

Egyptian Herbal Monograph

Volume 2

Medicinal Plants used in Egypt

Egyptian Drug Authority (EDA)

2025



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Panax ginseng C. A. Meyer.

جنسنگ

1. Names & Synonyms

Panax ginseng C. A. Meyer.

Family: Araliaceae.

Syns.: *Aralia ginseng* (C. A. Mey.) Baill, *Panax verus* Oken (1).

Arabic: Ginseng جنسنگ

English: Korean Ginseng, Red Ginseng, White Ginseng (2), Asian Ginseng (3).

2. Parts used for medicinal purpose

Dried root (4- 7).

N.B. White ginseng represents the peeled and sun-dried root whilst red ginseng is unpeeled, steamed and dried (6).

3. Major chemical constituents

- **Triterpenoid saponins (Ginsenosides):** A complex mixture of compounds including Rb1, Rb2, Rc, Rd, Re, and Rg-1 (6,8).
- **Polysaccharides:** Pectins and glucans (9).
- **Others:** Peptides, polyacetylenic alcohols, fatty acids (6), starch, β -amylase, vitamins (B1 , B2 , B12, pantothenic acid, biotin), choline, minerals (6).

4. Medicinal uses (Indications)

- A. Used as a prophylactic and restorative agent for enhancement of mental and physical capacities (5).
- B. For symptoms of asthenia such as fatigue and weakness, exhaustion, tiredness, loss of concentration, and during convalescence (5,7, 10).

5. Herbal preparations correlated to medicinal use

1. **Comminuted herbal substance as a herbal tea** (5-7,11,12)
Powdered dried roots are simmered for 15 minutes in 150 ml hot water as infusion or boiled with 150 ml water as decoction.
2. **Powdered ginseng root** (5,7,11,12)
 - 2.1. White ginseng.
 - 2.2. Red ginseng.

3. Dry extract (7)

3.1. White ginseng

3.1.1. Extraction solvent ethanol 34 - 40% V/ V.

3.1.2. Extraction solvent ethanol 40% V/ V, containing 4% ginsenosides.

3.1.3. Extraction solvent ethanol 57.9% V/ V (= 50% m/m) - 60% V/ V.

3.2. Red ginseng, extraction solvent ethanol 60% V/ V.

4. **Soft extract** of white ginseng, extraction solvent ethanol 60% -70% V/ V (7).

5. **Liquid extract** of white ginseng: extraction solvent ethanol 30.5% V/V (=25% m/m) – 34% V/ V (7).

6. Tincture (11).

Herbal preparations (2-6) 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

Adults and elderly

Preparation 1

- 0.5 – 2 g, taken in the morning daily (5) or 1- 2 g, 2-3 times daily as a decoction (7).

- 3 - 10 g, daily as decoction or decoction concentrate (6,12).

- 3 g as infusion, 3 times daily for 3-4 weeks (11).

Preparation 2

0.5 – 4 g, daily (5,11,12).

2.1. Single dose: 250 -1200 mg, daily dose: 600-2000 mg, once daily (1200 mg) or 2-8 times, daily (7).

2.2. Single dose: 600 mg, daily dose: 1800 mg, 3 times daily (7).

Preparation 3 (7)

3.1.1. Single dose: 90-360 mg, daily dose: 200-670 mg, 1-4 times daily.

3.1.2. Single dose: 40-200 mg, daily dose: 40-200 mg (can be increased up to 600 mg in the first 5 days in special situations), 1-2 times daily.

3.1.3. Single dose: 98-220 mg, daily dose: 196-525 mg, 2-4 times daily.

3.2. 180-500 mg, daily dose: 360-500 mg, once daily (475 mg or 500 mg), or 2 times daily.

Preparation 4 (7)

Single dose: 300-440 mg, daily dose: 440-700 mg, once daily (440 mg) or 2 times daily.

Preparation 5 (7)

Single dose: 500- 1250 mg, daily dose: 900– 2500 mg, 1-2 times daily.

Preparation 6 (11)

1-2 ml daily (1:1 dilution).

Duration of use: Up to 3 months (7, 12)

If the symptoms persist for more than 2 weeks during the use of the medicinal product, a doctor or a pharmacist should be consulted.

Method of administration: Oral use (7, 12).

7. Contraindications

- Hypersensitivity to active substances and to other plants of the same family.
- If breast cancer or other estrogen-dependent conditions are present, ginseng should not be used (11).

8. Special warnings and precautions for use

- If the symptoms worsen during the use of the medicinal product, a doctor or a pharmacist should be consulted.
- The use in children and adolescents under 18 years of age has not been established (7, 12).
- General caution should be taken in patients with cardiovascular disease or diabetes (5, 6, 13).

9. Interactions with other medicinal products and other forms of interaction (11)

- **Anticoagulants, antiplatelets, salicylates:** Ginseng may decrease the action of these products.
- **Antidiabetics, Insulin:** Ginseng is known to decrease blood glucose levels, it may increase the hypoglycemic effect of antidiabetics; avoid concurrent use.
- **Immunosuppressants:** Ginseng may diminish the effect of immunosuppressants; do not use immediately before, during, or after transplant surgery.
- **MAOIs:** Concurrent use of MAOIs with ginseng may result in manic-like syndrome.

- **Stimulants:** Use of stimulants (e.g., xanthines) concurrently with ginseng is not recommended; overstimulation may occur.
- Concurrent use with caffeine-containing preparations or drinks should be avoided (14).
- **Ephedra:** Concurrent use of ephedra and ginseng may increase hypertension and central nervous system stimulation; concurrent use should be avoided.

Lab Test

- **Blood glucose:** Ginseng may decrease blood glucose (decoctions, infusions).
- **Plasma partial thromboplastin time, INR:** Ginseng may increase plasma partial thromboplastin time and INR.
- **Serum, urine estrogens:** Ginseng may have an additive effect on serum and 24-hour urine estrogens.
- **Serum digoxin:** Ginseng may falsely increase serum digoxin.

10. Fertility, pregnancy and lactation (6,7)

- 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 (7).

12. Undesirable effects

- If adverse reactions occur, a doctor or a pharmacist should be consulted.
- Hypersensitivity reactions (urticaria, itching) (7, 11), insomnia (7, 11-13), anxiety, headache (11,12) and gastrointestinal disorders like stomach discomfort, nausea, vomiting, diarrhoea, and constipation have been reported (7).
- Hypertension, chest pain, palpitations, decreased diastolic blood pressure and increased QTC interval (11).

13. Overdose

- Restlessness (11,12), nausea, vomiting, anorexia and diarrhea (11).
- Ginseng Abuse Syndrome: edema, insomnia and hypertonia (11).
- Hypertension resulting from Ginseng Abuse Syndrome is associated with prolonged high dose Ginseng with concomitant use of caffeine (13).



14. Relevant biological activities

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

15. Additional information

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16. Date of compilation/last revision

26/07/2022.

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