MI-3

Cat. No.: HY-15223

CAS No.: 1271738-59-0

Molecular Formula: $C_{18}H_{25}N_5S_2$

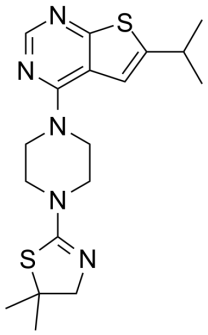
Molecular Weight: 375.55

Target: Epigenetic Reader Domain; Apoptosis

Pathway: Epigenetics; Apoptosis

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 : 8.33 mg/mL (22.18 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.6628 mL	13.3138 mL	26.6276 mL
5 mM	0.5326 mL	2.6628 mL	5.3255 mL
10 mM	0.2663 mL	1.3314 mL	2.6628 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: ≥ 0.83 mg/mL (2.21 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 0.83 mg/mL (2.21 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 0.83 mg/mL (2.21 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

MI-3 (Menin-MLL inhibitor 3) is a potent and high affinity menin-MLL inhibitor with an IC_{50} of 648 nM and a K_d of 201 nM[1].

IC_{50} & Target

IC50: 648 nM (menin-MLL); Kd: 201 nM (menin-MLL)[1]

In Vitro

MI-3 (12.5-50 μM; HEK293 cells) treatment effectively inhibits the menin-MLL-AF9 interaction in human cells[1].

MI-3 (0-1.6 μM; 72 hours; KOPN-8 and MV4;11 cells) treatment shows an effective and dose-dependent growth inhibition in KOPN-8, MV4 and ME-1 cells[1].

MI-3 (12.5-50 μM; 48 hours; MV4;11 cells) treatment results in a substantial, and dose-dependent increase in Annexin V and AnnexinV/propidium iodide (PI) cells, demonstrating an increase in the number of cells undergoing apoptosis[1].
MI-3 (6.25-25 μM; 6 days; THP-1 cells) treatment results in substantially reduced expression of HOXA9 and MEIS1[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Western Blot Analysis[1]

Cell Line:	HEK293 cells
Concentration:	12.5 μM, 25 μM, 50 μM
Incubation Time:	
Result:	Very effectively inhibited the menin-MLL-AF9 interaction in human cells.

Cell Viability Assay[1]

Cell Line:	KOPN-8 and MV4;11 cells
Concentration:	0 μM, 0.4 μM, 0.8 μM, 1.2 μM, 1.6 μM
Incubation Time:	72 hours
Result:	Showed an effective and dose-dependent growth inhibition in KOPN-8 and MV4;11 cells.

Apoptosis Analysis[1]

Cell Line:	MV4;11 cells
Concentration:	12.5 μM, 25 μM, 50 μM
Incubation Time:	48 hours
Result:	Resulted in an increase in the number of cells undergoing apoptosis.

RT-PCR[1]

Cell Line:	THP-1 cells
Concentration:	6.25 μM, 12.5 μM, 25 μM
Incubation Time:	6 days
Result:	Resulted in substantially reduced expression of HOXA9 and MEIS1.

CUSTOMER VALIDATION

- Clin Transl Med. 2022 Aug;12(8):e982.

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REFERENCES

[1]. Grembecka J, et al. Menin-MLL inhibitors reverse oncogenic activity of MLL fusion proteins in leukemia. Nature Chemical Biology (2012), 8(3), 277-284.

Caution: Product has not been fully validated for medical applications. For research use only.

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