Edition: BP 2025 (Ph. Eur. 11.6 update)

Econazole Pessaries

General Notices

Action and use

Antifungal.

DEFINITION

Econazole Pessaries are moulded pessaries containing Econazole Nitrate in a suitable basis.

The pessaries comply with the requirements stated under Vaginal Preparations and with the following requirements.

Content of econazole nitrate, $C_{18}H_{15}Cl_3N_2O,HNO_3$

90.0 to 110.0% of the stated amount.

IDENTIFICATION

A. Mix a quantity of the pessaries, cut into small pieces, containing 40 mg of Econazole Nitrate with 20 mL of a mixture of 1 volume of 1M *sulfuric acid* and 4 volumes of *methanol* and shake with two 50-mL quantities of *hexane*, discarding the organic layers. Make the aqueous phase alkaline with 2M *ammonia* and extract with two 40-mL quantities of *dichloromethane*. Combine the *dichloromethane* extracts, shake with 5 g of *anhydrous sodium sulfate*, filter and dilute the filtrate to 100 mL with *dichloromethane*. Evaporate 50 mL to dryness and dissolve the residue in 50 mL of a mixture of 1 volume of *0.1M hydrochloric acid* and 9 volumes of *propan-2-ol*. The *light absorption* of the resulting solution, Appendix II B, in the range 240 to 350 nm exhibits maxima at 265, 271 and 280 nm. The ratio of the *absorbance* at the maximum at 271 nm to that at the maximum at 280 nm is 1.55 to 1.77. The test is not valid unless the ratio of the *absorbance* in the test for *resolution* is at least 2.
B. In the test for Related substances, the principal spot in the chromatogram obtained with solution (1) corresponds to that in the chromatogram obtained with solution (3).

TESTS

Related substances

Carry out the method for *thin-layer chromatography*, Appendix III A, using the following solutions.

(1) Mix a quantity of the pessaries, cut into small pieces, containing 40 mg of Econazole Nitrate with 40 mL of *methanol* and heat under a reflux condenser for 15 minutes. Allow to cool, filter (Whatman No. 1 paper is suitable), wash the filter paper with *methanol* and evaporate the filtrate and washings to a volume of about 5 mL. Filter (Whatman No. 50 paper is suitable), wash the paper with *methanol*, evaporate the filtrate and washings to dryness and dissolve the residue in 2 mL of *methanol*.
(2) Dilute 0.5 mL of solution (1) to 100 mL with *methanol*.
(3) 2% w/v of *econazole nitrate BPCRS* in *methanol*.

CHROMATOGRAPHIC CONDITIONS

(a) Use as the coating silica gel (Merck silica gel 60 plates are suitable).
(b) Use the mobile phase as described below.
(c) Apply 20 µL of each solution.
(d) Develop the plate to 15 cm.
(e) After removal of the plate, allow it to dry in air and expose to iodine vapour for 1 hour.

MOBILE PHASE

10 volumes of an 85% w/v solution of *formic acid*, 20 volumes of *methanol* and 70 volumes of *dichloromethane*.

LIMITS

Any *secondary spot* in the chromatogram obtained with solution (1) is not more intense than the spot in the chromatogram obtained with solution (2). Disregard any spot with an Rf value higher than 0.9.

ASSAY

Dissolve five pessaries in 250 mL of *anhydrous acetic acid* with the aid of gentle heat, allow to cool and carry out Method I for *non-aqueous titration*, Appendix VIII A, using a quantity of the solution containing 0.3 g of Econazole Nitrate and determining the end point potentiometrically. Each mL of *0.1M perchloric acid VS* is equivalent to 44.47 mg of $C_{18}H_{15}Cl_3N_2O,HNO_3$.