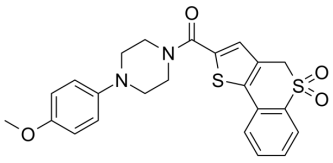
ML349

Cat. No.:	HY-100737
CAS No.:	890819-86-0
Molecular Formula:	$C_{23}H_{22}N_2O_4S_2$
Molecular Weight:	454.56
Target:	Phospholipase
Pathway:	Metabolic Enzyme/Protease
Storage:	Powder -20°C 3 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 20 mg/mL (44.00 mM; Need ultrasonic)

H_2O : < 0.1 mg/mL (insoluble)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.1999 mL	10.9996 mL	21.9993 mL
5 mM	0.4400 mL	2.1999 mL	4.3999 mL
10 mM	0.2200 mL	1.1000 mL	2.1999 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 mg/mL (4.40 mM); Suspended solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

ML349 is a potent and specific acyl protein thioesterase 2(APT2)/lysophospholipase 2 (LYPLA2) inhibitor with a K_i of 120 nM. ML349 is also an inhibitor of LYPLA2 with an IC_{50} of 144 nM[1][2].

IC_{50} & Target

Ki: 120 nM (APT-2)[1]

IC50: 144 nM (LYPLA2)[2]

In Vitro

ML349 is an inhibitor of acyl protein thioesterase 1 and 2 (APT-1 and APT-2) with K_is of >10000 and 120±20 nM, respectively[1]. ML349 is also an inhibitor of both LYPLA1 and LYPLA2 with IC_{50}s of >3000 and 144 nM, respectivley[2]. ML348 and ML349 do not decrease cell viability, but they lead to a slight activation of AKT in NRAS mutant cells[3].

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

PROTOCOL

Cell Assay [3]

Cells are plated in 96-well plates with a density of 4000 to 8000 cells per well and incubated for 24 h at 37°C with 5% CO_2. Then cells are treated with increasing drug (including ML349) concentrations and their combinations. Cell viability is measured with the cell viability assay according to the manufacturer's protocol[3].

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

CUSTOMER VALIDATION

- Nat Cancer. 2023 Jun;4(6):829-843.

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REFERENCES

[1]. Won SJ, et al. Molecular Mechanism for Isoform-Selective Inhibition of Acyl Protein Thioesterases 1 and 2 (APT1 and APT2). ACS Chem Biol. 2016 Dec 16;11(12):3374-3382.

[2]. Adibekian A, et al. Characterization of a Selective, Reversible Inhibitor of Lysophospholipase 2 (LYPLA2).

[3]. Vujic I, et al. Acyl protein thioesterase 1 and 2 (APT-1, APT-2) inhibitors palmostatin B, ML348 and ML349 have different effects on NRAS mutant melanoma cells. Oncotarget. 2016 Feb 9;7(6):7297-306.

Caution: Product has not been fully validated for medical applications. For research use only.

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