Pimelic Diphenylamide 106

Cat. No.: HY-19348

CAS No.: 937039-45-7

Molecular Formula: $C_{20}H_{25}N_3O_2$

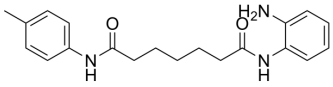
Molecular Weight: 339.43

Target: HDAC

Pathway: Cell Cycle/DNA Damage; Epigenetics

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 : 125 mg/mL (368.26 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.9461 mL	14.7306 mL	29.4612 mL
	5 mM	0.5892 mL	2.9461 mL	5.8922 mL
	10 mM	0.2946 mL	1.4731 mL	2.9461 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: ≥ 0.55 mg/mL (1.62 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 0.55 mg/mL (1.62 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 0.55 mg/mL (1.62 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Pimelic Diphenylamide 106 is a slow, tight-binding inhibitor of class I HDAC (HDAC 1, 2, and 3, with IC50 values of 150 nM , 760nM, and 370 nM, respectively), demonstrating no activity against class II HDACs.IC50 value: 150 nM (HDAC1), 370 nM (HDAC3), 760nM(HDAC2)Target: HDAC in vitro: Pimelic Diphenylamide 106 has preference toward HDAC3 with Ki of 14 nM, 15 times lower than the Ki for HDAC1. Pimelic Diphenylamide 106 exhibits weaker inhibitory activities against HDAC 8 with IC50 of 5 μM after a 3-h preincubation with HDAC8.

IC_{50} & Target	HDAC1	HDAC3	HDAC2	HDAC8

	150 nM (IC_{50})	370 nM (IC_{50})	760 nM (IC_{50})	5000 nM (IC_{50})

CUSTOMER VALIDATION

- Cell Metab. 2021 Nov 20;S1550-4131(21)00532-5.
- JCI Insight. 2021 Dec 7;e153948.
- J Mol Med (Berl). 2019 Aug;97(8):1183-1193.

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REFERENCES

[1]. Chou CJ, et al. Pimelic diphenylamide 106 is a slow, tight-binding inhibitor of class I histone deacetylases. J Biol Chem. 2008 Dec 19;283(51):35402-35409.

[2]. Xu C, et al. Chemical probes identify a role for histone deacetylase 3 in Friedreich's ataxia gene silencing. Chem Biol. 2009 Sep 25;16(9):980-989.

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

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