Pyroxamide

Cat. No.: HY-13216

CAS No.: 382180-17-8

Molecular Formula: $C_{13}H_{19}N_3O_3$

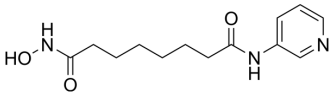
Molecular Weight: 265.31

Target: HDAC; Apoptosis

Pathway: Cell Cycle/DNA Damage; Epigenetics; 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 : 125 mg/mL (471.15 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.7692 mL	18.8459 mL	37.6918 mL
	5 mM	0.7538 mL	3.7692 mL	7.5384 mL
	10 mM	0.3769 mL	1.8846 mL	3.7692 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: ≥ 2.08 mg/mL (7.84 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (7.84 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (7.84 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Pyroxamide is a potent inhibitor of histone deacetylase 1 (HDAC1) with an ID_{50} of 100 nM. Pyroxamide can induce apoptosis and cell cycle arrest in leukemia[1].

IC_{50} & Target

HDAC1
100 nM (ID50)

In Vitro

Pyroxamide (1.25-20.0 μM; 24-72 hours) suppresses RD and RH30B cells growth, pyroxamide resulted in 44% dead cells for

72 h at 20.0 μM, results in 86% dead cells in culture[1].
Pyroxamide (10.0-20.0 μM; 48 hours) shows sub-G1 fractions of 45.0% and 72.3% at 10.0 and 20.0 μM, respectively[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[2]

Cell Line:	RD cells; RH30B cells
Concentration:	1.25-20.0 μM
Incubation Time:	24 hours; 48 hours; 72 hours
Result:	Resulted in a cell growth decrease in RD and RH30B cells.

Cell Cycle Analysis[2]

Cell Line:	RD cells; RH30B cells
Concentration:	10.0 μM; 20.0 μM
Incubation Time:	48 hours
Result:	Increased the sub-G1 fractions at 48 hours compared with control samples.

CUSTOMER VALIDATION

- Cell Metab. 2022 Feb 7;34(3):424-440.e7.
- IUBMB Life. 2021 Mar 14.
- Biology (Basel). 2022, 11(10), 1464.

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REFERENCES

[1]. Butler LM, et al. Inhibition of transformed cell growth and induction of cellular differentiation by pyroxamide, an inhibitor of histone deacetylase. Clin Cancer Res. 2001 Apr;7(4):962-70.

[2]. Kutko MC, et al. Histone deacetylase inhibitors induce growth suppression and cell death in human rhabdomyosarcoma in vitro.Clin Cancer Res. 2003 Nov 15;9(15):5749-55.

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