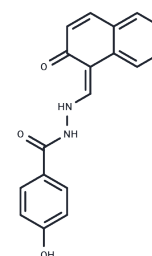


MEISi-2

Chemical Properties

CAS No. :	2250156-71-7
Formula:	C ₁₈ H ₁₄ N ₂ O ₃
Molecular Weight:	306.32
Storage:	Store at low temperature Powder: -20°C for 3 years In solvent: -80°C for 1 year <small>Actual storage temperature shall be subject to the COA.</small>



Biological Description

Description	MEISi-2 is a specific MEISi inhibitor that inhibits the meis luciferase reporter gene in vitro and induces MEIS-dependent hematopoietic stem cell maintenance and self-renewal, which can be used in research areas such as cardiac injury, hematopoietic problems, bone marrow transplantation and cancer.
Targets(IC50)	Others
In vitro	In studies of neonatal rat cardiomyocytes (RNCMs) and human induced pluripotent stem cell (hiPSC)-derived cardiomyocytes, treatment with MEISi-2 (5μM) was performed. In RNCMs, the proportion of cells positive for the proliferation markers phospho-histone H3 (Ph3) and Aurora B significantly increased following treatment. Specifically, the proliferation rate of Ph3 ⁺ /TnnT2 ⁺ cells increased by up to 4.5-fold, while the proportion of Aurora B ⁺ /TnnT2 ⁺ cells doubled. Meanwhile, the expression levels of MEIS1 target genes, including Hif-1α, Hif-2α, and p21, were significantly downregulated [1].
In vivo	In a mouse model, MEISi-2 (at a concentration of 10μM) was administered intraperitoneally on days 1, 4, and 7 (100μL per injection), and bone marrow cells were collected on day 10 for analysis. The Results showed that this treatment significantly upregulated the expression of hematopoietic stem cell markers c-Kit ⁺ and Sca-1 ⁺ , with the numbers of c-Kit ⁺ , Sca-1 ⁺ , and LSKCD34 ^{low} HSC cells increasing approximately 2-fold, 1.5-fold, and 3-fold, respectively. Meanwhile, MEISi-2 treatment downregulated the expression of key cell cycle inhibitors such as Meis1, Hif-2α, and p16. The study indicates that MEISi-2 effectively inhibits MEIS protein function and promotes an increase in hematopoietic stem cell numbers by modulating gene expression[2].

Solubility Information

Solubility	DMSO: 80 mg/mL (261.16 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.2646 mL	16.3228 mL	32.6456 mL
5 mM	0.6529 mL	3.2646 mL	6.5291 mL
10 mM	0.3265 mL	1.6323 mL	3.2646 mL
50 mM	0.0653 mL	0.3265 mL	0.6529 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Mammadova A, et al. Mechanistic insights into cardiac regeneration and protection through MEIS inhibition. Turk J Biol. 2024 Oct 30;48(6):414-431.

Turan RD, et al. Development of Small Molecule MEIS Inhibitors that modulate HSC activity Sci Rep. 2020 May 14;10(1):7994.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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Tel: 781-999-4286 E_mail: info@targetmol.com Address: 34 Washington Street, Wellesley Hills, MA 02481