

(RS)-Butyryltimolol

Chemical Properties

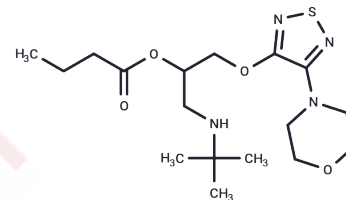
CAS No. : 2320274-78-8

Formula: C₁₇H₃₀N₄O₄S

Molecular Weight: 386.51

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.



Biological Description

Description	(RS)-Butyryltimolol, the racemate of Butyryltimolol, is an effective prodrug of Timolol that improves corneal penetration and acts as a β -adrenergic blocker [1][2].
Targets(IC50)	Adrenergic Receptor, Cysteine Protease
In vitro	Butyryltimolol is a prodrug of Timolol. Butyryltimolol is equally effective as 240-min nasolacrimal blockade in enhancing ocular drug absorption [1].

Solubility Information

Solubility	DMSO: 100 mg/mL (258.73 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween-80+45% Saline: 5 mg/mL (12.94 mM), Sonication is recommended. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.5873 mL	12.9363 mL	25.8726 mL
5 mM	0.5175 mL	2.5873 mL	5.1745 mL
10 mM	0.2587 mL	1.2936 mL	2.5873 mL
50 mM	0.0517 mL	0.2587 mL	0.5175 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

Chang SC, et al. Relative effectiveness of prodrug and viscous solution approaches in maximizing the ratio of ocular to systemic absorption of topically applied timolol. *Exp Eye Res.* 1988 Jan;46(1):59-69.

Potter DE, et al. Ocular and cardiac beta-antagonism by timolol prodrugs, timolol and levobunolol. *Curr Eye Res.* 1988 Aug;7(8):755-9.

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