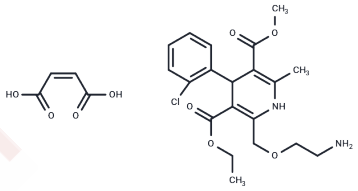
Data Sheet (Cat.No.T21263)

TargetMol

Amlodipine maleate

Chemical Properties



CAS No. : 88150-47-4

Formula: C24H29ClN2O9

Molecular Weight: 524.95

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 maleate (Amvaz) is an orally active dihydropyridine calcium channel blocker that inhibits calcium inward flow by blocking voltage-dependent L-type calcium channels.Amlodipine maleate is used in the study of hypertension and cancer.
Targets(IC50)	Calcium Channel
In vitro	Amlodipine maleate (30 μM; pretreated for 1 h) significantly attenuates the uridine 5′-triphosphate (UTP)-induced increases of [Ca2+]i in A431 cells.[4] Amlodipine maleate (20-40 μM; 48 h) reduces BrdU incorporation to 68.6% and 26.3% in A431 cells, respectively.[4] Amlodipine maleate (30 μM) inhibits the store-operated Ca2+influx evoked by Thapsigargin in Fluo-3-loaded cells.[4]
In vivo	Amlodipine maleate (10 mg/kg; i.p. once daily for 20 days) causes a significant retardation of tumor growth and prolongs the survival of A431 tumor-bearing mice.[4] Amlodipine maleate (5 mg/kg/day; s.c. for 2 weeks) significantly decreases systolic blood pressure (SBP) in VSMC ATP2B1 KO mice.[5]

Solubility Information

Solubility	DMSO: 108 mg/mL (205.73 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: 3.3 mg/mL (6.29 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	1.9049 mL	9.5247 mL	19.0494 mL
5 mM	0.381 mL	1.9049 mL	3.8099 mL
10 mM	0.1905 mL	0.9525 mL	1.9049 mL
50 mM	0.0381 mL	0.1905 mL	0.381 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

Gottwald-Hostalek U, et al. Management of Hypertension With a Fixed-Dose (Single-Pill) Combination of Bisoprolol and Amlodipine. Clin Pharmacol Drug Dev. 2017 Jan;6(1):9-18.
van Zwieten PA. Amlodipine: an overview of its pharmacodynamic and pharmacokinetic properties. Clin Cardiol. 1994 Sep;17(9 Suppl 3):III3-6.
Haria M, et al. Amlodipine. A reappraisal of its pharmacological properties and therapeutic use in cardiovascular disease. Drugs. 1995;50(3):560-586.
Yoshida J, et al. Antitumor effects of amlodipine, a Ca2+ channel blocker, on human epidermoid carcinoma A431 cells in vitro and in vivo. Eur J Pharmacol. 2004;492(2-3):103-112.
Okuyama Y, et al. The effects of anti-hypertensive drugs and the mechanism of hypertension in vascular smooth muscle cell-specific ATP2B1 knockout mice. Hypertens Res. 2018;41(2):80-87.