ML-SA1

Cat. No.: HY-108462

CAS No.: 332382-54-4

Molecular Formula: $C_{22}H_{22}N_2O_3$

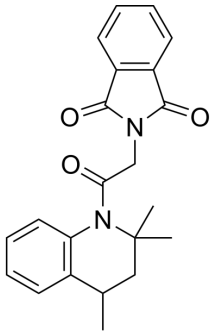
Molecular Weight: 362.42

Target: TRP Channel; Flavivirus; Dengue virus

Pathway: Membrane Transporter/Ion Channel; Neuronal Signaling; Anti-infection

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	1 year
	-20°C	6 months



SOLVENT & SOLUBILITY

In Vitro

DMSO : 20.83 mg/mL (57.47 mM; ultrasonic and warming and heat to 65°C)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.7592 mL	13.7961 mL	27.5923 mL
	5 mM	0.5518 mL	2.7592 mL	5.5185 mL
	10 mM	0.2759 mL	1.3796 mL	2.7592 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 (5.74 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (5.74 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

ML-SA1, as a selective TRPML agonist, inhibits Dengue virus 2 (DENV2) and Zika virus (ZIKV) by promoting lysosomal acidification and protease activity. The IC_{50} value of ML-SA1 against DENV2 RNA and ZIKV RNA is 8.3 μM and 52.99 μM, respectively. ML-SA1 induces autophagy. ML-SA1 can be used for the research of broad-spectrum antiviral[1].

IC_{50} & Target

IC50: 8.3 μM (DENV2)[1].
IC50: 52.99 μM (ZIKV)[1]

In Vitro

ML-SA1 (25 μM; 0~14 hours; A549 cells) possibly affects the entry of DENV2 into host cells[1].
ML-SA1 (0~200 μM; A549 cells) shows that there is no cytotoxicity to the cell line observed, even at concentrations up to 200 μM. ML-SA1 (0~50 μM; A549 cells) significantly suppresses DENV2 at the RNA levels and the IC_{50} is 8.93 μM[1]. ML-SA1 results

in a dose-dependent decrease in ZIKV in A549 cells at both the RNA and protein levels, and the IC_{50} value of ML-SA1 against ZIKV RNA is 52.99 μM. ML-SA1, as an activator of TRPMLs, appears to be a potent inhibitor of DENV2 and ZIKV in vitro. ML-SA1 promotes lysosomal acidification and protease activity to inhibit viral infection. ML-SA1 can induce autophagy in Huh7 cells or A549 cells[1].

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

Western Blot Analysis[1]

Cell Line:	A549 cells
Concentration:	25 μM
Incubation Time:	0~14 hours
Result:	Possibly affected the entry of DENV2 into host cells.

CUSTOMER VALIDATION

- Autophagy. 2022 Sep 10;1-16.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. Xia Z, et al. ML-SA1, a selective TRPML agonist, inhibits DENV2 and ZIKV by promoting lysosomal acidification and protease activity. Antiviral Res. 2020;182:104922.

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