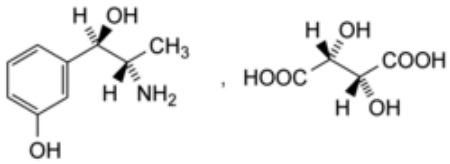
Edition: BP 2025 (Ph. Eur. 11.6 update)

Metaraminol Tartrate

General Notices



$C_9H_{13}NO_2,C_4H_6O_6$ 317.3 *17171-57-2*

Action and use

Adrenoceptor agonist.

Preparation

Metaraminol Injection

DEFINITION

Metaraminol Tartrate is (1*R*,2*S*)-2-amino-1-(3-hydroxyphenyl)propan-1-ol hydrogen (2*R*,3*R*)-tartrate. It contains not less than 99.0% and not more than 101.0% of $C_9H_{13}NO_2,C_4H_6O_6$, calculated with reference to the dried substance.

CHARACTERISTICS

A white, crystalline powder.

Freely soluble in *water*; sparingly soluble in *ethanol (96%)*; practically insoluble in *ether*.

IDENTIFICATION

A. In the test for Related substances the principal spot in the chromatogram obtained with solution (2) corresponds to that in the chromatogram obtained with solution (4).
B. To 0.5 mL of a 0.05% w/v solution add 0.5 mL of *phosphomolybdotungstic reagent* and 5 mL of *dilute sodium carbonate solution* and allow to stand for 5 minutes. An intense blue colour is produced.
C. To 4 mL of a 0.05% w/v solution add 5 mL of *borate buffer pH 9.6* and 1 mL of a freshly prepared 0.5% w/v solution of *sodium 1,2-naphthaquinone-4-sulfonate* and allow to stand for 1 minute. Add 0.2 mL of a 2%

v/v solution of *benzalkonium chloride solution* and 5 mL of *toluene* and shake. A mauve colour is immediately produced in the toluene layer (distinction from phenylephrine).

TESTS

Acidity

pH of a 5% w/v solution, 3.2 to 3.5, Appendix V L.

Phenones

Absorbance of a 0.2% w/v solution at 310 nm, not more than 0.2, calculated with reference to the dried substance, Appendix II B.

Related substances

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

(1) 1.0% w/v of the substance being examined.
(2) 0.050% w/v of the substance being examined.
(3) 0.0050% w/v of the substance being examined.
(4) 0.050% w/v of *metaraminol tartrate BPCRS*.

CHROMATOGRAPHIC CONDITIONS

(a) Use a silica gel precoated plate (Merck silica gel 60 plates are suitable).
(b) Use the mobile phase as described below.
(c) Apply 10 µL of each solution.
(d) Develop the plate to 15 cm.
(e) After removal of the plate, dry in air and spray with a solution prepared in the following manner. Mix 25 mL of a 0.45% w/v solution of *sulfanilic acid* in 1M *hydrochloric acid* with 1.5 mL of a 5% w/v solution of *sodium nitrite*, allow to stand for 5 minutes and mix cautiously with 25 mL of 2M *sodium carbonate*.

MOBILE PHASE

10 volumes of 13.5M *ammonia*, 80 volumes of *chloroform* and 80 volumes of *methanol*.

LIMITS

Any *secondary spot* in the chromatogram obtained with solution (1) is not more intense than the spot in the chromatogram obtained with solution (3) (0.5%).

Loss on drying

When dried to constant weight at 105°, loses not more than 0.5% of its weight. Use 1 g.

Sulfated ash

Not more than 0.1%, Appendix IX A.

ASSAY

Carry out Method I for *non-aqueous titration*, Appendix VIII A, using 0.6 g and *crystal violet solution* as indicator. Each mL of *0.1M perchloric acid VS* is equivalent to 31.73 mg of $C_9H_{13}NO_2,C_4H_6O_6$.