CB-5339

Cat. No.: HY-128724

CAS No.: 1863952-15-1

Molecular Formula: $C_{24}H_{24}N_6O$

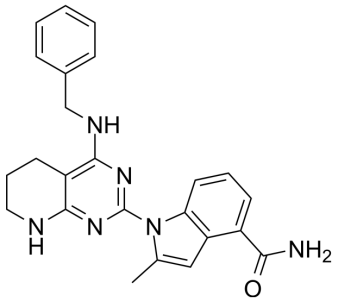
Molecular Weight: 412.49

Target: p97

Pathway: Cell Cycle/DNA Damage

Storage:

Powder	-20°C	3 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (242.43 mM; ultrasonic and warming and heat to 80°C)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	2.4243 mL	12.1215 mL	24.2430 mL
	5 mM	0.4849 mL	2.4243 mL	4.8486 mL
	10 mM	0.2424 mL	1.2122 mL	2.4243 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 (5.04 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

CB-5339 is an oral activity potent p97 inhibitor with an IC_{50} <30 nM. CB-5339 can be used for leukemia research[1]. CB-5339 extracted from WO2015109285A1 compound FF07.

In Vitro

CB-5339(0-1.6 μM; 24-48 hours) induces polyubiquitin protein accumulation and activates of the unfolded protein response (UPR) in AML cells[2].

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

Western Blot Analysis[2]

Cell Line:	MV4-11 AML cell line
Concentration:	0,0.2,0.4,0.8,1.6 μM
Incubation Time:	24-48 hours

Result:	Induced dose-dependent polyubiquitin protein accumulation at concentrations ≥ 0.4 μM. Induced the ER stress marker GRP78 accumulated at concentrations ≥ 0.4 μM. Induced spliced XBP-1 and ATF-4 accumulated after treatment with CB-5339 at concentrations ≥ 1.6 μM and 0.8 μM respectively arguing for a concentration-dependent increase in proteotoxic stress.

In Vivo

CB-5339 (90 mg/kg for p.o.) decreases bone marrow leukemic infiltration and prolongs mice survival in MLL-AF9-driven patient-derived xenograft (PDX) AML mouse model[2].

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

Animal Model:	MLL-AF9-driven patient-derived xenograft (PDX) AML model in C57BL/6 male mice[2]
Dosage:	90 mg/kg
Administration:	oral gavage (p.o.)
Result:	Decreased bone marrow leukemic infiltration and circulating leukemic cells. Prolonged mice survival.

REFERENCES

[1]. Roux B, et.al. Targeting acute myeloid leukemia dependency on VCP-mediated DNA repair through a selective second-generation small-molecule inhibitor. Sci Transl Med. 2021 Mar 31;13(587):eabg1168.

[2]. David Wustrow, et al. FUSED PYRIMIDINES AS INHIBITORS OF p97 COMPLEX. WO2015109285A1.

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