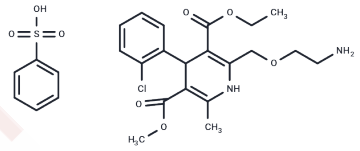
Data Sheet (Cat.No.T0231)

TargetMol

Amlodipine Besylate

Chemical Properties



CAS No. : 111470-99-6

Formula: C26H31ClN2O8S

Molecular Weight: 567.05

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	Amlodipine Besylate(Amlodipine benzenesulfonate) is a long-lasting calcium channel blocker.
Targets(IC50)	Calcium Channel
In vitro	Amlodipine is a safe and effective oral medication for treating systemic hypertension in cats. In swine coronary arteries with intact endothelium, Amlodipine notably reduces mean indirect systolic pressure, from 198 mmHg to 155 mmHg.
In vivo	In mice infused with angiotensin II, Amlodipine significantly reduced systolic blood pressure, LOX-1 expression, endothelial dysfunction, aortic hypertrophy, and the production of aortic O2(-) and ONOO(-), alongside a decrease in plasma levels of free 8-F(2)α-isoprostanes. In isolated pre-contracted endothelium-intact porcine coronary arteries, Amlodipine induced NO-mediated relaxation, resulting in a leftward shift of the concentration-relaxation curve toward bradykinin. Electron spin resonance spectroscopy in native endothelial cells revealed that Amlodipine increased NO production and stimulated an 8-fold rise in endothelial cyclic GMP levels. Furthermore, Amlodipine induced NO-mediated relaxation in isolated rat aortic rings, leading to downregulation of B2 receptor expression. In endothelial cells, Amlodipine time-dependently attenuated protein kinase C phosphorylation, similar to endothelial nitric oxide synthase phosphorylation, and also prevented phorbol-12-myristate-13-acetate-induced PKC activation. Amlodipine besylate reduced p85αPI3K, phosphorylated GSK-3β, phosphorylated Akt, Bcl-2, and heat shock transcription factor 1 induced H2O2 content, and inhibited Cyclooxygenase-2, cytosolic cytochrome c, cleaved caspase9, and the increase of cleaved caspase3 in neuronal cell apoptosis.

Solubility Information

Solubility	H2O: 2.85 mg/mL (5.03 mM),Sonication is recommended. DMSO: 250 mg/mL (440.88 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: 2 mg/mL (3.53 mM),Sonication is recommended. 10% DMSO+90% Saline: 10 mg/mL (17.64 mM),Solution. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one.*

In vivo Formulation	*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	1.7635 mL	8.8176 mL	17.6351 mL
5 mM	0.3527 mL	1.7635 mL	3.527 mL
10 mM	0.1764 mL	0.8818 mL	1.7635 mL
50 mM	0.0353 mL	0.1764 mL	0.3527 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

Lee YJ, et al. J Neurochem, 2011, 119(6), 1262-1270.
Zhou MS, et al. Am J Hypertens, 2004, 17(2), 167-171.
Lenasi H, et al. Cardiovasc Res, 2003, 59(4), 844-853.
Henik RA, et al. J Am Anim Hosp Assoc, 1997, 33(3), 226-234.