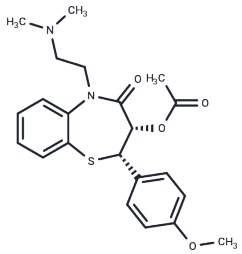
Data Sheet (Cat.No.T0112L)

TargetMol

Diltiazem

Chemical Properties



CAS No. : 42399-41-7

Formula: C22H26N2O4S

Molecular Weight: 414.52

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	Diltiazem (CRD 401 free base) is an orally available L-type Ca2+ channel blocker with antihypertensive, antiarrhythmic, and cardioprotective properties that prevent post-reperfusion myocardial injury, angina pectoris, and cardiovascular-related diseases.
Targets(IC50)	Calcium Channel
In vivo	In male ApoE−/− mice with angiotensin II-induced aneurysms, Diltiazem free base (100 mg/kg, oral administration, in drinking water, for 4 weeks) significantly reduced vascular remodeling but also lowered blood pressure[3].

Solubility Information

Solubility	H2O: < 0.1 mg/mL (insoluble) DMSO: 252.5 mg/mL (609.14 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 (7.96 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	2.4124 mL	12.0621 mL	24.1243 mL
5 mM	0.4825 mL	2.4124 mL	4.8249 mL
10 mM	0.2412 mL	1.2062 mL	2.4124 mL
50 mM	0.0482 mL	0.2412 mL	0.4825 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

Yoshinari Niimi, et al. Diltiazem facilitates inactivation of single L-type calcium channels in guinea pig ventricular myocytes. Jpn Heart J. 2003 Nov;44(6):1005-14.
S Lin Tang, et l. Structural Basis for Diltiazem Block of a Voltage-Gated Ca2+ Channel. Mol Pharmacol. 2019 Oct; 96 (4): 485-492.
Anja Mieth , et al. L-type calcium channel inhibitor diltiazem prevents aneurysm formation by blood pressure-independent anti-inflammatory effects. Hypertension. 2013 Dec;62(6):1098-104.
S. J. Downing, et al. Diltiazem pharmacokinetics in the rat and relationship between its serum concentration and uterine and cardiovascular effects. Br J Pharmacol. 1987 Aug; 91(4): 735-745.

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