Diethyl-pythiDC

Cat. No.: HY-103068

CAS No.: 1821370-70-0

Molecular Formula: $C_{14}H_{14}N_2O_4S$

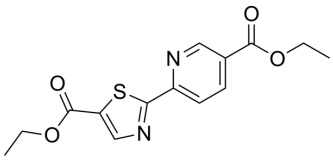
Molecular Weight: 306.34

Target: MMP

Pathway: Metabolic Enzyme/Protease

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 : 33.33 mg/mL (108.80 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.2643 mL	16.3217 mL	32.6435 mL
5 mM	0.6529 mL	3.2643 mL	6.5287 mL
10 mM	0.3264 mL	1.6322 mL	3.2643 mL

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

In Vivo

1. Add each solvent one by one: corn oil
   Solubility: 33.33 mg/mL (108.80 mM); Clear solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: 2.5 mg/mL (8.16 mM); Suspended solution; Need ultrasonic
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (8.16 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Diethyl-pythiDC is an inhibitor of collagen prolyl 4-hydroxylases (CP4Hs).

IC_{50} & Target

CP4H[1]

In Vitro

Diethyl-pythiDC inhibits CP4H activity in cultured cells at concentrations that do not cause iron deficiency. MDA-MB-231 cells are treated with biheteroaryl dicarboxylates, and assayed for cytotoxicity and indicators of iron deficiency. None of the esterified biheteroaryl dicarboxylates exhibited cytotoxic activity at high micromolar concentrations. Cells treated with

dihydroxybenzoate (EDHB demonstrate a strong iron-deficient phenotype. In contrast, cells treated with Diethyl-pythiDC (Diethyl pythiDC) appear to be normal at concentrations as high as 500 μM. Treatment with Diethyl-pythiDC and low levels of diethyl pyimDC does not affect the level of TfR, HIF-1α, or ferritin[1].

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

PROTOCOL

Cell Assay [1]

MDA-MB-231 cells grown in Section X are plated at a concentration of 5,000 cells/well in a clear 96-well plate. The cells are allowed to adhere for 4 h, after which the medium is removed and discarded. Fresh medium is added and the cells are treated with varying concentrations of the test compound (e.g., Diethyl-pythiDC) at 37°C for 24 h. The medium is removed, and cells are washed with Dulbecco's PBS. The MTS reagent is added at a ratio of 1:5, and the cells are incubated at 37°C for 2 h before measuring the absorbance at 490 nm. The average absorbance is measured in triplicate for each concentration tested, and the entire experiment is repeated in duplicate. The percentage of viable cells is determined by normalizing to a PBS control (100% viable), and a H_2O_2 control (0% viable)[1].

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

CUSTOMER VALIDATION

- Transl Oncol. 2021 May 25;14(8):101128.

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REFERENCES

[1]. Vasta JD, et al. Selective Inhibition of Collagen Prolyl 4-Hydroxylase in Human Cells. ACS Chem Biol. 2016 Jan 15;11(1):193-9.

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