

SELECT BOTANICAL

ECHINACEA ROOT

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: 90028-20-9
EINECS: 289-808-4
INCI/ UE: ECHINACEA PURPUREA ROOT EXTRACT

INFORMATION ABOUT PLANT ORIGIN

SPECIFICATIONS/ TECHNICAL CHARACTERISTICS

Raw material

Definition: Root of *Echinacea purpurea* (L.) Moench

Description:

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

Loss on drying: ≤ 6 % w/w

Pesticides: According to Ph. Eur. current ed.

Assay (HPLC): Caftaric acid + Chicoric acid (dry basis) (%)

Composition of Extract Preparation

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

Extract Specifications

Loss on drying: ≤ 6 % w/w

Total ash: ≤ 10 % 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): Caftaric acid + Chicoric acid (dry basis) (%) *

* Select Botanical can offer other qualities upon request.

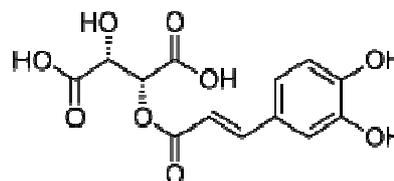
Botanical Description

It is a perennial herb of South Western and Central parts of United States of America. Its smell is aromatic and its taste is sweet in the beginning followed by bitterish and giving tingling effect to the tongue. It has vivid purple coneflowers and dark green leaves.

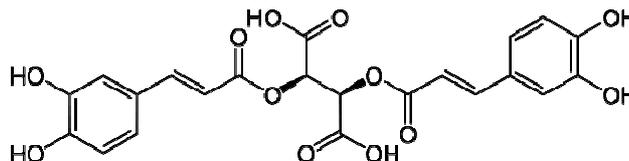
The rhizome is up to 15 cm long, branched, reddish-brown to dark brown on the surface and carries many stem bases; the inside is fibrous and white. The numerous roots are spirally twisted, light to dark brown and show a fine cross structuring on the surface. ⁽¹⁾

Analytical marker / Active principle

Caftaric acid



Chicoric acid



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PHARMACOLOGICAL STUDIES

- sb** *Immunomodulatory activity:* Different *in vivo* and *in vitro* experiments showed an influence on immune functions, such as a macrophage activating capacity. Echinacea has been found to be a highly promising immunostimulant from nature. ^(4, 5)
- sb** *Antimicrobial activity:* *Echinacea purpurea* was found to have antiviral activity against herpes virus and influenza virus in a human cell model. In placebo-controlled trials *Echinacea purpurea* root in combination with other herbal drugs was reported to be successful in reducing the severity of symptoms of common cold or flu. ^(4, 5)
- sb** *Anti-inflammatory activity:* Different *in vivo* tests have proved an anti-inflammatory activity. A fraction from Echinacea root consisting of 10 polyunsaturated isobutylamides had an inhibitory effect in a 5-lipoxygenase assay. ^(2,4)

PHYTOTHERAPY

Activities

- sb** Immunomodulatory ^(4, 5)
- sb** Anti-inflammatory ^(4, 5)
- sb** Antioxidant ^(4, 5)
- sb** Antimicrobial ^(4, 5)

Indications:

Oral use:

In accordance to the EMA Monograph:

- sb** Traditional herbal medicinal product for the supportive treatment for common cold. ⁽³⁾

In accordance to the ESCOP Monograph:

- sb** Adjuvant therapy and prophylaxis of recurrent infections of the upper respiratory tract (common cold). ⁽²⁾

Undesirable effects:

- sb** Hypersensitivity reactions (skin reactions) may occur. The frequency is not known. ^(2, 3)

Contraindications and special warnings:

- sb** In the absence of sufficient data, the use during pregnancy and lactation is not recommended. ^(2, 3)

- sb** Known hypersensitivity to the active substance or to plants of the Asteraceae (Compositae) family. ^(2, 3)
- sb** The use in children under 12 years of age has not been established due to lack of adequate data. ⁽³⁾

For more information regarding the contraindications and special warnings, EMA and ESCOP monographs should be consulted.

Dosage and administration:

Oral use

Herbal preparations are in solid dosage forms for oral and oromucosal use.

Posology is indicated in the **EMA/HMPC/577784/2008 (traditional use)** and **ESCOP** monographs. ^(2, 3)

BIBLIOGRAPHY AND OTHER REFERENCES SOURCES

- Current monograph "1824: Purple coneflower root" of European Pharmacopoeia edition.
- ESCOP Monographs. Second edition. 2003
- Community Herbal Monograph on *Echinacea purpurea* (L.) Moench, radix. EMA/HMPC/577784/2008. March 2010.
- Assessment report on *Echinacea purpurea* (L.) Moench, radix. EMA/HMPC/577786/2008. March 2010.
- Kumar K.M., Ramaiah S. Pharmacological Importance of *Echinacea purpurea*. International Journal of Pharma and Bio Sciences. Vol. 2, Issue 4, 2011, 308-314.



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