

Product Data Sheet

Product Name: Tulobuterol

Cat. No.: GC62650

Chemical Properties

Cas. No. 41570-61-0

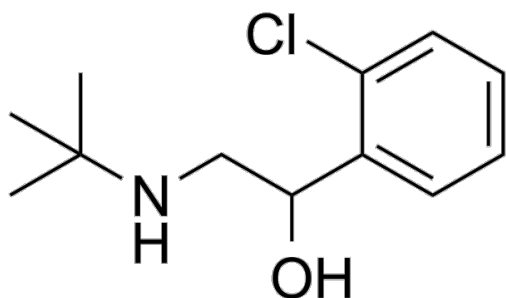
Formula $C_{12}H_{18}ClNO$ M.Wt 227.73

Solubility DMSO : 100 mg/mL (439.12 mM; Storage 4°C, protect from light
Need ultrasonic)

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

Structure



Background

Caution: Product has not been fully validated for medical applications. For research use only.

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Tulobuterol (C-78 free base) is a long-acting β 2-adrenoceptor agonist, which reduces the frequency of exacerbations of chronic obstructive pulmonary disease and bronchial asthma. Tulobuterol is also a sympathomimetic agent used as a transdermal patch, and increases normal diaphragm muscle strength[1].

Tulobuterol (0.1 μ M; 24 hours or 72 hours; human tracheal epithelial cells) treatment decreases the RV14 RNA levels at 1 day and at 3 days after infection. The concentrations of sICAM-1 in the supernatants of the cells treated with tulobutero are significantly lower than those in the cells treated with vehicle before RV14 infection. Treatment with Tulobuterol reduces the number of acidic endosomes with green fluorescence in the cells and the fluorescence intensity of acidic endosomes in the cells. Also reduces the RV14 infection-induced secretion of IL-1 β , IL-6, and IL-8. Tulobuterol treatment produces a small but significant reduction in the amount of p50, p65, and c-Rel of NF- κ B induced by RV14 infection[1].

In vivo effect of Tulobuterol is examined the on the contractility of diaphragm muscles prepared from mice (BALBs/c mice; 21.7 ± 0.2 g) treated with Endotoxin. Contractile parameters of force-frequency curves and twitch kinetics using untreated or treated diaphragm muscles at 0 (E0) and 4 (E4) hours after E. coli endotoxin (20 mg/kg) administration are measured. E0 and E4 diaphragm muscles are analyzed at 0, 12, and 24 h after transdermal Tulobuterol treatment. The force-frequency curves of E0 and E4 diaphragm muscles at three time points are not significantly changed each other, indicating that Tulobuterol patch restores the muscle contractility. Thus, diaphragm muscle contractility is maintained during 4 h of endotoxin administration with Tulobuterol patch for over 24 h[2].

[1]. Yamaya M, et al. Tulobuterol inhibits rhinovirus infection in primary cultures of human tracheal epithelial cells. *Physiol Rep*. 2013 Aug;1(3):e00041.

[2]. Shindoh C, et al. Tulobuterol patch maintains diaphragm muscle contractility for over twenty-four hours in a mouse model of sepsis. *Tohoku J Exp Med*. 2009 Aug;218(4):271-8.

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