

Product Data Sheet

Product Name: Diethyl-pythiDC

Cat. No.: GC32949

Chemical Properties

Cas. No. 1821370-70-0

SMILES O=C(C1=CC=C(C2=NC=C(C(OCC)=O)S2)N=C1)OCC

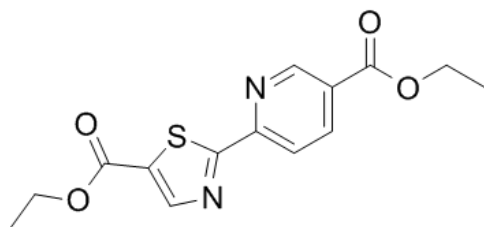
Formula $C_{14}H_{14}N_2O_4S$ M.Wt 306.34

Solubility DMSO : 33.33 mg/mL (108.80 mM); Water : < 0.1 mg/mL (insoluble) Storage Store at -20°C

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

Structure



Protocol

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

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Cell experiment: 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 H2O2 control (0% viable)[1].

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.

Background

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

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 μ M. Treatment with Diethyl-pythiDC and low levels of diethyl pyimDC does not affect the level of TfR, HIF-1 α , or ferritin[1].

[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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