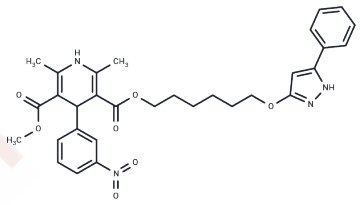
Data Sheet (Cat.No.T15021)

TargetMol

CV-159

Chemical Properties



CAS No. : 86384-98-7

Formula: C31H34N4O7

Molecular Weight: 574.62

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	CV-159 is a distinctive dihydropyridine Ca2+ antagonist exhibiting anti-inflammatory properties and possessing anti-calmodulin (CaM) activity.
Targets(IC50)	CaMK,Others
In vitro	CV-159, in concentrations ranging from 0.1 to 10 μM, significantly suppresses the induction of VCAM-1 by TNF-α (10 ng/ml for 24 hours) in SMCs in a concentration-dependent manner. At a concentration of 10 μM, CV-159 blocks the TNF-induced expression of e-selectin after 24 hours but does not affect the levels of vascular cell adhesion molecule-1 or intercellular adhesion molecule-1. Additionally, CV-159 significantly reduces TNF-induced ROS production when administered at 10 μM for 30 minutes [1]. Furthermore, CV-159 at 10 μM inhibits the TNF-induced phosphorylation of JNK, p38, and NF-κB p65 (Ser536) after 20 minutes of treatment [2].
In vivo	CV-159 has been shown to significantly reduce brain infarct size following permanent middle cerebral artery (MCA) occlusion. Moreover, at doses of 5 and 10 mg/kg (administered orally), it markedly protects against delayed neuronal death in the hippocampal CA1 region in rats after a 15-minute transient forebrain ischemia. Additionally, CV-159 effectively mitigates the increase in water content within the infarcted cortex resulting from MCA occlusion [3].

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.7403 mL	8.7014 mL	17.4028 mL
5 mM	0.3481 mL	1.7403 mL	3.4806 mL
10 mM	0.174 mL	0.8701 mL	1.7403 mL
50 mM	0.0348 mL	0.174 mL	0.3481 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

Usui T, et al. Mechanisms underlying the anti-inflammatory effects of the Ca2+/calmodulin antagonist CV-159 in cultured vascular smooth muscle cells. J Pharmacol Sci. 2010;113(3):214-23. Epub 2010 Jun 16.
Usui T, et al. CV-159, a unique dihydropyridine derivative, prevents TNF-induced inflammatory responses in human umbilical vein endothelial cells. J Pharmacol Sci. 2010;113(2):182-91. Epub 2010 May 19.
Miyazaki H, et al. Neuroprotective effects of a dihydropyridine derivative, 1,4-dihydro-2,6-dimethyl-4-(3-nitrophenyl)-3,5-pyridinedicarbox ylic acid methyl 6-(5-phenyl-3-pyrazolyloxy)hexyl ester (CV-159), on rat ischemic brain injury. Life Sci. 1999;64(10):869-78.