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

Flecainide Tablets

General Notices

Action and use

Class I antiarrhythmic.

DEFINITION

Flecainide Tablets contain Flecainide Acetate.

The tablets comply with the requirements stated under Tablets and with the following requirements.

Content of flecainide acetate, $C_{17}H_{20}F_6N_2O_3,C_2H_4O_2$

95.0 to 105.0% of the stated amount.

IDENTIFICATION

A. The *light absorption*, Appendix II B, of the solution obtained in the Assay in the range 230 nm to 350 nm exhibits a maximum at 296 nm.
B. Shake a quantity of the powdered tablets containing 0.1 g of flecainide acetate with 10 mL of *methanol* for 10 minutes, filter and evaporate the filtrate to dryness. The *infrared absorption spectrum* of the residue, Appendix II A, is concordant with the *reference spectrum* of flecainide acetate *(RS 397)*.

TESTS

Dissolution

Comply with the requirements for Monographs of the British Pharmacopoeia in the *dissolution test for tablets and capsules*, Appendix XII B1, using Apparatus 2. Use as the medium 900 mL of *0.1M hydrochloric acid* and rotate the paddle at 100 revolutions per minute. Withdraw a sample of 5 mL of the medium, filter and dilute the filtered solution, if necessary, with sufficient *0.1M hydrochloric acid* to produce a solution expected to contain about 0.005% w/v of flecainide acetate. Measure the *absorbance* of the solution at the maximum at 298 nm, Appendix II B, using 0.1M *hydrochloric acid* in the reference cell. Calculate the total content of flecainide acetate, $C_{17}H_{20}F_6N_2O_3,C_2H_4O_2$, in the medium from the absorbance of a 0.005% w/v solution of *flecainide acetate BPCRS* in *0.1M hydrochloric acid* using the declared content of $C_{17}H_{20}F_6N_2O_3,C_2H_4O_2$ in *flecainide acetate BPCRS*.

Related substances

Carry out the method for *thin-layer chromatography*, Appendix III A, using a *TLC silica gel F_{254} plate* (Merck plates are suitable) and a mixture of 2 volumes of *methanol*, 5 volumes of 18M *ammonia*, 100 volumes of *acetone* and 100 volumes of *dichloromethane* as the mobile phase but allowing the solvent front to ascend 10 cm above the line of application. Apply separately to the plate 1 µL of each of the following solutions. For solution (1) add 2 mL of *methanol* to a quantity of the

powdered tablets containing 0.2 g of flecainide acetate, shake, centrifuge and use the supernatant liquid. Solution (2) contains 0.05% w/v of *flecainide acetate BPCRS* in *methanol*. Solution (3) contains 0.05% w/v of *flecainide impurity A EPCRS* in *methanol*. Solution (4) contains 0.02% w/v of *flecainide impurity B EPCRS* in *methanol*. After removal of the plate, allow it to dry in air and examine under *ultraviolet light (254 nm)*. In the chromatogram obtained with solution (1) any spot corresponding to 3-[2,5-bis(2,2,2-trifluoroethoxy)phenyl]-1,5,6,7,8,8ahexahydroimidazo[1,5-*a*]pyridine (impurity A) is not more intense than the principal spot in the chromatogram obtained with solution (3) (0.5%). Spray the plate with a freshly prepared 0.2% w/v solution of *ninhydrin* in *absolute ethanol*, heat the plate at 105° for approximately 5 minutes and examine immediately. In the chromatogram obtained with solution (1) any bluish-purple spot corresponding to (piperidin-2-yl)methanamine (impurity B) is not more intense than the principal spot in the chromatogram obtained with solution (4) (0.2%) and any other *secondary spot* is not more intense than the principal spot in the chromatogram obtained with solution (2) (0.5%).

ASSAY

Shake 20 tablets with 100 mL of a 2% v/v solution of *lactic acid* until the tablets have disintegrated, add 650 mL of *water*, shake with the aid of ultrasound for 30 minutes, add sufficient *water* to produce 1000 mL, mix and filter (Whatman GF/F paper is suitable), discarding the first 100 mL of filtrate. Dilute the filtrate with a 0.2% v/v solution of *lactic acid* to produce a solution containing 0.01% w/v of flecainide acetate and measure the *absorbance* of the resulting solution at the maximum at about 296 nm, Appendix II B, using a 0.2% v/v solution of *lactic acid* in the reference cell. Calculate the content of $C_{17}H_{20}F_6N_2O_3,C_2H_4O_2$ in the tablets from the *absorbance* obtained with a solution containing 0.01% w/v of *flecainide acetate BPCRS* in a 0.2% v/v solution of *lactic acid* and using the declared content of $C_{17}H_{20}F_6N_2O_3,C_2H_4O_2$ in *flecainide acetate BPCRS*.

STORAGE

Flecainide Tablets should be stored at a temperature not exceeding 30°.

IMPURITIES

The impurities limited by the requirements of this monograph include impurities A, B and D stated under Flecainide Acetate.