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- Trockeneiszuschlag
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- Expressversand

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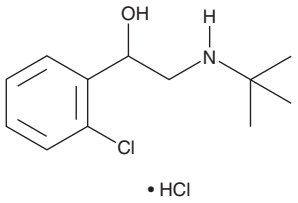
PRODUCT INFORMATION

Tulobuterol (hydrochloride)

Item No. 35562

CAS Registry No.: 56776-01-3
Formal Name: 2-chloro-α-[[(1,1-dimethylethyl) amino]methyl]-benzenemethanol, monohydrochloride
Synonym: C-78
MF: $C_{12}H_{18}ClNO \bullet HCl$
FW: 264.2
Purity: ≥98%
UV/Vis.: λ_{max}: 212 nm
Supplied as: A 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

Tulobuterol (hydrochloride) is supplied as a solid. A stock solution may be made by dissolving the tulobuterol (hydrochloride) in the solvent of choice, which should be purged with an inert gas. Tulobuterol (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of tulobuterol (hydrochloride) in these solvents is approximately 3, 10, and 5 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 tulobuterol (hydrochloride) can be prepared by directly dissolving the solid in aqueous buffers. The solubility of tulobuterol (hydrochloride) in PBS (pH 7.2) is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Tulobuterol is a long-acting agonist of the β_2-adrenergic receptor (β_2-AR).[1] It binds to the bovine skeletal muscle β_2-AR (K_d = 0.13 µM). Transdermal administration of tulobuterol (6 and 12 mg/kg) decreases total leukocyte infiltration into the bronchoalveolar lavage fluid (BALF) in a mouse model of allergic asthma induced by ovalbumin.[2] It also inhibits rhinovirus replication in infected primary human tracheal epithelial cells when used at a concentration of 0.1 µM, an effect that can be reversed by the β_2-AR antagonist ICI 118551 (Item No. 15591).[3] Formulations containing tulobuterol have been used in the treatment of asthma.

References

1. IJzerman, A.P., Bultsma, T., and Timmerman, H. Quantitative evaluation of the β_2-adrenoceptor intrinsic activity of N-*tert*-butylphenylethanolamines. *J. Med. Chem.* **29(4)**, 549-554 (1986).
2. Fu, L., Guan, J., Zhang, Y., *et al.* Tulobuterol patch alleviates allergic asthmic inflammation by blockade of Syk and NF-κB activation in mice. *Oncotarget* **9(15)**, 12154-12163 (2018).
3. Yamaya, M., Nishimura, H., Nadine, L., *et al.* Tulobuterol inhibits rhinovirus infection in primary cultures of human tracheal epithelial cells. *Physiol. Rep.* **1(3)**, e00041 (2013).

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