

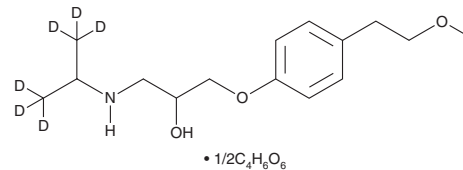
PRODUCT INFORMATION



Metoprolol-d₆ (tartrate)

Item No. 28188

Formal Name: 1-[4-(2-methoxyethyl)phenoxy]-3-[[1-(methyl-d₃)ethyl-2,2,2-d₃] amino]-2-propanol, 2R,3R-dihydroxybutanedioate (2:1)
MF: C₁₅H₁₉D₆NO₃ • 1/2C₄H₆O₆
FW: 348.5
Chemical Purity: ≥98% (Metoprolol)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₆); ≤1% d₀
Supplied as: A solid
Storage: -20°C
Stability: ≥2 years



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

Laboratory Procedures

Metoprolol-d₆ (tartrate) is intended for use as an internal standard for the quantification of metoprolol (Item No. 15429) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

Metoprolol-d₆ (tartrate) is supplied as a solid. A stock solution may be made by dissolving the metoprolol-d₆ (tartrate) in the solvent of choice. Metoprolol-d₆ (tartrate) is soluble in organic solvents such as methanol and DMSO, which should be purged with an inert gas.

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_s = 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.

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. *Naunyn-Schmiedeberg'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.

WARRANTY AND LIMITATION OF REMEDY

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