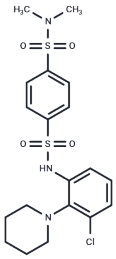
Data Sheet (Cat.No.T60036)

TargetMol

ML-SA5

Chemical Properties



CAS No. : 2418670-70-7

Formula: C19H24ClN3O4S2

Molecular Weight: 457.99

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	ML-SA5 is a MCOLN1 agonist that blocks autophagic flux by disrupting fusion between autophagosomes and lysosomes.
Targets(IC50)	Autophagy,TRP/TRPV Channel
In vitro	**METHODS**: 0.05 or 0.1 μM ML-SA5 was used to treat HeLa cells 1 hour and 4 hours after the application of agonists, and the LC3-II levels in HeLa cells were observed. **RESULTS** ML-SA5 significantly increased the LC3-II levels. ML-SA5 regulates the LC3-II levels by stimulating the activity of MCOLN1 channels. [1] **METHODS**: Vero cells stably expressing GFP-Lamp1 were transfected with pStrep-mCherry-CvpE. Twenty hours after transfection, cells were treated with DMSO or ML-SA5 (30 μM) for 4 hours. Then, cells were fixed and nucleic acids were stained with DAPI. **RESULTS** ML-SA5 treatment completely blocked CvpE-induced cytoplasmic vacuolization. [2]
In vivo	**METHODS**: Patu 8988 t cells were injected into the subcutaneous tissue of nude mice, and ML-SA5 (5 μM) was injected into solid tumors daily. Tumor volume was measured daily, and immunohistochemistry and immunoblot analysis were performed after death of mice. **RESULTS** Administration of ML-SA5 profoundly promoted the survival of Patu 8988 t xenograft mice and inhibited tumor growth. [1]

Solubility Information

Solubility	DMSO: 122.5 mg/mL (267.47 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 (4.37 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	2.1835 mL	10.9173 mL	21.8345 mL
5 mM	0.4367 mL	2.1835 mL	4.3669 mL
10 mM	0.2183 mL	1.0917 mL	2.1835 mL
50 mM	0.0437 mL	0.2183 mL	0.4367 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

Qi J, et al. MCOLN1/TRPML1 finely controls oncogenic autophagy in cancer by mediating zinc influx. Autophagy. 2021 Dec;17(12):4401-4422.

Zhao M, et al. Coxiella burnetii effector CvpE maintains biogenesis of Coxiella-containing vacuoles by suppressing lysosome tubulation through binding PI(3)P and perturbing PIKfyve activity on lysosomes. Virulence. 2024 Dec;15 (1):2350893.

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