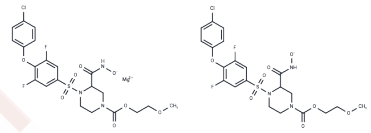
Data Sheet (Cat.No.T13358)

TargetMol

XL-784

Chemical Properties



CAS No. : 1224964-36-6

Formula: C42H42Cl2F4MgN6O16S2

Molecular Weight: 1122.15

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	XL-784 is a selective inhibitor of matrix metalloproteinases (MMPs) with IC50 values of approximately 1900, 0.81, 120, 10.8, 18, and 0.56 nM for MMP-1, MMP-2, MMP-3, MMP-8, MMP-9, and MMP-13, respectively. XL-784 demonstrates potential in a broad range of cancer research applications due to its capability to modulate extracellular matrix remodeling, tumor invasion, and metastasis.
Targets(IC50)	MMP
In vitro	XL-784 exhibits inhibitory activity against multiple targets in vitro, with particularly pronounced effects on MMP-2, MMP-13, and ADAM10 (also known as TNF-α converting enzyme, TACE), demonstrating IC50 values concentrated within the 1-2 nM range [1]. XL-784 also shows inhibitory effects on MMP-9 and ADAM17, with corresponding IC50 values of approximately 20 nM and 70 nM, respectively [1]. The compound exhibits weaker inhibitory activity against MMP-1, with an IC50 value of approximately 2000 nM [1].
In vivo	XL-784 significantly inhibited the expansion of abdominal aortic aneurysm in mice at all tested doses. The XL784 dose groups of 50 mg/kg, 125 mg/kg, and 250 mg/kg resulted in maximum aneurysm expansion percentages of 140.4%±3.2%, 129.3%±5.1%, and 119.2%±3.5%, respectively, all of which were significantly lower than the control group. Furthermore, higher doses of XL784 (375 mg/kg and 500 mg/kg) exhibited even more pronounced inhibitory effects on aneurysm expansion, with maximum expansion percentages of 88.6%±4.4% and 76.0%±3.5%, respectively, both significantly lower than the control group. This indicates a clear dose-response relationship for XL784 [2].

Solubility Information

Solubility	DMSO: ≥ 85 mg/mL,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: 4 mg/mL (3.56 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*

In vivo Formulation	*vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	0.8911 mL	4.4557 mL	8.9115 mL
5 mM	0.1782 mL	0.8911 mL	1.7823 mL
10 mM	0.0891 mL	0.4456 mL	0.8911 mL
50 mM	0.0178 mL	0.0891 mL	0.1782 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

Williams JM, et al. Evaluation of metalloprotease inhibitors on hypertension and diabetic nephropathy. Am J Physiol Renal Physiol. 2011 Apr;300(4):F983-98.
Ennis T, et al. Effect of novel limited-spectrum MMP inhibitor XL784 in abdominal aortic aneurysms. J Cardiovasc Pharmacol Ther. 2012 Dec;17(4):417-26.