



Egyptian Herbal Monograph

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Volume 3

Herbal Formulations Used in Egypt

Egyptian Drug Authority (EDA)

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Echinacea, Ascorbic Acid, Beta Carotene, Zinc إشنسيا / حمض الأسكوربيك / بيتا كاروتين / زنك

1. Names & Synonyms

Echinacea (1, 2)

***Echinacea purpurea* L. Moench.**

Family: Asteraceae (Compositae).

Syns.: *Echinacea intermedia* Lindl., *E. purpurea* (L.) Moench var. *arkansana* Steyererm., *E. purpurea* var. *purpurea* f. *liggettii*, *E. speciosa* Paxt., *Brauneria purpurea* (L.) Britton, *Rudbeckia purpurea* L., *R. hispida* Hoffm., *R. serotina* Sweet.

Arabic: إشنسيا

English name: Purple coneflower.

2. Parts used for medicinal purpose

Echinacea: Aerial parts (stem and leaves) (1, 2) and/or roots (2, 3).

3. Major chemical constituents

Echinacea

Root:

-Phenylpropanoids: Caffeic acid esters; cichoric acid, caftaric acid, chlorogenic and isochlorogenic acids and **caffeic acid glycosides**; echinacoside, verbascoside, caffeoylechinacoside (4).

-Alkamides: Isobutylamides of straight-chain fatty acids with olefinic and/or acetylenic bonds contain mainly 2,4-dienoic units (2,4).



-Polysaccharides: Methylglucuronoarabinoxylan, rhamnoarabinogalactan, xyloglucan and glycoproteins; arabinogalactan-protein (protein has high concentrations of serine, alanine and hydroxyproline) (2).

-Others: Polyacetylene (volatile oil components): Alkylketones; (2,4) saturated pyrrolizidine-type **alkaloids** (tussilagine and isotussilagine) (2,4); **flavonoids** (quercetin, kaempferol, isorhamnetin and their glycosides; betaine, fatty acids, simple sugars, sterols and vanillin (2).

Herb/aerial parts:

-Phenylpropanoids: Caffeic acid esters; cichoric acid, caftaric acid, chlorogenic and isochlorogenic acids, and **caffeic acid glycosides;** echinacoside, verbascoside, caffeoylechinacoside (4).

-Phenolic acids: *p*-coumaric, *p*-hydroxybenzoic and protocatechuic acids; betaine (2).

-Flavonoids: quercetin, kaempferol, isorhamnetin and their glycosides (2,5).

-Alkamides: Isobutylamides of straight-chain fatty acids with olefinic and/or acetylenic bonds contain mainly 2,4-dienoic units (2,4).

-Polysaccharides: Methylglucuronoarabinoxylan, rhamnoarabinogalactan, xyloglucan and glycoproteins; arabinogalactan-protein (protein has high concentrations of serine, alanine and hydroxyproline) (2).

-Others: volatile oil components; borneol, bornyl acetate, germacrene D and caryophyllene (2,4), saturated pyrrolizidine-type alkaloids (tussilagine and isotussilagine) (2,4), anthocyanins, fatty acids, simple sugars, sterols and vanillin (2).

4. Medicinal uses (Indications)

- A) Relief of symptoms of common cold.
- B) Relief of spots and pimples due to mild acne.
- C) Improve immunity.

5. Herbal preparations correlated to medicinal use

Combination of echinacea powder extract (Extraction solvent: alcohol and water), zinc, beta carotene 10% and ascorbic acid.



Herbal preparation is in pharmaceutical dosage forms. The pharmaceutical form should be described by the pharmacopoeia full standard term.

6. Posology and method of administration correlated to medicinal use

Adolescents, Adults and elderly:

12.5-25 mg of echinacea extract ,35-70 mg of zinc gluconate, 4.5-9 mg of beta carotene 10% and 50-100 mg of ascorbic acid, twice daily.

Duration of use:

The therapy should start at the first signs of common cold.

If the symptoms persist longer than 10 days during the use of the medicinal product, a doctor or a pharmacist should be consulted.

Method of administration: Oral use.

Administer with food to avoid stomach upset.

7. Contraindications

- Hypersensitivity to the active substance(s) and to other plants of the same family.

8. Special warnings and precautions for use (4)

- If the symptoms worsen or high fever occurs during the use of the medicinal product, a doctor or a pharmacist should be consulted.
- The use is not recommended in cases of progressive systemic disorders, autoimmune diseases, immunodeficiencies, immunosuppression and diseases of the white blood cell system.
- There is a possible risk of allergic reactions in sensitive individuals. Those patients should consult their doctor before using the product.



- There is a possible risk of anaphylactic reactions in atopic patients. Atopic patients should consult their doctor before using the product.
- The use in children under 12 years is not recommended (4).

Disease related concerns (6):

- **Smokers:** Beta-carotene supplementation has been associated with an increased risk of lung cancer in smokers.
- **Renal impairment / kidney stones:** Use with caution in patients with a history of renal calculi.
- **Iron overload:** Use with caution in patients with hemochromatosis.
- **Gastrointestinal disorders:** Absorption of zinc content may be affected in certain conditions.

9. Interactions with other medicinal products and other forms of interaction

- The product may inhibit cytochrome P4503A4 enzymes (3).
- The action of Econazole vaginal cream may be decreased by echinacea; concurrent use should be avoided (3).
- It may decrease the effects of immunosuppressants, protease inhibitors, corticosteroids and should not be used immediately before, during, or after transplant surgery (3, 7).
- The product may reduce the absorption of certain antibiotics and antiviral agents; separate administration by at least 2 hours (6).
- Orlistat may reduce the absorption of beta-carotene content (6).

LAB Tests:

- The product may increase ALT, AST, lymphocyte counts, serum immunoglobulin E (IgE), blood erythrocyte sedimentation rate (ESR) (3).
- High doses interfere with sperm enzyme activity (7).



10. Fertility, pregnancy and lactation (4)

- Safety during pregnancy and lactation has not been established. In the absence of sufficient data, the use during pregnancy and lactation is not recommended.
- No fertility data available.

11. Effects on ability to drive and use machines

No studies on the effect on the ability to drive and use machines have been performed.

12. Undesirable effects

- Hypersensitivity reactions (skin reactions) may occur (4).
- If adverse reactions occur, a doctor or a pharmacist should be consulted.

13. Overdose

No case of overdose has been reported.

14. Relevant biological properties

Not required as per Egyptian guidelines for registration of herbal medicines.

15. Additional information

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16. Date of compilation/last revision

20/04/2026.



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