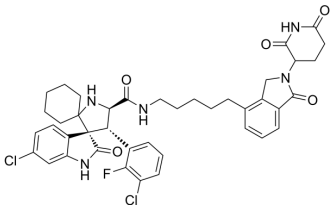
MG-277

Cat. No.:	HY-130122
CAS No.:	2411085-89-5
Molecular Formula:	$C_{41}H_{42}Cl_2FN_5O_5$
Molecular Weight:	774.71
Target:	Apoptosis; PROTACs; Molecular Glues
Pathway:	Apoptosis; PROTAC
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 (64.54 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.2908 mL	6.4540 mL	12.9081 mL
	5 mM	0.2582 mL	1.2908 mL	2.5816 mL
	10 mM	0.1291 mL	0.6454 mL	1.2908 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: 5 mg/mL (6.45 mM); Suspended solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 5 mg/mL (6.45 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

MG-277, a molecular glue degrader, effectively induces degradation of a translation termination factor based on Cereblon E3 ligand, GSPT1, with a DC_{50} of 1.3 nM. MG-277 potently inhibits tumor cell growth in a p53-independent manner, with IC_{50}s of 3.5 nM for RS4;11 cells and 3.4 nM for p53 mutant RS4;11/IRMI-2 cells, respectively. Anticancer activity[1].

IC_{50} & Target

Cereblon

In Vitro

MG-277 (0.03-10 nM; 24 hours; RS4;11 cells) treatment inhibits cell growth and degrades GSPT1[1].
MG277 has a significantly decreased potency in reducing the level of MDM2 protein in cells and fails to activate wild-type p53. MG-277 is highly potent and effective in inhibition of cell growth in cancer cell lines with wild-type p53, mutated p53, or deleted p53, indicating a p53-independent mechanism. MG-277 induces rapid GSPT1 degradation in cancer cells in a p53-

and MDM2-independent manner but in a manner dependent upon cereblon, CUL4 E3 ubiquitin ligase, and proteasomes[1].

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

Western Blot Analysis[1]

Cell Line:	RS4;11 cells
Concentration:	0.03 nM, 0.1 nM, 0. 3 nM, 1 nM, 3 nM, 10 nM
Incubation Time:	24 hours
Result:	Degraded GSPT1.

REFERENCES

[1]. Yang J, et al. Simple Structural Modifications Converting a Bona fide MDM2 PROTAC Degrader into a Molecular Glue Molecule: A Cautionary Tale in the Design of PROTAC Degraders. J Med Chem. 2019 Oct 21.

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