Data Sheet (Cat.No.T37726)

TargetMol

MMP-9 Inhibitor I

Chemical Properties

CAS No. : 206549-55-5

Formula: C27H33N3O5S

Molecular Weight: 511.63

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	MMP-9 Inhibitor I is an inhibitor of matrix metalloproteinase-9 (MMP-9) that is selective over MMP-1 and MMP-13 (IC50s = 5, 1,050, and 113 nM, respectively). MMP-9 Inhibitor I also decreases activity of TNF-α converting enzyme (TACE) in a dose-dependent manner (IC50 = 0.54 μM). MMP-9 Inhibitor I decreases TNF-α secretion stimulated by LPS in BV-2 microglial cells at concentrations of 50 and 100 μM. MMP-9 Inhibitor I is therefore used in neuroinflammatory and extracellular matrix regulation research to investigate metalloproteinase selectivity, cytokine shedding pathways, and microglial activation responses in cellular inflammation models.
Targets(IC50)	MMP
In vitro	Methods: Cells and recombinant proteins were treated with MMP-9 Inhibitor I at different concentrations. Its effects on inflammatory factor secretion as well as the activities of TACE and MMP-9 were detected. Results: 1.Treatment with 1-100 μM MMP-9 Inhibitor I for 1 hour inhibited LPS-induced TNF-α secretion in mouse BV2 microglia in a dose-dependent manner. 2.MMP-9 Inhibitor I at 0.1-1 μM suppressed the activity of recombinant human TACE, with an IC_{50} value of 0.54 μM. 3.After 1-hour treatment with 80 nM MMP-9 Inhibitor I, the cleavage of pro-TNF-α peptide (residues 71-82) by recombinant MMP-9 was specifically blocked [1].

Solubility Information

Solubility	DMF: 20 mg/mL (39.09 mM),Sonication is recommended. DMSO: 80 mg/mL (156.36 mM),Sonication is recommended. Ethanol: 33 mg/mL (64.5 mM),Sonication is recommended. Ethanol:PBS (pH 7.2) (1:8): 0.11 mg/mL (0.21 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.9545 mL	9.7727 mL	19.5454 mL
5 mM	0.3909 mL	1.9545 mL	3.9091 mL
10 mM	0.1955 mL	0.9773 mL	1.9545 mL
50 mM	0.0391 mL	0.1955 mL	0.3909 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

Lee EJ, et al. Comparison of the Effects of Matrix Metalloproteinase Inhibitors on TNF-α Release from Activated Microglia and TNF-α Converting Enzyme Activity. Biomol Ther (Seoul). 2014;22(5):414-419.