EOAI3402143

Cat. No.: HY-111408

CAS No.: 1699750-95-2

Molecular Formula: $C_{25}H_{28}Cl_2N_4O_3$

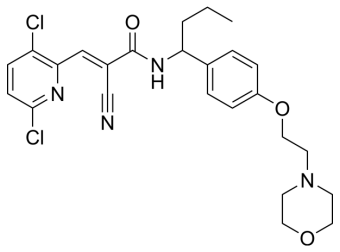
Molecular Weight: 503.42

Target: Deubiquitinase

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 (99.32 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.9864 mL	9.9321 mL	19.8641 mL
	5 mM	0.3973 mL	1.9864 mL	3.9728 mL
	10 mM	0.1986 mL	0.9932 mL	1.9864 mL

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

In Vivo

1. Add each solvent one by one: 50% PEG300 >> 50% saline
   Solubility: 10 mg/mL (19.86 mM); Suspended solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (4.97 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 2.5 mg/mL (4.97 mM); Suspended solution; Need ultrasonic
4. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (4.97 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

EOAI3402143 is a deubiquitinase (DUB) inhibitor, which inhibits dose-dependently inhibits Usp9x/Usp24 and Usp5.

IC_{50} & Target

Usp5[1]
Usp9x[1][2][3]
Usp24[2]

In Vitro	EOAI3402143 retains potent Usp9x and Usp5 inhibitory activity[1]. EOAI3402143 dose-dependently inhibits Usp9x and Usp24 activity, increases tumor cell apoptosis[2]. Treatment of UM-2, UM-6, UM-16, and UM-76 with Usp9x inhibitor EOAI3402143 (G9) dose-dependently suppresses cell survival, while 600 nM of EOAI3402143 completely suppresses UM-2 3D colony growth when compared to untreated vehicle controls[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	To examine this potential, the effect of EOAI3402143 (G9) treatment is investigated on human MIAPACA2 tumor xenografts. Human MIAPACA2 cells are injected subcutaneously into NSG mice. Primary tumor development is monitored by caliper measurements, and once measurable, mice are separated into two groups and are treated with either vehicle control (PEG300/DMSO) or G9 at 15 mg/kg. Tumor growth, animal weight, behavior, and mobility are monitored during treatment. In parallel, murine 8041 tumors are also established and subjected to similar G9 treatment and tumor monitoring regimen as the human MIAPACA2 xenografts. Consistent with the in vitro findings, Usp9x inhibition results in the suppression of tumor growth in human tumor xenografts, but any significant effect on the growth of 8041 tumors xenografts is not observed, although the Usp9x activity is inhibited effectively by EOAI3402143 treatment in both human MIAPACA2 and mouse 8041 xenograft tumors[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Cell Assay [3]	UM-2, UM-6, UM-16, and UM-76 cells are seeded in a 96-well plate at 5000 per well in the presence of the indicated concentration of EOAI3402143 (1, 2, 3, 4, and 5 μM) for 3 days in a CO_2 incubator at 37°C. Twenty microliters of 5 g/L MTT solution are added to each well for 2 hours at 37°C. The cells are then lysed in 10% SDS buffer, and absorbance at 570 nm relative to a reference wavelength of 630 nm is determined with a microplate reader. To examine proliferation using the MTT assay, cells are plated in triplicates, and the samples are processed for MTT assay at day 0, 1, 2, 3, and 4[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
Animal Administration [3]	Mice[3] NSG [NOD/SCID/IL2r-g (null)] mice are injected mid-dorsally with 2×10^6 8041 or 5×10^6 MIAPACA2 cells in 0.1 mL of Matrigel/DMEM suspension. Tumors are allowed to establish to about 100 mm^3, after which mice are tumor size matched and allocated to five per treatment group (vehicle or EOAI3402143) for 8041 tumor-bearing mice and four per treatment group for MIAPACA2 tumor-bearing mice. EOAI3402143 is administered in DMSO:PEG300 (1:1) by i.p injection every other day at 15 mg/kg. Tumor size is monitored by caliper measurements twice a week, and tumor volume is calculated[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Nat Commun. 2023 May 19;14(1):2859.
- Mol Cell. 2020 Nov 19;80(4):633-647.e7.
- Acta Pharm Sin B. 23 October 2021.
- EMBO J. 2022 Jul 11;e108791.
- Cell Death Dis. 2021 Jan 7;12(1):42.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. Potu H, et al. Usp5 links suppression of p53 and FAS levels in melanoma to the BRAF pathway. Oncotarget. 2014 Jul 30;5(14):5559-69.

[2]. Peterson LF, et al. Targeting deubiquitinase activity with a novel small-molecule inhibitor as therapy for B-cell malignancies. Blood. 2015 Jun 4;125(23):3588-97.

[3]. Pal A, et al. Usp9x Promotes Survival in Human Pancreatic Cancer and Its Inhibition Suppresses Pancreatic Ductal Adenocarcinoma In Vivo Tumor Growth. Neoplasia. 2018 Feb;20(2):152-164.

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