

Egyptian Herbal Monograph

Volume 2

Medicinal plants used in Egypt

Egyptian Drug Authority (EDA)

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***Lepidium meyenii* Walp.**

مكا

1. Names & Synonyms (1)

***Lepidium meyenii* Walp.**

Syns.: *Lepidium affine* Wedd., *L. gelidum* Wedd., *L. peruvianum* G.Chacón, *L. weddellii* O.E. Schulz.-

Family: Brassicaceae (Cruciferae).

Arabic name: Maca مكا

English name: Maca, Peruvian ginseng (2,3).

2. Parts used for medicinal purpose

Dried root (3) / hypocotyl (4).

3. Major chemical constituents

- **Carbohydrates** (5): Non starch polysaccharides (6,7).
- **Alkamides: (Macaenes and macamides):** 9-oxo-10E,12Z-octadecadienoic acid, 9-oxo-10E,12E-octadecadienoic acid, N-benzyl-9-oxo-10E,12Z-octadecadienamide, N-benzyl-9-oxo-10E,12E-octadecadienamide, N-benzyl-9Z,12Z,15Z-octadecatrienamide, N-benzyl-9Z,12Z-octadecadienamide and N-benzyl-hexadecanamide (8).
- **Glucosinolates:** Glucotropaeolin (Benzylglucosinolate) benzylisothiocyanate, m-methoxybenzylisothiocyanate (9, 10).
- **Hydantoins:** Meyeniihydantoins, thiohydantoins and macahydantoins (11).
- **Alkaloids:** Lepidiline A, lepidiline B, macapyrrolins A-C (11) and macaridine (3,7, 12).
- **Phenolics:** Catechin, epicatechingallate, gallicocatechin and epigallocatechin gallate (11).
- **Carboxylic acids:** Mandelic, 3,4-dihydroxybenzoic and p-coumaric acids (11).
- **Essential amino acids:** Valine, lysine, leucine and isoleucine (13).
- **Fatty acids:** Unsaturated fatty acids (6) linoleic, palmitic and oleic acids (14).
- **Others:** β -sitosterol, campesterol, stigmasterol (11) and proteins (5, 7).

4. Medicinal Uses (Indications)

- As a tonic and aphrodisiac to enhance sexual drive and female fertility (3, 15).

5. Herbal preparations correlated to medicinal use (4)

- 1) Comminuted herbal substances are added to water as herbal tea in the form of decoction or infusion.
- 2) Extracts (Dry / Fluid) using suitable solvents such as alcohol and water or a mixture of them (10).
- 3) Tincture (1:4 or 1:5) (16).

Herbal preparations (2 and 3) 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

Preparation 1 (4,17,18)

1.5 – 3.5 g, daily

Preparations 2

- 450 mg, 3 times daily (19).
- Corresponding to 3 - 3.5 g of Maca root (4).

Preparations 3

- 4 – 6 ml (80–120 drops), 3 times daily (16).
- Corresponding to 3 - 3.5 g of Maca root (4).

Duration of use:

For preparation 1: 6 – 12 weeks (4, 17).

Products providing 0.6 to 3 g dried root/hypocotyl, daily: Consult a physician for use beyond 12 weeks (4).

Products providing more than 3 g dried root/hypocotyl, daily: Consult a physician for use beyond 6 weeks (4).

Method of administration: Oral use.

7. Contraindications

- Hypersensitivity to active substances and to other plants of the same family.
- Hormone-sensitive conditions such as breast cancer, uterine cancer, ovarian cancer, endometriosis or uterine fibroids. Extracts from Maca might act like estrogen. The use of these extracts should be avoided in case of any condition that might be made worse by estrogen (20).
- Thyroid conditions (15,19).



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.
- In hypertensive patients, taking antidepressants or blood thinners, a doctor or pharmacist should be consulted (4, 10).
- In any psychological disorder and/or condition such as frequent anxiety or depression a doctor or pharmacist should be consulted prior to use (4).

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

None reported.

10. Fertility, pregnancy and lactation

- Safety during pregnancy and lactation has not been established. In the absence of sufficient data, the use during pregnancy and lactation is not recommended (3, 10,15).
- Enhance fertility (10, 17).

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

- None reported.
- If adverse reactions occur, a doctor or a pharmacist should be consulted.

13. Overdose

No case of overdose has been reported.

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

11/12/2023

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