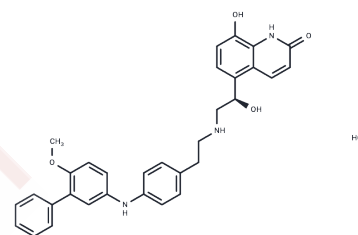


TD-5471 hydrochloride

Chemical Properties

CAS No. :	530084-35-6
Formula:	C ₃₂ H ₃₂ ClN ₃ O ₄
Molecular Weight:	558.07
Storage:	Store at low temperature Powder: -20°C for 3 years In solvent: -80°C for 1 year <i>Actual storage temperature shall be subject to the COA.</i>



Biological Description

Description	TD-5471 hydrochloride is a selective and potent long-acting human β_2 -adrenergic receptor agonist for the treatment of chronic obstructive pulmonary disease (COPD).
Targets(IC50)	Adrenergic Receptor
In vitro	In an in vitro guinea pig trachea model, TD-5471 exhibits potent activity with a slow onset. Its potency is evident, as indicated by a pEC ₅₀ of 8.7 in the guinea pig tracheal ring assay. Notably, TD-5471 is structurally distinct from Milveterol, and its prolonged duration of action aligns with a correlation observed in other long-acting β_2 -agonist discovery programs, specifically related to hydrophobicity[1].
In vivo	In an in vivo guinea pig model of bronchoprotection, TD-5471 demonstrates a prolonged and dose-dependent duration of action. The efficacy of TD-5471 is notably high, as evidenced by its excellent potency measured 1.5 hours after nebulized dosing. To ensure suitability for once-daily dosing in humans, a 72-hour time point is chosen, considering that a high dose of Salmeterol (300 μ g/mL) provides bronchoprotection lasting \geq 24 hours in this model. At the 72-hour time point, TD-5471-mediated bronchoprotection remains dose-dependent and significantly surpasses the efficacy of Salmeterol at nebulizer concentrations of \geq 30 μ g/mL[1].

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.7919 mL	8.9594 mL	17.9189 mL
5 mM	0.3584 mL	1.7919 mL	3.5838 mL
10 mM	0.1792 mL	0.8959 mL	1.7919 mL
50 mM	0.0358 mL	0.1792 mL	0.3584 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Jacobsen JR, et al. Multivalent design of long-acting $\beta(2)$ -adrenoceptor agonists incorporating biarylamines. *Bioorg Med Chem Lett.* 2014 Jun 15;24(12):2625-30.

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Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481