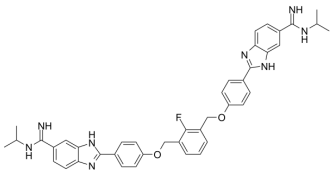
DB2313

Cat. No.:	HY-124629
CAS No.:	2170606-74-1
Molecular Formula:	$C_{42}H_{41}FN_8O_2$
Molecular Weight:	708.83
Target:	Apoptosis
Pathway:	Apoptosis
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 3.7 mg/mL (5.22 mM; ultrasonic and warming and heat to 70°C)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.4108 mL	7.0539 mL	14.1078 mL
	5 mM	0.2822 mL	1.4108 mL	2.8216 mL
	10 mM	---	---	---

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

In Vivo

1. Add each solvent one by one: 50% PEG300 >> 50% saline
   Solubility: 5 mg/mL (7.05 mM); Suspended solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

DB2313 is a potent transcription factor PU.1 inhibitor with an apoptosis of 14 nM. DB2313 disrupts the interaction of PU.1 with target gene promoters. DB2313 induces apoptosis of acute myeloid leukemia (AML) cells, and has anticancer effects[1].

IC_{50} & Target

IC50: 14 nM (PU.1)[1]

In Vitro

DB2313 treatment leads to a profound decrease in the growth of PU.1 $URE^{-/-}$ acute myeloid leukemia (AML) cells (IC_{50} of 7.1 μM), while showing little effect on normal hematopoietic cells at similar concentrations. DB2313 treatment leads to a 3.5-fold increase in apoptotic cells in murine PU.1 $URE^{-/-}$ AML cells. DB2313 also leads to a significant decrease in clonogenicity in the second and third rounds of plating and a complete disruption of clonogenic capacity in the fourth and higher rounds of plating[1].

In AML cells, DB2313 decreases PU.1 occupancy on E2f1, Junb, and Csf1r promoters[1].

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

In Vivo

DB2313 (17 mg/kg; i.p.; three times per week; for 3 weeks) treatment decreases leukemia progression and results in increased survival in mice[1].

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Animal Model:	NSG mice bearing sublethally irradiated (2.0 Gy) and injection with PU.1 URE$^{-/-}$ AML cells [1]
Dosage:	17 mg/kg
Administration:	Intraperitoneal injection; three times per week; for 3 weeks
Result:	Decreased tumor burden and resulted in increased survival.

REFERENCES

[1]. Zhang S, Zhao S, Qi Y, et al. SPI1-induced downregulation of FTO promotes GBM progression by regulating pri-miR-10a processing in an m6A-dependent manner. Mol Ther Nucleic Acids. 2022;27:699-717.

[2]. Iléana Antony-Debré, et al. Pharmacological inhibition of the transcription factor PU.1 in leukemia. J Clin Invest. 2017 Dec 1;127(12):4297-4313.

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