Iadademstat dihydrochloride

Cat. No.: HY-12782T

CAS No.: 1431303-72-8

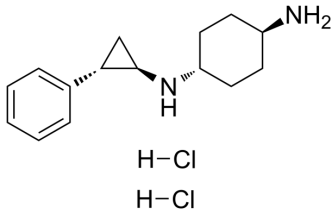
Molecular Formula: $C_{15}H_{24}Cl_2N_2$

Molecular Weight: 303.27

Target: Histone Demethylase

Pathway: Epigenetics

Storage: 4°C, sealed storage, away from moisture
* In solvent : -80°C, 2 years; -20°C, 1 year (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

H_2O : 57.75 mg/mL (190.42 mM; Need ultrasonic and warming)
DMSO : 0.69 mg/mL (2.28 mM; Need ultrasonic and warming)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.2974 mL	16.4870 mL	32.9739 mL
5 mM	0.6595 mL	3.2974 mL	6.5948 mL
10 mM	0.3297 mL	1.6487 mL	3.2974 mL

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

In Vivo

1. Add each solvent one by one: PBS
Solubility: 100 mg/mL (329.74 mM); Clear solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

Iadademstat (ORY-1001) dihydrochloride is a selective irreversible lysine (K)-specific demethylase 1A (KDM1A/LSD1) inhibitor.

IC_{50} & Target

KDM1A/LSD1[1]

In Vitro

Iadademstat dihydrochloride is a KDM1A inhibitor that inactivate KDM1A by irreversible binding to the flavin adenine nucleotide (FAD) cofactor. Iadademstat has very high selectivity for KDM1A over the MAO enzymes, high selectivity over KDM1B and unrivaled subnanomolar cellular activity in differentiation and colony formation assays on mixed lineage leukemia (MLL)-translocated acute myeloid leukemia (AML) cell lines. Iadademstat provokes a time and dose-dependent induction of the Cd11b differentiation marker in MLL-AF9 cells, which interestingly preceeds changes in H3K4me2 levels. While MLL-translocated cells are especially sensitive, other acute leukemia (AL) cell lines also respond to Iadademstat[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo	Iadademstat reduces AML tumor growth in mice and rat xenografts and increases survival time in a disseminated model of T-ALL[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Oncogene. 2021 Apr;40(15):2711-2724.
- Cell Biosci. 2022 Aug 30;12(1):140
- J Appl Toxicol. 2023 Jul 5.

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REFERENCES

[1]. Maes T, et al. KDM1 histone lysine demethylases as targets for treatments of oncological and neurodegenerative disease. Epigenomics. 2015;7(4):609-26. doi: 10.2217/epi.15.9.

[2]. Tamara Maes, et al. ORY-1001, a Potent and Selective Covalent KDM1A Inhibitor, for the Treatment of Acute Leukemia. Cancer Cell. 2018 Mar 12;33(3):495-511.e12.

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