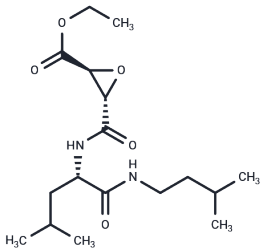
Data Sheet (Cat.No.T6040)

TargetMol

Aloxistatin

Chemical Properties



CAS No. : 88321-09-9

Formula: C17H30N2O5

Molecular Weight: 342.43

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	Aloxistatin (E64d) is an inhibitor of cysteine protease with blood platelet aggregation inhibiting activity. Aloxistatin is an irreversible, membrane-permeable inhibitor of lysosomal and cytosolic cysteine proteases with the ability to inhibit calpain activity in intact platelets.
Targets(IC50)	Cysteine Protease,SARS-CoV
In vitro	Aloxistatin can enter the intact platelet and inhibit proteolysis by inhibiting calpain. [2] Aloxistatin blunts Parathyroid hormone (PTH)-induced cell proliferation and inhibits differentiation osteoblasts in vitro. [3]
In vivo	Aloxistatin (100 mg/kg, p.o.) strongly inhibits the cathepsin B&L activities in the skeletal muscle, heart and liver of hamsters. [1] In spinal cord injury (SCI) rats, Aloxistatin provides neuroprotection in SCI lesion and penumbra. [4] Aloxistatin reduces brain amyloid-β and improves memory deficits in Alzheimer's disease animal models by inhibiting cathepsin B activity. [5]
Kinase Assay	The CTLs and NK cells (0.8×106/mL) are treated with the inhibitors L1 (10-20 μM) or Aloxistatin (20-30 μM) for 24 hr at 37°C in 24-well plates. Cells are then used in 51Cr-release assays or are lysed to examine perforin in Western blots. The inhibitor is also added at the same concentration during the 4 hr reactions in some 51Cr-release assays, as indicated. Cell lysates are prepared using NP-40 lysis buffer (25 mM HEPES, 250 mM NaCl, 2.5 mM ethylenediaminetetraacetic acid, 0.1% volume/volume Nonidet P-40) and total protein concentration is determined using the Bradford assay. Equal amounts of protein are loaded and resolved on 8% SDS-PAGE gels. Human or mouse perforin is detected using the appropriate antibodies as indicated. Anti-actin antibody is used as a loading control[2].
Cell Research	Aloxistatin (E64d) is dissolved in DMSO and stored, and then diluted with appropriate medium (final DMSO 0.1 %) before use[3]. Cell proliferation and apoptosis are assessed by staining for a proliferation marker, Ki67, or an apoptotic marker, cleaved caspase 3, following the protocol described above for the polarity markers. MCF10 variants are grown in 3D rBM overlay cultures for 4 days and are treated with 0.1 % DMSO, 5 μM CA074Me or 5 μM Aloxistatin. The percentage of structures that are positive for Ki67 or cleaved caspase 3 is determined by counting a total of 100 structures on two separate coverslips with a Zeiss Axiophot epifluorescent microscope. Structures are considered Ki67 positive if they contained at least one cell staining for Ki67. Structures are considered to be caspase 3 positive if they contained at least one cell that is positive for

Cell Research	cleaved caspase 3 and the positive cell(s) is not localized in the center of a developing lumen[3].

Solubility Information

Solubility	DMSO: 10.73 mg/mL (31.33 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.9203 mL	14.6015 mL	29.203 mL
5 mM	0.5841 mL	2.9203 mL	5.8406 mL
10 mM	0.292 mL	1.4602 mL	2.9203 mL
50 mM	0.0584 mL	0.292 mL	0.5841 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

Tamai M, et al. J Pharmacobiodyn. 1986, 9(8), 672-677.
Xu X, Xie T, Zhou M, et al.Hsc70 promotes anti-tumor immunity by targeting PD-L1 for lysosomal degradation. Nature Communications.2024, 15(1): 4237.
McGowan EB, et al. Biochem Biophys Res Commun. 1989, 158(2), 432-435.
Murray EJ, et al. Metabolism. 1997 , 46(9), 1090-1094.
Ray SK, et al. Ann N Y Acad Sci. 2001, 939, 436-449.
Hook G, et al. J Alzheimers Dis. 2011, 26(2), 387-408.