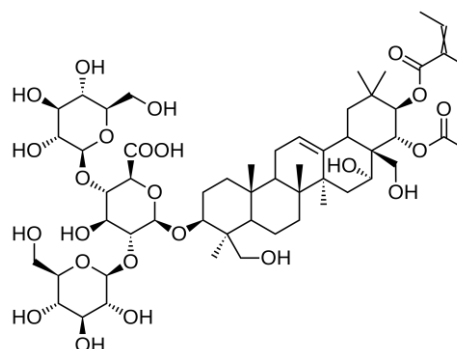
Botanical Description

The trunk of the tree is very erect and columnar, and grows very rapidly to a great height of around 40 meters, with widely spreading branches. It can live up to 300 years. The bark is smooth and greyish-green in colour. The palmate leaves comprise 5-7 pointed, toothed leaflets spreading from a central stem. Flowers are mostly white with a reddish tinge and the fruit is a dark brown smooth-surfaced nut protected with short spines.

The ripe and spherical, soft-thorned fruit capsule, up to 6 cm in diameter is yellowish green and releases 1 (rarely 2 or 3) dark brown seeds, which are shiny when fresh; they are 2-4 cm in diameter, ovoid or subspherical and somewhat flattened at the base, with a large yellowish gray-brown and nearly circular hilum. Its taste is sweetish at first, then strongly bitter. ⁽¹⁾

Analytical marker / Active principle

Aescin



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PHARMACOLOGICAL STUDIES

sb *Anti-inflammatory and anti-oedematous effects:* Anti-oedematous effects of horse chestnut seed extract (and aescin) have been observed *in vivo* after IV and IP administration in rats.

Two meta-analyses, comprising 19 controlled clinical trials and 3 observational studies of a preparation containing a dry extract of *Aesculus hippocastanum* L., semen, in daily oral doses corresponding to 100 mg of aescin indicate that the extract is effective for symptomatic treatment of chronic venous insufficiency. ^(3, 5)

sb *Effects on venous tone:* Aqueous ethanolic extracts of *Aesculus hippocastanum* L., seed (horse-chestnut seed extract; HCSE), and pure aescin, have contracting effects on veins in (very) high concentrations. In pharmacological studies in humans, venous tone resulted increased in the administration of horse chestnut extract. ^(3, 5)

PHYTOTHERAPY

Activities

- sb** Anti-inflammatory ^(2, 3, 4)
- sb** Venotonic ^(3, 5)

Indications:

- sb** Herbal medicinal product for treatment of chronic venous insufficiency, which is characterised by swollen legs, varicose veins, a feeling of heaviness, pain, tiredness, itching, tension and cramps in the calves. ^(2, 3, 4)
- sb** Traditional herbal medicinal product to relieve symptoms of discomfort and heaviness of legs related to minor venous circulatory disturbances. ^(2, 3, 4)
- sb** Traditional herbal medicinal product for relief of signs of bruises, such as local oedema and haematoma. ⁽⁴⁾

Undesirable effects:

- sb** Hypersensitivity reactions of the skin (itching and erythema) have been reported. The frequency is not known. ^(2, 3, 4)

Contraindications and special warnings:

- sb** If there is inflammation of the skin, thrombophlebitis or subcutaneous induration, severe pain, ulcers, sudden swelling of one or both legs, cardiac or renal insufficiency, a doctor should be consulted. ^(3, 4)

- sb** The product should not be used on broken skin, around the eyes or on mucous membranes. ⁽⁴⁾
- sb** In the absence of sufficient data, the use in children below 12 and the use during pregnancy and lactation is not recommended. ^(2, 3, 4)

Dosage and administration:

For well-established used herbal preparations are found in modified or immediate release dosage forms for oral use. For traditional use herbal preparations may be found in semi-solid dosage forms for cutaneous use.

Posology is indicated in the **EMEA/HMPC/225319/2008 (well-established use and traditional use)** and **ESCOP** monographs. ^(3, 4)

BIBLIOGRAPHY AND OTHER REFERENCES SOURCES

- Wichtl, Max. Herbal Drugs and Phytopharmaceuticals: A Handbook for Practice on a Scientific Basis. 3rd Edition. Medpharm Scientific Publishers. 2004.
- Blumenthal. The Complete German Commission E Monographs. Therapeutic Guide to Herbal Medicines. American Botanical Council. Austin, Texas 1998.
- ESCOP Monographs. Second edition. 2003
- Community Herbal Monograph on *Aesculus hippocastanum* L. semen. EMEA/HMPC/225319/2008. July 2009.
- Assessment report on *Aesculus hippocastanum* L. semen. EMEA/HMPC/225304/2008. July 2009.



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