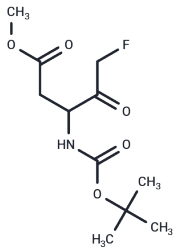
Data Sheet (Cat.No.T10580)

TargetMol

BOC-D-FMK

Chemical Properties



CAS No. : 634911-80-1

Formula: C11H18FNO5

Molecular Weight: 263.26

Storage: Store at low temperature
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	Boc-D-FMK is an irreversible, cell-permeable, and broad-spectrum caspase inhibitor and inhibits apoptosis stimulated by TNF-α (IC50: 39 μM).
Targets(IC50)	Apoptosis,Caspase
In vitro	Boc-D-fmk inhibits TNFα-stimulated reactive oxygen species (ROS) generation [1]. Boc-D-fmk (50 μM) prevents genistein-induced apoptosis of p815 cells. The release of mitochondrial apoptotic factors is inhibited by Boc-D-fmk [2].
In vivo	Boc-D-FMK-fmk significantly reduces apoptosis in hepatocytes of bile duct-ligated rats, potentially enhancing survival rates following endotoxin exposure [3]. A single injection of Boc-D-FMK offers prolonged protection, exceeding 8 weeks, against root avulsion-induced death in motor neurons (MNs), enabling these treated MNs to regenerate axons into an implanted peripheral nerve (PN) graft and successfully reinnervate the target muscle [4].

Solubility Information

Solubility	DMSO: 150 mg/mL (569.78 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 4 mg/mL (15.19 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.7985 mL	18.9926 mL	37.9853 mL
5 mM	0.7597 mL	3.7985 mL	7.5971 mL
10 mM	0.3799 mL	1.8993 mL	3.7985 mL
50 mM	0.076 mL	0.3799 mL	0.7597 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

Cowburn AS, et al. z-VAD-fmk augmentation of TNF alpha-stimulated neutrophil apoptosis is compound specific and does not involve the generation of reactive oxygen species.
Yee SB, et al. zVAD-fmk, unlike BocD-fmk, does not inhibit caspase-6 acting on 14-3-3/Bad pathway in apoptosis of p815 mastocytoma cells. Exp Mol Med. 2006 Dec 31;38(6):634-42.
Sheen-Chen SM, et al. Effect of Boc-D-Fmk on hepatocyte apoptosis after bile duct ligation in rat and survival rate after endotoxin challenge. J Gastroenterol Hepatol. 2008 Aug;23(8 Pt 1):1276-9.
Chan YM, et al. Inhibition of caspases promotes long-term survival and reinnervation by axotomized spinal motoneurons of denervated muscle in newborn rats. Exp Neurol. 2003 Jun;181(2):190-203.