

ALFALFA FOR HOMOEOPATHIC PREPARATIONS

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Medicago sativa ad praeparationes homoeopathicas
Other Latin name used in homoeopathy: **Medicago sativa**

DEFINITION

Fresh, whole flowering plant *Medicago sativa* L.

CHARACTERS

Macroscopic and microscopic characters described under identification tests A and B.

IDENTIFICATION

- A. Alfalfa is a herbaceous perennial 60-70 cm in height. It has an angular, ramose stem, erect from the base. The alternate, petiolate leaves have 3 oblong leaflets, denticulate at the tips; these are obtuse and slightly notched at the summit, with a mucro near the middle of the notch. The leaves have acuminate, oval-lanceolate stipules which are dentate at the base. The inflorescence consists of an oblong raceme of purple flowers borne on pedicels which are shorter than the calyx tube. The peduncle of the inflorescence is longer than the leaf. The flower has 5 sepals fused into a tube, with five divisions at the top. The corolla is papilionaceous and zygomorphous, consisting of 5 pieces about 1 cm in length. The flower has 10 stamens: 9 are fused to form a tube opened at the back; the back stamen is free. The unilocular superior ovary is crowned with a single style.
- B. Take a sample of epidermis from the underside of the leaf. Examine under a microscope, using *chloral hydrate solution R*. The abaxial epidermis is covered with a striated cuticle, and consists of more or less polygonal cells, generally anisocytic stomata (2.8.3), and thin, unicellular covering trichomes, about 400 µm long, with thick, verrucous cell walls.

TESTS

Foreign matter (2.8.2): maximum 5 per cent.

Loss on drying (2.2.32): minimum 60.0 per cent, determined on 5.0 g of finely cut drug, by drying in an oven at 105 °C for 2 h.

***Medicago falcata* L.** The drug does not have any yellow flowers. The presence of yellow flowers may indicate adulteration by *Medicago falcata* L.

STOCK

DEFINITION

The mother tincture complies with the requirements of the general technique for the preparation of mother tinctures (see *Homoeopathic Preparations (1038)* and French Pharmacopoeia Authority Supplement). The mother tincture is prepared with *ethanol* (55 per cent V/V), using the fresh, whole flowering plant *Medicago sativa* L.

CHARACTERS

Appearance: green-brown liquid.

IDENTIFICATION

A. Thin-layer chromatography (2.2.27).

Test solution. Mother tincture.

Reference solution. Dissolve 3 mg of *threonine R*, 7 mg of γ -aminobutyric acid *R* and 7 mg of *leucine R* in *water R* and dilute to 20 mL with *ethanol (96 per cent V/V) R*.

Plate: TLC silica gel plate *R*.

Mobile phase: *water R*, *ethanol (96 per cent V/V) R* (17:63 V/V).

Application: 30 μ L, as bands.

Development: over a path of 10 cm.

Drying: in air.

Detection: spray with a solution of *ninhydrin R* and heat to 100-105 °C for 5-10 min. Examine in daylight.

Results: see below the sequence of zones present in the chromatograms of the test solution and the reference solution. Furthermore other purple-pink zones may be present in the chromatogram obtained with the test solution.

Top of the plate	
Leucine: a purple-pink zone Threonine: a purple-pink zone γ -aminobutyric acid: a purple-pink zone	A purple-pink zone (leucine) A purple-pink zone (threonine) A purple-pink zone (γ -aminobutyric acid)
Reference solution	Test solution

B. Thin-layer chromatography (2.2.27).

Test solution. Mother tincture.

The General Chapters and General Monographs of the European Pharmacopoeia and Preamble of the French Pharmacopoeia apply.

Reference solution. Dissolve 1 mg of *coumestrol R* and 1 mg of *scopoletin R* in 80 mL of *ethanol* (96 per cent V/V) *R*.

Plate: TLC silica gel plate *R*.

Mobile phase: test solution upper phase: mixture of *dilute acetic acid R*, *ether R*, *toluene R* (10:50:50 V/V/V).

Application: 40 µL as bands.

Development: over a path of 10 cm.

Drying: in air.

Detection: examine in ultraviolet light at 365 nm.

Results: see below the sequence of fluorescent zones present in the chromatograms of the test solution and the reference solution. Furthermore other fluorescent zones may be present in the chromatogram obtained with the test solution.

Top of the plate	
Coumestrol: a purple-blue zone Scopoletin: a blue zone	A greenish zone A purple-blue zone A purple-blue zone (coumestrol) A blue zone
Reference solution	Test solution

TESTS

Ethanol (2.9.10): 50 per cent V/V to 60 per cent V/V.

Dry residue (2.8.16): minimum 1.0 per cent *m/m*.

The General Chapters and General Monographs of the European Pharmacopoeia and Preamble of the French Pharmacopoeia apply.