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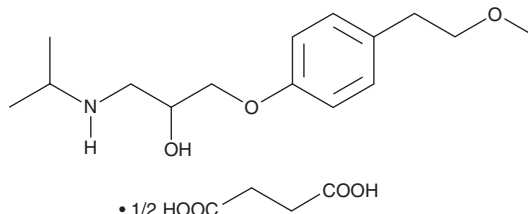
PRODUCT INFORMATION



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: $C_{15}H_{25}NO_3 \bullet 1/2 C_4H_6O_4$
FW: 326.4
Purity: $\geq 98\%$
UV/Vis.: λ_{max} : 224, 276 nm
Supplied as: A crystalline solid
Storage: $-20^{\circ}C$
Stability: ≥ 2 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 potent and selective β_1 -adrenergic receptor blocker ($K_i = 47$ nM for the β_1 receptor, compared with 3.0 and 10 μM for the β_2 and β_3 receptors, respectively).^{1,2} This product is a racemic mixture of enantiomers that differ in their *in vivo* actions and metabolism.³ Metoprolol is predominantly metabolized by the cytochrome P450 (CYP) isoform CYP2D6, an enzyme with significant genetic heterogeneity in function.^{3,4} The succinate salt of metoprolol is used in formulations intended for extended release of the compound.⁵ Beta-blockers, including metoprolol, have diverse applications in cardiology and vascular disease.⁵

References

1. Hoffmann, C., Leitz, M.R., Oberdorf-Maass, S., et al. *Naunyn Schmiedebergs Arch. Pharmacol.* **369**(2), 151-159 (2004).
2. Baker, J.G. *Br. J. Pharmacol.* **144**(3), 317-322 (2005).
3. Mehvar, R. and Brocks, D.R. *J. Pharm. Pharm. Sci.* **4**(2), 185-200 (2001).
4. Blake, C.M., Kharasch, E.D., Schwab, M., et al. *Clin. Pharmacol. Ther.* **94**(3), 394-399 (2013).
5. Tang, W.H., Militello, M., and Francis, G.S. *Cleve. Clin. J. Med.* **70**(12), 1081-1087 (2003).

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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