

Product Information

(±)-Metoprolol (+)-tartrate salt

Product Number **M 5391**
Store at Room Temperature

Product Description

Molecular Formula: $(C_{15}H_{25}NO_3)_2 \cdot C_4H_6O_6$
Molecular Weight: 684.8
CAS Number: 56392-17-7
 λ_{max} : 223 nm (H₂O)¹
Extinction Coefficient: $E^{1\%1cm} = 23.4$ ¹
Specific Rotation: +6.5° to 10.5° (c = 20 mg/ml, H₂O, 20 °C)
Synonyms: 1-[4-(2-methoxyethyl)phenoxy]-3-
-[(1-methylethyl)amino]2-propanol tartrate; (±)
-1-(isopropylamino)-3-[p-(β-methoxyethyl)phenoxy]
-2-propanol tartrate¹

Metoprolol is a cardioselective β-adrenergic receptor antagonist that is used in hypertension and cardiovascular research.¹⁻³ Metoprolol can also interact with H1 histamine receptor antagonists such as diphenhydramine.⁴ A review of the pharmacodynamics and pharmacokinetics of metoprolol formulations has been reported.⁵

A permeability study of a serum culture system for Caco-2 monolayers has been tested with metoprolol.⁶ Metoprolol has also been used to probe the TR146 cell culture model as an *in vitro* model of human buccal epithelium.⁷ Pretreatment of cultured human umbilical vein endothelial cells with metoprolol (0.1 - 100 μM) has been shown to diminish endothelin-1 production.⁸

An HPLC method that combines UV and fluorescence detection has been developed for the analysis of metoprolol and other beta blocker compounds.⁹

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions

The product is soluble in water (50 mg/ml), with heat as needed, yielding a clear, colorless solution. The solubility in water has also been reported at >1000 mg/ml. It is also soluble in methanol (>500 mg/ml) and chloroform (496 mg/ml).¹

References

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9. Ranta, V. P., et al., Simultaneous determination of eight beta-blockers by gradient high-performance liquid chromatography with combined ultraviolet and fluorescence detection in corneal permeability studies *in vitro*. *J. Chromatogr. B Analyt. Technol. Biomed. Life Sci.*, **772(1)**, 81-87 (2002).

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