USP7-IN-9

Cat. No.: HY-146887

Molecular Formula: $C_{32}H_{33}ClF_6N_6O_8$

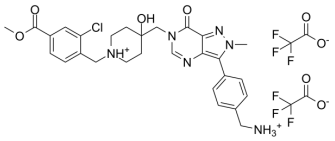
Molecular Weight: 779.08

Target: Deubiquitinase; Apoptosis

Pathway: Cell Cycle/DNA Damage; Apoptosis

Storage: 4°C, sealed storage, away from moisture

* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (128.36 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.2836 mL	6.4178 mL	12.8357 mL
	5 mM	0.2567 mL	1.2836 mL	2.5671 mL
	10 mM	0.1284 mL	0.6418 mL	1.2836 mL

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

BIOLOGICAL ACTIVITY

Description

USP7-IN-9 is a highly potent ubiquitin-specific protease 7 (USP7) inhibitor with an IC_{50} value of 40.8 nM. USP7-IN-9 can induce apoptosis and arrest cell progression at G0/G1 and S phases in RS4; 11 cells. USP7-IN-9 reduces the protein levels of oncoproteins MDM2 and DNMT1 and increases the protein levels of tumor suppressors p53 and p21[1].

IC_{50} & Target

IC_{50}: 40.8 nM (USP7)[1]

In Vitro

USP7-IN-9 (compound L55) (0-50 μM; 3 or 6 days) exhibits inhibitory activity against cancer cells[1].

USP7-IN-9 (1 μM; 0-72 hours) reduces the proportions of G2/M cells, and does not change the proportions of G0/G1 and S cells[1].

USP7-IN-9 (0.1-1 μM; 24 hours) reduces the protein levels of MDM2 and DNMT1 in a dose-dependent manner, and increases the protein levels of p53 and p21[1].

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

Cell Proliferation Assay

Cell Line:	LNCaP, RS4; 11, HCT 116, NB4, K562 and HuH-7 cells[1]

Concentration:	0-50 μM
Incubation Time:	LNCaP, 6 days; RS4; 11, HCT 116, HuH-7, K562 and NB4, 3 days
Result:	Exhibited high inhibitory activity against LNCaP and RS4; 11 cells, with IC_{50}s of 29.6 nM and 41.6 nM, respectively, and weak inhibitory activity on HCT 116, NB4, K562 and HuH-7 cells.

Cell Cycle Analysis

Cell Line:	RS4; 11 cells[1]
Concentration:	1 μM
Incubation Time:	0, 24, 48 and 72 hours
Result:	Reduced the proportions of G2/M cells, while the proportions of G0/G1 and S cells were not apparently altered.

Western Blot Analysis

Cell Line:	RS4; 11 cells[1]
Concentration:	0.1, 0.3 and 1 μM
Incubation Time:	24 hours
Result:	Reduced the protein levels of MDM2 and DNMT1 in a dose-dependent manner, and increased the protein levels of p53 and p21.

REFERENCES

[1]. Li M, Liu S, Chen H, et al. N-benzylpiperidinol derivatives as novel USP7 inhibitors: Structure-activity relationships and X-ray crystallographic studies. Eur J Med Chem. 2020;199:112279.

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