(±)-Metoprolol (+)-tartrate salt

Product Number: M 5391
Store at Room Temperature

Product Description
Molecular Formula: \((\text{C}_{15}\text{H}_{25}\text{NO}_3)\_2 \cdot \text{C}_4\text{H}_6\text{O}_6\)
Molecular Weight: 684.8
CAS Number: 56392-17-7
\(\lambda_{\text{max}}\) : 223 nm (H\(_2\)O)\(^1\)
Extinction Coefficient: \(E_{\text{M}} = 23.4\) \(^1\)
Specific Rotation: +6.5° to 10.5° (c = 20 mg/ml, H\(_2\)O, 20 °C)
Synonyms: 1-[4-(2-methoxyethyl)phenoxy]-3-(1-methylethyl)amino]-2-propanol tartrate; (±)-1-(isopropylamino)-3-[p-(β-methoxyethyl)phenoxy]-2-propanol tartrate\(^1\)

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 \textit{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
1. The Merck Index, 12th ed., Entry# 6235.

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