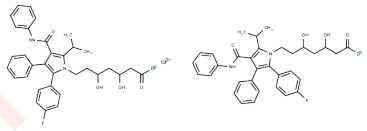
Data Sheet (Cat.No.T3116)

TargetMol

Atorvastatin hemicalcium salt

Chemical Properties



CAS No. : 134523-03-8

Formula: C33H34FN2O5·1/2Ca

Molecular Weight: 577.67

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	Atorvastatin hemicalcium salt (Atorvastatin Calcium) is an HMG-CoA reductase inhibitor with oral activity. Atorvastatin hemicalcium salt is used to lower cholesterol.
Targets(IC50)	Ferroptosis,HMG-CoA Reductase,Autophagy
In vitro	**METHODS**: HCT-116, A375, MIA PaCa-2 and BJ hTERT cells were treated with CX5461 (0-10 μM) for 96 h and cell viability was measured by CyQUANT assay. **RESULTS**: Antiproliferative dose-response assessment of HCT-116, A375, and MIA PaCa-2 cell lines yielded EC50s of 167, 58, and 74 nmol/L, respectively. the EC50 of the BJ-hERT normal cell line was approximately 5000 nmol/L. [1] **METHODS**: CaSki cells were treated with CX5461 (1-5 μM) for 24-72 h, and the expression levels of target proteins were detected by Western Blot. **RESULTS**: After CX5461 treatment, LC3I was completely converted to LC3II, while p62 expression was reduced. densitometric analysis of LC3I and LC3II bands showed that the LC3II:LC3I ratio was significantly increased after 72 h of CX5461 treatment. [2]
In vivo	**METHODS**: To assay antitumor activity in vivo, CX5461 (50 mg/kg, 50 mmol/L NaH2PO4 pH 4.5) was administered orally to mice bearing MIA PaCa-2 or A375 xenografts once daily or every three days for 32 days. **RESULTS**: CX5461 showed a significant MIA PaCa-2 TGI equal to 69% on day 31. Similarly, CX5461 showed a significant A375 TGI with a TGI of 79% on day 32. [1]
Cell Research	Briefly, SV-SMC from 5 different patients are seeded into 24-well cell culture plates at a density of 1×104?cells per well in full growth medium. Cells are incubated overnight and then quiesced in serum free medium for 3 days before transfer to full growth medium (10% FCS) containing 5 different statins (simvastatin, atorvastatin, fluvastatin, lovastatin, and pravastatin)at a range of concentrations. All statins are tested on cells from each individual patient. Medium and drugs are replaced after 2 days, and viable cell numbers are determined in triplicate wells after 4 days using Trypan Blue and a hemocytometer. The increase in cell number is calculated by subtracting the starting cell number (day 0) from the final cell number (day 4). Data are then normalized to control values (no statin) to correct for differences in proliferation rates between cells from different patients.

Solubility Information

Solubility	DMSO: 122.5 mg/mL (212.06 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: 4 mg/mL (6.92 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	1.7311 mL	8.6555 mL	17.3109 mL
5 mM	0.3462 mL	1.7311 mL	3.4622 mL
10 mM	0.1731 mL	0.8655 mL	1.7311 mL
50 mM	0.0346 mL	0.1731 mL	0.3462 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

Choi YS, et al. Atorvastatin inhibits the proliferation of MKN45-derived gastric cancer stem cells in a mevalonate pathway-independent manner. Korean J Physiol Pharmacol. 2022 Sep 1;26(5):367-375.
Zhao WB, et al. Effects of various doses of atorvastatin on vascular endothelial cell apoptosis and autophagy in vitro. Mol Med Rep. 2019 Mar;19(3):1919-1925.
Nie P, et al. Atorvastatin improves plaque stability in ApoE-knockout mice by regulating chemokines and chemokine receptors. PLoS One. 2014 May 9;9(5):e97009.
Aviram M, et al. Atherosclerosis, 1998, 138(2), 271-280.
Rajamannan NM, et al. Circulation, 2002, 105(22), 2660-2665.
Li Y, et al. Inhibition of endoplasmic reticulum stress signaling pathway: A new mechanism of statins to suppress the development of abdominal aortic aneurysm. PLoS One. 2017 Apr 3;12(4):e0174821.