Terbutaline

Cat. No.: HY-B0802A

CAS No.: 23031-25-6

Molecular Formula: $C_{12}H_{19}NO_3$

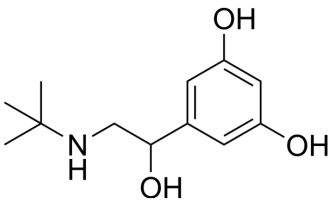
Molecular Weight: 225.28

Target: Adrenergic Receptor; Antibiotic; Drug Metabolite

Pathway: GPCR/G Protein; Neuronal Signaling; Anti-infection; Metabolic Enzyme/Protease

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 250 mg/mL (1109.73 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	4.4389 mL	22.1946 mL	44.3892 mL
	5 mM	0.8878 mL	4.4389 mL	8.8778 mL
	10 mM	0.4439 mL	2.2195 mL	4.4389 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

Terbutaline is an orally active β_2-adrenergic receptor agonist and an active metabolite of bambuterol[1]. Terbutaline can be used in asthma symptom research[2].

IC_{50} & Target

Beta-2 adrenergic receptor

In Vitro

Terbutaline (0-10 μM, 1 hour) enhances MKP-1 expression in activated mouse macrophages[3].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

RT-PCR[3]

Cell Line:	J774 macrophages
Concentration:	0-10 μM
Incubation Time:	1 hour

Result:	Enhanced MKP-1 expression in J774 macrophages in a dose-dependent manner.

Western Blot Analysis[3]

Cell Line:	J774 macrophages
Concentration:	100 nM
Incubation Time:	1 hour
Result:	Reduced the phosphorylation of p38 MAPK in J774 macrophages.

In Vivo

Terbutaline (intraperitoneal injection; 0.5 mg/kg; twice a day; 20 days) treatment can improve the allodynia in ob/ob mice[4].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Adult male ob/ob mice[4]
Dosage:	0.5 mg/kg
Administration:	Intraperitoneal injection; 0.5 mg/kg; twice a day; 20 days
Result:	Reversed the mechanical allodynia in ob/ob mice.

REFERENCES

[1]. Mohamed Ismail NA, et al. Nifedipine versus terbutaline for tocolysis in external cephalic version. Int J Gynaecol Obstet. 2008 Sep;102(3):263-6.

[2]. Joana A Loureiro, et al. The interaction of a β2 adrenoceptor agonist drug with biomimetic cell membrane models: The case of terbutaline sulphate. Life Sci. 2021 Nov 15;285:119992.

[3]. Tiina Keränen, et al. Anti-Inflammatory Effects of β2-Receptor Agonists Salbutamol and Terbutaline Are Mediated by MKP-1. PLoS One. 2016 Feb 5;11(2):e0148144.

[4]. Nada Choucair-Jaafar, et al. The antiallodynic action of nortriptyline and terbutaline is mediated by β(2) adrenoceptors and δ opioid receptors in the ob/ob model of diabetic polyneuropathy. Brain Res. 2014 Feb 10;1546:18-26.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA