

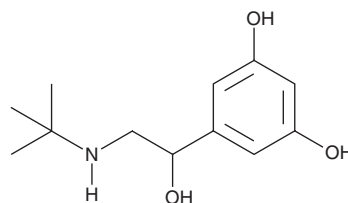
PRODUCT INFORMATION



Terbutaline

Item No. 29337

CAS Registry No.: 23031-25-6
Formal Name: 5-[2-[(1,1-dimethylethyl)amino]-1-hydroxyethyl]-1,3-benzenediol
MF: $C_{12}H_{19}NO_3$
FW: 225.3
Purity: $\geq 98\%$
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

Terbutaline is supplied as a crystalline solid. A stock solution may be made by dissolving the terbutaline in the solvent of choice, which should be purged with an inert gas. Terbutaline is slightly soluble in methanol and DMSO. It is also soluble in water. The solubility of terbutaline in water is approximately 100 mM. We do not recommend storing the aqueous solution for more than one day.

Description

Terbutaline is a short-acting β_2 -adrenergic receptor (β_2 -AR) agonist and an active metabolite of bambuterol (Item No. 17887).¹⁻³ It binds to β_1 -, β_2 -, and β_3 -ARs (K_i = 31.3, 15.4, and 79.8 nM, respectively) and selectively increases adenylyl cyclase activity in CHO cell membranes expressing recombinant human β_2 - or β_3 - over β_1 -ARs at concentrations 100-fold greater than the respective K_i values.¹ Terbutaline inhibits histamine release induced by ovalbumin in isolated guinea pig lung mast cells.² It also inhibits airway obstruction induced by methacholine (acetyl- β -methylcholine; Item No. 23092) or leukotriene D_4 (LTD₄; Item No. 20310) in anesthetized guinea pigs.⁴ Formulations containing terbutaline have been used in the treatment of asthma.

References

1. 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).
2. Lau, H.Y.A., Wong, P.L., and Lai, C.K.W. Effects of β_2 -adrenergic agonists on isolated guinea pig lung mast cells. *Agents Actions* **42**(3-4), 92-94 (1994).
3. Olsson, O.A.T. and Svenson, L.-Å. New lipophilic terbutaline ester prodrugs with long effect duration. *Pharm. Res.* **1**(1), 19-23 (1984).
4. Salonen, R.O. Actions of bronchodilator drugs, glucocorticoid, and their combinations on airways in rats and guinea pigs. *Acta. Pharmacol. Toxicol. (Copenh)* **57**(Suppl. 3), 1-38 (1985).

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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