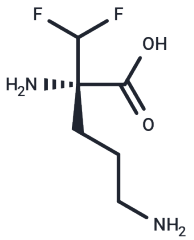
Data Sheet (Cat.No.T11812)

TargetMol

L-Eflornithine

Chemical Properties



CAS No. : 66640-93-5

Formula: C6H12F2N2O2

Molecular Weight: 182.17

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	L-Eflornithine is an irreversible ornithine decarboxylase (ODC) inhibitor with a KD of 1.3 ±0.3 μM, and a Kinact of 0.15±0.03 min-1. L-Eflornithine is an enantiomer of Eflornithine.
Targets(IC50)	Others,Parasite
In vitro	Treatment of human colon tumour-derived HCT116 cells with either L-Eflornithine or D-Eflornithine decreases the cellular polyamine contents in a concentration-dependent manner. The enantiomers display different potencies in vitro, with the L-enantiomer having up to a 20-fold higher affinity for the target enzyme ornithine decarboxylase. ? The L-Eflornithine also appears to be more potent in cultured T.brucei gambiense parasites.?Eflornithine ?is an inhibitor of ODC, the first enzyme in eukaryotic polyamine biosynthesis.?Both enantiomers of Eflornithine ?irreversibly inactivate ODC.?Both Eflornithine enantiomers ?suppress ODC activity in a time- and concentration-dependent manner.?The inhibitor dissociation constant (KD) values for the formation of enzyme-inhibitor complexes are 28.3±3.4, 1.3±0.3 and 2.2±0.4 μM respectively for D-Eflornithine, L-Eflornithine and Eflornithine.?The inhibitor inactivation constants (Kinact) for the irreversible step were 0.25±0.03, 0.15±0.03 and 0.15±0.03 min-1 respectively for D-Eflornithine, L-Eflornithine and Eflornithine.
In vivo	The typical oral clearances for L-Eflornithine and D-eflornithine are 17.4 and 8.23 liters/hour, respectively. Despite L-Eflornithine being the more potent form, it is found in significantly lower concentrations in both plasma and cerebrospinal fluid (CSF) compared to D-Eflornithine. On average, plasma concentrations of L-Eflornithine are 52% of those found for the D-enantiomer.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	5.4894 mL	27.4469 mL	54.8938 mL
5 mM	1.0979 mL	5.4894 mL	10.9788 mL
10 mM	0.5489 mL	2.7447 mL	5.4894 mL
50 mM	0.1098 mL	0.5489 mL	1.0979 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Qu N, et al. Inhibition of human ornithine decarboxylase activity by enantiomers of difluoromethylornithine. Biochem J. 2003 Oct 15;375(Pt 2):465-70.

Mastrodomenico V, LoMascolo N J, Cruz-Pulido Y E, et al. Polyamine-Linked Cholesterol Incorporation in Rift Valley Fever Virus Particles Promotes Infectivity. ACS Infectious Diseases. 2022

Hulsebosch B M, Mounce B C. Polyamine Analog Diethylnorspermidine Restricts Coxsackievirus B3 and Is Overcome by 2A Protease Mutation In Vitro. Viruses. 2021 Feb 16;13(2):310. doi: 10.3390/v13020310.

Jansson-Löfmark R, et al. Enantiospecific reassessment of the pharmacokinetics and pharmacodynamics of oral eflornithine against late-stage Trypanosoma brucei gambiense sleeping sickness. Antimicrob Agents Chemother. 2015 Feb;59(2):1299-307.

Hulsebosch B M, Mounce B C. Polyamine Analog Diethylnorspermidine Restricts Coxsackievirus B3 and Is Overcome by 2A Protease Mutation In Vitro[J]. Viruses. 2021, 13(2): 310.