



Egyptian Herbal Monograph

Volume 3

Herbal Formulations used in Egypt

Egyptian Drug Authority (EDA)

2025



Egyptian Herbal Monograph

Herbal Formulations Used in Egypt

Ginkgo / Ginseng

چنکو / جنسنگ

1. Names & Synonyms

Ginkgo (1-3)

Ginkgo biloba L.

Family: Ginkgoaceae.

Syns.: *Pterophyllus salisburiensis* Nelson, *Salisburia adiantifolia* Smith, *S. macrophylla* C. Koch

Arabic: چنکو Ginkgo

English: Ginkgo leaves

Ginseng (4-6)

Panax ginseng C. A. Meyer.

Family: Araliaceae.

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

Arabic: جنسنگ Ginseng

English: Korean ginseng, Red ginseng, White ginseng, Asian ginseng.

2. Parts used for medicinal purpose

Ginkgo: Dried leaves (1,3,7).

Ginseng: Dried root (8-11).

3. Major chemical constituents

Ginkgo:

- **Flavonoids:** Flavonols (quercetin, kaempferol, isorhamnetin, and their glycosides and coumaroyl esters) (12), proanthocyanidins (yield delphinidin and cyanidin as main building blocks after acid hydrolysis) (13,14).
- **Terpene lactones:** Bilobalide, ginkgolides A, B, C, J, M (12).
- **Amino acids:** 6-Hydroxykynurenic acid (2-carboxy-4-one-6- hydroxyquinoline), a metabolite of tryptophan (15).

- **Others:** Benzoic acid, ginkgolic acid, 2-hexenal, polyprenols (e.g. di-trans-poly-cis-octadecaprenol) and acidic polysaccharide (16).

Ginseng:

-**Triterpenoid saponins (Ginsenosides):** A complex mixture of compounds including Rb1, Rb2, Rc, Rd, Re, and Rg-1 (17,18).

-**Polysaccharides:** Pectins and glucans (19).

-**Others:** Peptides, polyacetylenic alcohols, fatty acids, starch, β -amylase, vitamins (B1, B2, B12, pantothenic acid, biotin), choline, minerals (17).

4. Medicinal uses (Indications) (20,21)

- A. Improvement of age-associated cognitive impairment and quality of life in mild dementia. Also helps to enhance cognitive function and memory in adults.
- B. Improvement of peripheral arterial occlusive disease particularly intermittent claudication (poor circulation to the lower legs) and vertigo tinnitus of vascular origin.
- C. Relief of heaviness of legs and the sensation of cold hands and feet associated with minor circulatory disorders, after serious conditions have been excluded by a medical doctor.
- D. Used as a prophylactic and restorative agent for enhancement of mental and physical capacities.
- E. For symptoms of asthenia such as fatigue and weakness, exhaustion, tiredness, loss of concentration, and during convalescence.
- F. Improve peripheral and cerebral circulation.

5. Herbal preparations correlated to medicinal use

1. Ginkgo dry extract (Extraction solvent: ethanol / water) Ginseng dry extract (Extraction solvent ethanol / water).
2. Ginkgo dry extract (Extraction solvent: Acetone / water), Ginseng dry extract (Extraction solvent: Water).

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 (20,21)

Preparation 1

Adults and elderly:

100-360mg Ginkgo dry extract and 50-200mg Ginseng dry extract, 1-2 times daily.

Preparation 2

Adults: 60 mg Ginkgo dry extract and 300 mg Ginseng dry extract, daily.

Duration of use:

- 1- Up to 3 months. If the symptoms persist for more than 2 weeks during the use of the medicinal product, a doctor or a pharmacist should be consulted.
- 2- In cases of age-associated cognitive impairment and peripheral arterial occlusive disease: Treatment should last for at least 8 weeks. If there is no symptomatic improvement after 3 months, or if pathological symptoms should intensify, the doctor should check whether continuation of treatment is still justified.

Method of administration: Oral use.

7. Contraindications

- Hypersensitivity to active substances and to other plants of the same family.
- The use is contraindicated in pregnancy (7).
- If breast cancer or other estrogen-dependent conditions are present, the product should not be used (2).

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 (2,7,11,21).
- In patients with a pathologically increased bleeding tendency (haemorrhagic diathesis) and concomitant anticoagulant and antiplatelet treatment, the medicinal product should only be used after consultation with a doctor (2,7,11,22).
- Use should be stopped prior to surgery due to a potential risk of increased bleeding or interaction with perioperative drug treatment (23).

- In patients with epilepsy: Ginkgo decreases seizure threshold (2,7,23).
- Caution should be taken in patients with cardiovascular disease or diabetes (11,22).

9. Interaction with other medicinal products and other forms of interaction (18,19)

- Concomitant use with Efavirenz is not recommended.
- Concurrent use with anticoagulants, platelet inhibitor, salicylates and other non-steroidal anti-inflammatory drugs or herbs should be avoided because of the increased risk of bleeding.
- It may decrease the anticonvulsant effect; concurrent use should be avoided.
- Buspirone, fluoxetine: concurrent use may cause hypomania.
- Selective serotonin reuptake inhibitors (SSRIs): Ginkgo is often used to reverse the sexual side effects of SSRIs.
- The product with trazadone may cause coma.
- It may increase the hypoglycemic effect of antidiabetics; concurrent use with antidiabetics or insulin should be avoided.
- It may diminish the effect of immunosuppressants; the use immediately before, during, or after transplant surgery should be avoided.
- Concurrent use with MAOIs may result in manic-like syndrome.
- Use of stimulants (e.g., xanthines) concurrently is not recommended; overstimulation may occur.
- Concurrent use with caffeine-containing preparations or drinks should be avoided.
- Concurrent use with ephedra should be avoided as it may increase hypertension and central nervous system stimulation.

Lab Test (2,20,21)

- The product may cause increased bleeding, prothrombin time, blood salicylate and decreased platelet activity.
- It may falsely increase serum digoxin.
- The product may have an additive effect on serum and 24-hours urine estrogens.
- Concurrent use with St. John's wort can lead to hypomania Lab Test.

10. Fertility, pregnancy, and lactation

- The use during pregnancy and lactation should be avoided (3,23).
- No fertility data available.

11. Effects on ability to drive and use machines (7,11)

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

12. Undesirable effects (20,21)

- If adverse reactions occur, a doctor or a pharmacist should be consulted.
- Bleeding of some organs has been reported (eye, nose, cerebral and gastrointestinal haemorrhage)
- Headache and dizziness.
- Mild gastrointestinal complaints: diarrhoea, abdominal pain, nausea and vomiting.
- Hypersensitivity reactions (allergic shock) may occur, skin, subcutaneous tissue disorders and allergic skin reactions (erythema, oedema, itching, rash) may also occur.
- Hypertension, chest pain, palpitations, decreased diastolic blood pressure and increased QTc interval.

13. Overdose

- Restlessness (2, 22).
- nausea, vomiting, anorexia and diarrhea (2).
- Ginseng Abuse Syndrome: edema, insomnia and hypertonia (2).
- Hypertension resulting from Ginseng Abuse Syndrome is associated with prolonged high dose Ginseng with concomitant use of caffeine (24).

14. Relevant biological properties

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

15. Additional information

-



16. Date of compilation/last revision

22/01/2024

References

1.	WHO monographs on selected medicinal plants (2007). Monographs on selected medicinal plants, 1 , 154 -167.
2.	Skidmore-Roth, L. Mosby's Handbook of Herbs and Natural Supplements (2010). 4 th ed., ISBN: 978-0-323-05741-7.
3.	Barnes J., Anderson L. A. and Phillipson J. D. (2007). Herbal Medicines, 3 rd ed., Pharmaceutical Press, London, p. 293-298.
4.	https://powo.science.kew.org
5.	Braun, L. and Cohen, M. (2010). Herbs and Natural Supplements – An Evidence Based Guide. 3 rd edition, Churchill Livingstone, ISBN: 978 0 7295 3910 4.
6.	Aronson, J. K. (2009). Meyler's Side Effects of Herbal Medicines. Elsevier, ISBN: 978-044-453269-5.
7.	European Union Herbal Monograph on <i>Ginkgo biloba</i> L., (2015). EMA/HMPC/321097/2012. Committee on Herbal Medicinal Products (HMPC).
8.	British Pharmacopoeia (2020). Volume IV, www.webofpharma.com .
9.	WHO monographs on selected medicinal plants (1999). Monographs on selected medicinal plants, 1 , 168-182.
10.	Park, J. D., Rhee, D. K. and Lee, Y. H. Biological activities and chemistry of saponins from <i>Panax ginseng</i> C. A. Meyer. <i>Phytochem., Rev.</i> , 4 , 159 – 175 (2005). https://doi.org/10.1007/s11101-005-2835-8 .
11.	European Union Herbal Monograph on <i>Panax ginseng</i> A.C. Mayer, radix. (2014). EMA/HMPC/475726/2012. Committee on Herbal Medicinal Products (HMPC).
12.	Li, W. and Fitzloff J. F. (2002). HPLC determination of flavonoids and terpene lactones in commercial <i>Ginkgo biloba</i> products. <i>J. Liquid Chromatography & Related Technologies</i> , 25 (16), 2501-2514, DOI: 10.1081/JLC-120014270.
13.	Kulić, Ž., Ritter, T., Röck, B., Elsässer, J., Schneider, H. and Germer, S. (2022). A detailed view on the proanthocyanidins in Ginkgo extract EGb 761. <i>Planta Med.</i> , 88 (5), 398-404. doi: 10.1055/a-1379-4553.
14.	Qa'dan, F., Mansoor, K., AL-Adham, I., Schmidt, M. and Nahrstedt, A. (2011). Proanthocyanidins from <i>Ginkgo biloba</i> leaf extract and their radical scavenging activity. <i>Pharmaceutical Biology</i> , 49 (5), 471 476. DOI: 10.3109/13880209.2010.523831 .
15.	Zhou, M., Hua, T., Ma, X., Sun, H. and Xu, L. (2019). Protein content and amino acids profile in 10 cultivars of ginkgo (<i>Ginkgo biloba</i> L.) nut from China. <i>Royal Society Open Sci.</i> , 6 (3),181571. doi: 10.1098/rsos.181571. PMID: 31032014;

	PMCID: PMC6458402.
16.	Wang, F., Ye, S., Ding, Y., Ma, Z., Zhao, Q., Zang, M. and Li, Y. (2022). Research on structure and antioxidant activity of polysaccharides from <i>Ginkgo biloba</i> leaves. <i>Journal of Molecular Structure</i> , 1252, 132185.
17.	Park, J. D., Rhee, D. K. and Lee, Y. H. Biological activities and chemistry of saponins from <i>Panax ginseng</i> C. A. Meyer. <i>Phytochem., Rev.</i> , 4, 159–175 (2005).
18.	Chen, W., Balan, P. and Popovich, D. G. (2019). Analysis of ginsenoside content (<i>Panax ginseng</i>) from different regions. <i>Molecules</i> , 24 (19), 3491. doi: 10.3390/molecules24193491.
19.	Kim, D. H. (2012). Chemical diversity of <i>Panax ginseng</i> , <i>Panax quinquefolium</i> and <i>Panax notoginseng</i> . <i>J. Ginseng Res.</i> , 36(1), 1-15. doi: 10.5142/jgr.2012.36.1.1.
20.	Egyptian Herbal Monograph (2023). <i>Ginkgo biloba</i> L., 3 , 320-325.
21.	Egyptian Herbal Monograph (2023). <i>Panax ginseng</i> C. A. Meyer, 3 , 382-387.
22.	Natural Health Product, <i>Panax ginseng</i> (L.) (2018). Health Canada, https://webprod.hc-sc.gc.ca/nhp/nd-bdipsn/monoReq.do?id=29&lang=eng
23.	Edwards, S. E., Rocha, I. D. C., Williamson, E. M. and Heinrich, M. (2015). <i>Phytopharmacy: An Evidence-Based Guide to Herbal Medicinal Products</i> . Wiley-Blackwell. ISBN: 978-1-118-54356- 6.
24.	PDR for herbal medicines (2002). Montvale, NJ: Medical Economics Company, 2 nd ed., ISBN 1- 56363-361-2.