ML-SA5

Cat. No.: HY-152182

CAS No.: 2418670-70-7

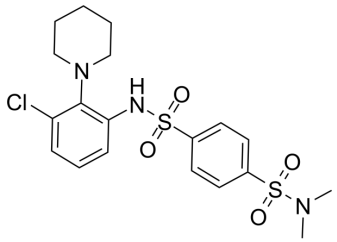
Molecular Formula: $C_{19}H_{24}ClN_3O_4S_2$

Molecular Weight: 457.99

Target: TRP Channel

Pathway: Membrane Transporter/Ion Channel; Neuronal Signaling

Storage: 4°C, sealed storage, away from moisture and light
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 125 mg/mL (272.93 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	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

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (4.54 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (4.54 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

ML-SA5 is a potent TRPML1 cation channel agonist that activates the entire endosomal TRPML1 (ML1) current in DMD myocytes with an EC_{50} of 285 nM and is more potent than ML-SA1. ML-SA5 has anticancer activity and can inhibit tumour growth[1].

In Vitro

ML-SA5(1-100 μM, 24 h) has some cell-targeting specificity and induces substantial cell death in M12 and MeWo cells, but fully preserves normal melanocytes. It also causes a loss of mitochondrial membrane potential in M12 cells[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

ML-SA5 (i.p., 2-5 mg/kg, daily, 2 weeks) reduces muscle necrosis in MDX mice by more than 70% and reduces central nucleated fibers, suggesting that ML-SA5 can improve muscle atrophy in mdx mice in vivo by promoting myosin repair, but has no effect in ML1 knockout mice. Moreover, ML-SA5 reduces skeletal and cardiac muscle damage in mdx mice through

ML1 upregulation[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Wanlu Du, et al. Lysosomal Zn2+ release triggers rapid, mitochondria-mediated, non-apoptotic cell death in metastatic melanoma. Cell Rep. 2021 Oct 19;37(3):109848.

[2]. Lu Yu, et al. Small-molecule activation of lysosomal TRP channels ameliorates Duchenne muscular dystrophy in mouse models. Sci Adv. 2020 Feb 7;6(6):eaaz2736.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA