HORSEBALM
FOR HOMOEOPATHIC PREPARATIONS

COLLINSONIA CANADENSIS
FOR HOMOEOPATHIC PREPARATIONS

Collinsonia canadensis ad praeparationes homoeopathicas

DEFINITION

Dried underground organ of *Collinsonia canadensis* L.

Content: minimum 0.8 per cent of tannins, expressed as pyrogallol ($C_6H_6O_3$; M_r 126.1) (dried drug).

CHARACTERS

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

IDENTIFICATION

A. Very hard and irregular, greyish-brown fragments, reaching up to 10 cm long and 2 cm in diameter. Upper side carrying rests of short and conical buds and clear scars of aerial stems. Underside bearing short and threadlike roots or their hollow scars. Examine the transverse section with a magnifying glass: brown suber, narrow cortical zone and whitish pith surrounded by a ring of dark, thin wooden tips.

B. Reduce horsebalm to a powder (355). The powder is dark brown. Examine under a microscope using *chloral hydrate solution R.* Fragments of suber with polyhedral cells; fragments of cellulose parenchyma; fragments of lignous tissue composed of woody vessels with reticulate or pitted patterns and lignous parenchyma with cells slightly and regularly lignified and pitted. Examine under a microscope, using a solution of *glycerol R* (50 per cent *V/V*). Small, kidney-shaped starch granules, ovoid or oblong reaching up to 40 µm long.

C. Thin-layer chromatography (*2.2.27*).

Test solution. Add 30 mL of *ethanol* (65 per cent *V/V*) *R* to 3 g of powdered drug (355). Heat under a reflux condenser on a water-bath for 15 min. Allow to cool. Filter.

Reference solution. Dissolve 20 mg of *asiaticoside R* and 10 mg of *madecassoside R* in 10 mL of *methanol R.*

Plate: *TLC silica gel plate R.*

Mobile phase: *water R, methanol R, glacial acetic acid R, methylene chloride R* (2:3:8:15 *V/V/V/V*).

Application: 20 µL, as bands.

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

Development: over a path of 10 cm.

Drying: in air.

Detection: spray with *anisaldehyde solution R.* Heat at 100-105 °C for 10 min. Examine in daylight.

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

Top of the plate	
	A pink-brown zone
------	------
	A more or less intense purplish-grey zone
Asiaticoside: a blue zone	
	A light orange zone
Madecassoside: a brownish-grey zone	
	A grey zone
------	------
	Two-three grey zones
Reference solution	**Test solution**

TESTS

Foreign matter (*2.8.2*): complies with the test.

Loss on drying (*2.2.32*): maximum 11.0 per cent, determined on 1.000 g of powdered drug (355), by drying in an oven at 105 °C for 2 h.

Total ash (*2.4.16*): maximum 8.0 per cent, determined on 1.000 g of powdered drug (355).

Ash insoluble in hydrochloric acid (*2.8.1*): maximum 0.8 per cent, determined on 1.000 g of powdered drug (355).

ASSAY

Carry out the determination of tannins in herbal drugs (*2.8.14*). Use 1.000 g of powdered drug (180).

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

STOCK

DEFINITION

Horsebalm 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 (65 per cent *V/V*), using dried underground organ of *Collinsonia canadensis* L.

Content: minimum 0.08 per cent *m/m* of tannins, expressed as pyrogallol ($C_6H_6O_3$; M_r 126.1).

CHARACTERS

Appearance: brownish-yellow liquid.

IDENTIFICATION

Thin-layer chromatography (*2.2.27*).

Test solution. Mother tincture.

Reference solution. Dissolve 20 mg of *asiaticoside R* and 10 mg of *madecassoside R* in 10 mL of *methanol R*.

Plate: *TLC silica gel plate R.*

Mobile phase: *water R, methanol R, glacial acetic acid R, methylene chloride R* (2:3:8:15 *V/V/V/V*).

Application: 20 µL, as bands.

Development: over a path of 10 cm.

Drying: in air.

Detection: spray with *anisaldehyde solution R.* Heat at 100-105 °C for 10 min. Examine in daylight.

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

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

Top of the plate	
------ Asiaticoside: a blue zone Madecassoside: a brownish-grey zone ------	A pink-brown zone ----- A more or less intense purplish-grey zone A light orange zone A grey zone ----- Two-three grey zones
Reference solution	**Test solution**

TESTS

Ethanol (*2.9.10*): 60 per cent *V/V* to 70 per cent *V/V*.

Dry residue: minimum 0.4 per cent *m/m.*

ASSAY

Carry out the determination of tannins in herbal drugs (*2.8.14*). Use 10.00 g of mother tincture**.**

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