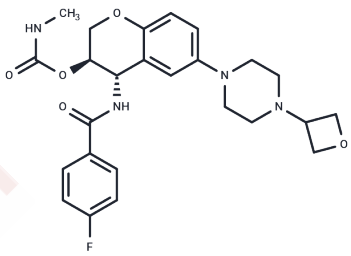
Data Sheet (Cat.No.TQ0116)

TargetMol

LY 3000328

Chemical Properties



CAS No. : 1373215-15-6

Formula: C25H29FN4O5

Molecular Weight: 484.52

Storage: Store at low temperature
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	LY 3000328 (Cathepsin S inhibitor) is a selective inhibitor of cathepsin S with IC50 values of 7.7 and 1.67 nM for human and mouse cathepsin S, respectively. LY 3000328 (Cathepsin S inhibitor) may slow or prevent abdominal aortic aneurysm (AAA) expansion and/or reduce the risk of AAA rupture by inhibiting cathepsin S-mediated degradation of extracellular matrix proteins, elastin and collagen.
Targets(IC50)	Cysteine Protease
In vitro	**METHODS**: The activity of LY 3000328 (Cathepsin S inhibitor) was evaluated in hCat S and mCat S enzyme inhibition assays. **RESULTS** The IC50 values of LY 3000328 (Cathepsin S inhibitor) for inhibiting human and mouse Cat S were 7.7±5.85 and 1.67±1.17 nM, respectively. [1]
In vivo	**METHODS**: The efficacy of LY 3000328 (Cathepsin S inhibitor)(1, 3, 10, 30 mg/kg, oral, 28 days) in BID mice was studied. **RESULTS** When the lowest dose of LY 3000328 (Cathepsin S inhibitor) was 1 mg/kg, the aortic diameter decreased by 58%, 83% at 3 mg/kg, and 87% at 10 mg/kg; the exposure (AUC) of LY 3000328 (Cathepsin S inhibitor) increased in a dose-dependent manner, indicating good drug disposition performance. [1]

Solubility Information

Solubility	DMSO: 62.5 mg/mL (128.99 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: 2 mg/mL (4.13 mM),Sonication is recommended. *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.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.0639 mL	10.3195 mL	20.639 mL
5 mM	0.4128 mL	2.0639 mL	4.1278 mL
10 mM	0.2064 mL	1.0319 mL	2.0639 mL
50 mM	0.0413 mL	0.2064 mL	0.4128 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

Jadhav PK, et al. Discovery of Cathepsin S Inhibitor LY3000328 for the Treatment of Abdominal Aortic Aneurysm. ACS Med Chem Lett. 2014 Aug 27;5(10):1138-42.
Zhang Y, Yang L, Gan Y, et al.Benzydamine attenuates microglia-mediated neuroinflammation and ischemic brain injury by targeting cathepsin s.International Immunopharmacology.2025, 146: 113824.
Payne CD, et al. Pharmacokinetics and pharmacodynamics of the cathepsin S inhibitor, LY3000328, in healthy subjects. Br J Clin Pharmacol. 2014 Dec;78(6):1334-42.