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

Indometacin Suppositories

General Notices

Action and use

Cyclo-oxygenase inhibitor; analgesic; anti-inflammatory.

DEFINITION

Indometacin Suppositories contain Indometacin in a suitable suppository basis.

The suppositories comply with the requirements stated under Rectal Preparations and with the following requirements.

Content of indometacin, $C_{19}H_{16}ClNO_4$

90.0 to 110.0% of the stated amount.

IDENTIFICATION

A. Dissolve a quantity of the suppositories containing 0.1 g of Indometacin as completely as possible in 50 mL of hot *water*, filter, wash the residue with hot *water* and allow to dry in air. Dissolve the residue in 5 mL of *chloroform* and evaporate to dryness. The *infrared absorption spectrum* of the final residue, Appendix II A, is concordant with the *reference spectrum* of indometacin *(RS 187)*.
B. Shake a quantity of the suppositories containing 25 mg of Indometacin with 5 mL of *water* until the basis dissolves; a white suspension is produced. Add 2 mL of 2M *sodium hydroxide*; a bright yellow colour is produced which fades rapidly.

TESTS

Disintegration

Carry out the *disintegration test for suppositories and pessaries*, Appendix XII A2, using a weighed suppository and *phosphate buffer pH 6.8* in place of *water* and operating the apparatus for 90 minutes. At the end of this period remove the suppository, dry with filter paper and weigh. Repeat the operation with two further weighed suppositories. Not less than 75% of each suppository is dissolved.

Related substances

Carry out the method for *liquid chromatography*, Appendix III D, using the following freshly prepared solutions. For solution (1) dilute 3 volumes of solution (2) to 100 volumes with the mobile phase. For solution (2) powder or cut into small pieces a suitable number of the suppositories, dissolve a quantity containing 0.1 g of Indometacin in sufficient *methanol* to produce 50 mL.

The chromatographic procedure may be carried out using (a) a stainless steel column (30 cm × 3.9 mm) packed with *octadecylsilyl silica gel for chromatography* (10 µm) (µBondapak C18 is suitable), (b) a mixture of 40 volumes of 0.2% v/v solution of *orthophosphoric acid* and 60 volumes of *methanol* as the mobile phase with a flow rate of 2 mL per minute and (c) a detection wavelength of 320 nm.

The *column efficiency*, determined using the principal peak in the chromatogram obtained with solution (1), should be not less than 7500 theoretical plates per metre.

The sum of the areas of any *secondary peaks* that elute before the principal peak in the chromatogram obtained with solution (2) is not greater than the area of the peak in the chromatogram obtained with solution (1).

Repeat the procedure but using the following freshly prepared solutions and a detection wavelength of 240 nm. For solution (3) dilute 10 volumes of solution (2) to 20 volumes with the mobile phase. Solution (4) contains 0.001% w/v of *4-chlorobenzoic acid* in the mobile phase. In the chromatogram obtained with solution (3) the sum of the areas of any *secondary peaks* that elute before the principal peak, other than those determined in solution (2), is not greater than the area of the peak in the chromatogram obtained with solution (4).

ASSAY

Weigh 10 suppositories and powder or cut into small pieces. To a quantity containing 0.1 g of Indometacin add 50 mL of *methanol*, shake until dispersion is complete and, if necessary, filter. To 2 mL add sufficient of a mixture of equal volumes of *methanol* and *phosphate buffer pH 7.2* to produce 100 mL. Measure the *absorbance* of the resulting solution at the maximum at 318 nm, Appendix II B. Calculate the content of $C_{19}H_{16}ClNO_4$ taking 193 as the value of A(1%, 1 cm) at the maximum at 318 nm.