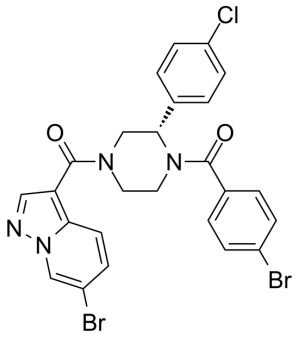
eIF4A3-IN-2

Cat. No.:	HY-101785
CAS No.:	2095677-20-4
Molecular Formula:	$C_{25}H_{19}Br_2ClN_4O_2$
Molecular Weight:	602.7
Target:	Eukaryotic Initiation Factor (eIF); Autophagy
Pathway:	Cell Cycle/DNA Damage; Autophagy
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 : 100 mg/mL (165.92 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	1.6592 mL	8.2960 mL	16.5920 mL
	5 mM	0.3318 mL	1.6592 mL	3.3184 mL
	10 mM	0.1659 mL	0.8296 mL	1.6592 mL

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

In Vivo

1. Add each solvent one by one: 5% DMSO >> 40% PEG300 >> 5% Tween-80 >> 50% saline
   Solubility: 2.5 mg/mL (4.15 mM); Suspended solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 1.67 mg/mL (2.77 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 1.67 mg/mL (2.77 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

eIF4A3-IN-2 is a highly selective and noncompetitive eukaryotic initiation factor 4A-3 (eIF4A3) inhibitor with an IC_{50} of 110 nM[1].

IC_{50} & Target

IC50: 110 nM (eIF4A3)[1]

In Vitro

eIF4A3-IN-2 (compound 2) binds to the allosteric region in eIF4A3 and inhibits in vitro ATPase, helicase, and cellular nonsense-mediated RNA decay (NMD) activities[1].

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

Apoptosis Analysis[1]

Cell Line:	HEK293T cells (transfected with the NMD reporter) luciferase assay
Concentration:	0.3, 1, 3, or 10 μM
Incubation Time:	3 or 6 h
Result:	eIF4A3-IN-2 induces an approximately 3.2-fold increase in luciferase activity, indicating that NMD is inhibited by compound 2[1].

CUSTOMER VALIDATION

- Nucleic Acids Res. 2022 Nov 23;gkac1084.

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REFERENCES

[1]. Iwatani-Yoshihara M, et al. Discovery and Characterization of a Eukaryotic Initiation Factor 4A-3-Selective Inhibitor That Suppresses Nonsense-Mediated mRNA Decay. ACS Chem Biol. 2017 Jul 21;12(7):1760-1768.

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