CINCHONA BARK
FOR HOMOEOPATHIC PREPARATIONS

CHINA RUBRA
FOR HOMOEOPATHIC PREPARATIONS

Cinchona cortex ad praeparationes homoeopathicas

Other latin names used in homoeopathy:
China
Cinchona succirubra
Quinquina

DEFINITION

The herbal drug complies with the requirements of monograph Cinchona bark (0174).

STOCK

DEFINITION

Cinchona bark 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 percent V/V), using the dried bark of Cinchona pubescens Vahl (Cinchona succirubra Pavon) or of its varieties or hybrids.

Content adjusted value: minimum 0.30 per cent m/m; maximum 0.65 per cent m/m of total alkaloids, expressed as quinine (C_{20}H_{24}N_{2}O_{2}; M, 324.4).

CHARACTERS

Appearance: red-brown liquid.

IDENTIFICATION

Thin-layer chromatography (2.2.27).

Test solution. Add a few drops of concentrated ammonia R to 10 mL of mother tincture and extract with 2 quantities, each of 10 mL, of methylene chloride R. Combine the organic phases and evaporate to dryness on a water-bath. Dissolve the residue in 10 mL of ethanol (96 per cent) R.

Reference solution. Dissolve 0.5 mg of quinidine R, 10 mg of cinchonine R, 10 mg of cinchonidine R and 17.5 mg of quinine R in 25 mL of ethanol (96 per cent) R.

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

French Pharmacopoeia 2007
Plate: TLC silica gel plate R.


Application: 10 µL, as bands.

Development: over a path of 15 cm.

Drying: heat for 10 min at 100 - 150 °C. Allow to cool.

Detection A: spray with anhydrous formic acid R. Examine in ultraviolet light at 365 nm.

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

<table>
<thead>
<tr>
<th>Top of the plate</th>
<th>Reference solution</th>
<th>Test solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quinidine: an intense blue zone</td>
<td>An intense blue zone (quinidine)</td>
<td></td>
</tr>
<tr>
<td>Quinine : an intense blue zone</td>
<td>An intense blue zone (quinine)</td>
<td></td>
</tr>
</tbody>
</table>

Detection B: spray with iodoplitate reagent R. Examine in daylight.

Results B: see below the sequence of zones present in the chromatograms of the reference solution and the test solution

<table>
<thead>
<tr>
<th>Top of the plate</th>
<th>Reference solution</th>
<th>Test solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cinchonine: a purple zone, turning purple-grey</td>
<td>A purple zone, turning purple-grey (cinchonine)</td>
<td></td>
</tr>
<tr>
<td>Quinidine: a purple zone, turning purple-grey</td>
<td>A purple zone, turning purple-grey (quinidine) (may be absent)</td>
<td></td>
</tr>
<tr>
<td>Cinchonidine: an intense dark blue zone</td>
<td>An intense dark blue zone (cinchonidine)</td>
<td></td>
</tr>
<tr>
<td>Quinine: a purple zone, turning purple-grey</td>
<td>A purple zone, turning purple-grey (quinine)</td>
<td></td>
</tr>
</tbody>
</table>

TESTS

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

Dry residue (2.8.16): minimum 1.5 per cent m/m.
ASSAY

Evaporate the ethanol from 10.0 g of mother tincture on a water-bath. Render the aqueous residue alkaline with *dilute ammonia* *R*. Extract with fractions of 15 mL of *methylene chloride* *R* until the alkaloids have been thoroughly extracted. Combine the organic phases and dry over *anhydrous sodium sulfate* *R*. Filter. Wash the filter with 15 mL of *methylene chloride* *R*. Combine the filtrate and the washing solution and evaporate on a water-bath. Dissolve the dry residue in 10 mL of *glacial acetic acid* *R* and titrate with *0.1 M perchloric acid*, using *crystal violet* *R* as indicator.

1 mL of *0.1 M perchloric acid* is equivalent to 16.2 mg of quinine.