



Egyptian Herbal Monograph

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## Volume 3 Herbal Formulations Used in Egypt

Egyptian Drug Authority (EDA)

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## Herbal Formulations Used in Egypt

إشنسيا/ زنك/ بيتا كاروتين/ حمض الأسكوربيك Echinacea, Zinc, Beta carotene, Ascorbic acid

### 1. Names & Synonyms

**Echinacea (1-2)**

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

**Family:** Asteraceae (Compositae).

**Syns.:** *Echinacea intermedia* Lindl., *E. purpurea* (L.) Moench var. *arkansana* Steyerm., *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

**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:** Methylglucuronarabinoxylan, 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:** Methylglucuronarabinoxylan, 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 preparations are 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 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.



## References

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3	Skidmore-Roth, L. Mosby's Handbook of Herbs and Natural Supplements (2010). 4 <sup>th</sup> ed., ISBN: 978-0-323-05741-7.
4	European Union herbal monograph on <i>Echinacea purpurea</i> (L.) Moench, (2017). EMA/HMPC/424583/2016 Committee on Herbal Medicinal Products (HMPC).
5	Coelho, J., Barros, L., Dias, M. I., Finimundy, T. C., Amaral, J. S., Alves M. J., Calhelha, R. C., Santos, P. F. and Ferreira, I. C.F.R. (2020). "Echinacea purpurea (L.) Moench: Chemical Characterization and Bioactivity of Its Extracts and Fractions", <i>Pharmaceuticals</i> , 13, 125.
6	<a href="https://www.drugs.com/">https://www.drugs.com/</a>
7	PDR for herbal medicines (2002). Montvale, NJ: Medical Economics Company, 2nd ed., ISBN 1-56363-361-2.