Thalidomide-Propargyne-PEG1-COOH

Cat. No.: HY-138778

CAS No.: 2828438-36-2

Molecular Formula: $C_{19}H_{16}N_2O_7$

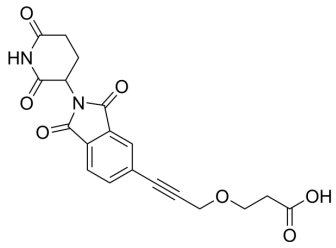
Molecular Weight: 384.34

Target: E3 Ligase Ligand-Linker Conjugates

Pathway: PROTAC

Storage: -20°C, protect from light

* In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 125 mg/mL (325.23 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.6019 mL	13.0093 mL	26.0186 mL
	5 mM	0.5204 mL	2.6019 mL	5.2037 mL
	10 mM	0.2602 mL	1.3009 mL	2.6019 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 (5.41 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (5.41 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (5.41 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Thalidomide-Propargyne-PEG1-COOH is a synthesized E3 ligase ligand-linker conjugate that incorporates the Thalidomide based cereblon ligand and a linker used in PROTAC technology[1]. Thalidomide-Propargyne-PEG1-COOH is a click chemistry reagent, it contains an Alkyne group and can undergo copper-catalyzed azide-alkyne cycloaddition (CuAAc) with molecules containing Azide groups.

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):998-990.

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