

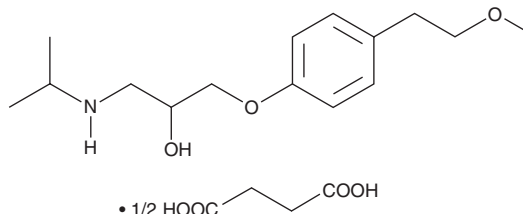
PRODUCT INFORMATION



Metoprolol (succinate)

Item No. 15429

CAS Registry No.: 98418-47-4
Formal Name: butanedioic acid, compd. with 1-[4-(2-methoxyethyl)phenoxy]-3-[(1-methylethyl)amino]-2-propanol (1:2)
MF: C₁₅H₂₅NO₃ • 1/2C₄H₆O₄
FW: 326.4
Purity: ≥98%
UV/Vis.: λ_{max}: 224, 276 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Metoprolol (succinate) is supplied as a crystalline solid. A stock solution may be made by dissolving the metoprolol (succinate) in the solvent of choice. Metoprolol (succinate) is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of metoprolol (succinate) in these solvents is approximately 10 and 2 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of metoprolol (succinate) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of metoprolol (succinate) in PBS, pH 7.2, is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Metoprolol is a β₁-adrenergic receptor (β₁-AR) antagonist (K_i = 47 nM in CHO cells expressing the human receptor).¹ It is selective for β₁- over β₂- and β₃-ARs (K_is = 2,730 and >10,000 nM, respectively, in CHO cells expressing the human receptors). Metoprolol (4.7 μM) reduces GTP-induced adenylyl cyclase (AC) activity in CHO cells expressing β₁- and β₂-ARs. It reduces pulse rate in isolated rat atria in a concentration-dependent manner.² Metoprolol (10 mg/kg) reduces increased heart rate and mean arterial pressure (MAP) in a rat model of systolic hypertension induced by a fructose-rich diet. Formulations containing metoprolol have been used in the treatment of exercised-induced hypertension, angina, and tachycardia. This product is also available as an analytical reference standard (Item No. 21165).

References

- Hoffmann, C., Leitz, M.R., Oberdorf-Maass, S., *et al.* Comparative pharmacology of human β-adrenergic receptor subtypes—characterization of stably transfected receptors in CHO cells. *N.-S. Arch. Pharmacol.* **369**(2), 151-159 (2004).
- Di Verniero, C.A., Silberman, E.A., Mayer, M.A., *et al.* *In vitro* and *in vivo* pharmacodynamic properties of metoprolol in fructose-fed hypertensive rats. *J. Cardiovasc. Pharmacol.* **51**(6), 532-541 (2008).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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