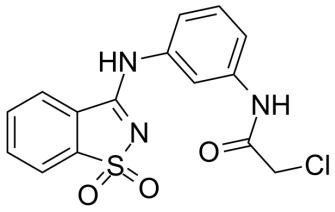
NMS-859

Cat. No.:	HY-15714
CAS No.:	1449236-96-7
Molecular Formula:	$C_{15}H_{12}ClN_3O_3S$
Molecular Weight:	349.79
Target:	p97
Pathway:	Cell Cycle/DNA Damage
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 2 years -20°C 1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 50 mg/mL (142.94 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.8589 mL	14.2943 mL	28.5886 mL
5 mM	0.5718 mL	2.8589 mL	5.7177 mL
10 mM	0.2859 mL	1.4294 mL	2.8589 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: ≥ 2.5 mg/mL (7.15 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

NMS-859 is a potent, covalent VCP (p97) inhibitor, with IC_{50}s of 0.37 and 0.36 μM for wild-type VCP in the presence of 60 μM and 1 mM ATP in cells, respectively.

IC_{50} & Target

IC50: 360 nM (Cellular p97, 1 mM ATP), 370 nM (Cellular p97, 60 μM ATP)[1]

In Vitro

NMS-859 is a potent VCP inhibitor, with IC_{50}s of 0.37 and 0.36 μM for wild-type VCP in the presence of 60 μM and 1 mM ATP in cells, respectively. NMS-859 shows very weak inhibitory activity against VCP^{C522T}. NMS-859 also suppresses the proliferation of cells, with IC_{50}s of 3.5 μM and 3.0 μM in HCT116 and HeLa cell lines, respectively[1].

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

PROTOCOL

Cell Assay [1]

Cells are seeded at 1,600 cells per well in 384-well white clear-bottom plates. Twenty-four hours after seeding, cells are treated with NMS-859 (eight dilution points, in duplicate) and incubated for an additional 72 h at 37°C under a 5% CO_2 atmosphere. Cells are then lysed, and the ATP content in each well is determined using a thermostable firefly luciferase-based assay as a measure of cell viability. IC_{50} values are calculated using the percentage of growth of treated cells versus the untreated control[1].

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

REFERENCES

[1]. Magnaghi P, et al. Covalent and allosteric inhibitors of the ATPase VCP/p97 induce cancer cell death. Nat Chem Biol. 2013 Sep;9(9):548-56.

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