Thalidomide-Piperazine-PEG2-COOH

Cat. No.: HY-138781

CAS No.: 2797430-20-5

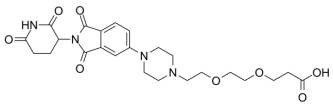
Molecular Formula: $C_{24}H_{30}N_4O_8$

Molecular Weight: 502.52

Target: E3 Ligase Ligand-Linker Conjugates

Pathway: PROTAC

Storage: -20°C, stored under nitrogen
* In solvent : -80°C, 6 months; -20°C, 1 month (stored under nitrogen)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 250 mg/mL (497.49 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.9900 mL	9.9499 mL	19.8997 mL
	5 mM	0.3980 mL	1.9900 mL	3.9799 mL
	10 mM	0.1990 mL	0.9950 mL	1.9900 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 (4.14 mM); Suspended solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 2.08 mg/mL (4.14 mM); Clear solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

Thalidomide-Piperazine-PEG2-COOH is a synthesized E3 ligase ligand-linker conjugate that incorporates the Thalidomide based cereblon ligand and a linker used in PROTAC technology[1].

IC_{50} & Target

Cereblon

In Vitro

PROTACs contain two different ligands connected by a linker; one is a ligand for an E3 ubiquitin ligase and the other is for the target protein. PROTACs exploit the intracellular ubiquitin-proteasome system to selectively degrade target proteins[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Sato T, et al. Cereblon-Based Small-Molecule Compounds to Control Neural Stem Cell Proliferation in Regenerative Medicine. Front Cell Dev Biol. 2021;9:629326. Published 2021 Mar 11.

[2]. Nalawansha DA, et al. PROTACs: An Emerging Therapeutic Modality in Precision Medicine. Cell Chem Biol. 2020;27(8):998-992.

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