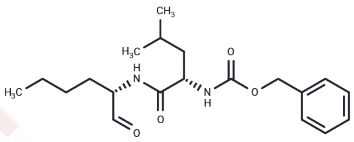
Data Sheet (Cat.No.T6432)

TargetMol

Calpeptin

Chemical Properties



CAS No. : 117591-20-5

Formula: C20H30N2O4

Molecular Weight: 362.46

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	Calpeptin is a cell-permeable Calpain inhibitor (IC50 = 5 nM), and its ID50 value for human platelet Calpain I is 40 nM. Calpeptin is also an effective inhibitor of Cathepsin K (IC50 = 0.11 nM).
Targets(IC50)	Apoptosis,Proteasome,Cysteine Protease
In vitro	Calpeptin inhibits 20K phosphorylation in a dose-related manner in platelets stimulated by thrombin, ionomycin or collagen. [1] In differentiating PC12 cells, Calpeptin promotes neurite elongation via inhibition of Calpain activity. [2] In rat retinal ganglion cells, Calpeptin attenuates apoptosis, maintains normal whole-cell membrane potential, and thus provides functional neuroprotection. [3]
In vivo	In a feline right ventricular (RV) PO (RVPO) model, calpeptin (0.6 mg/kg, i.v.) blocks the activation of calpain and caspase-3, cleavage of their substrates, and cardiomyocyte programmed cell death. [4] In a rat focal cerebral ischemia-reperfusion injury model, Calpeptin reduces the neuronal apoptosis in hippocampal CA1 sector via inhibition of the expression of Caspase-3. [5]

Solubility Information

Solubility	Ethanol: 67 mg/mL (184.85 mM),Sonication is recommended. DMSO: 240 mg/mL (662.14 mM),Sonication is recommended. H2O: < 1 mg/mL (insoluble or slightly soluble), (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 3.3 mg/mL (9.1 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	2.7589 mL	13.7946 mL	27.5893 mL
5 mM	0.5518 mL	2.7589 mL	5.5179 mL
10 mM	0.2759 mL	1.3795 mL	2.7589 mL
50 mM	0.0552 mL	0.2759 mL	0.5518 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

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