Safety Data Sheet

Atorvastatin

Cat#: orb1306540

1. Chemical Properties

Product name:	Atorvastatin
Formula:	C33H35FN2O5
Molecular Weight:	558.65
Appearance:	no data available
Storage:	store at low temperature Powder: -20°C for 3 year; In solvent: -80°C for 2 years

2. Biological Description

Description	Atorvastatin is an orally active HMG-CoA reductase inhibitor that has the ability to effectively lower blood lipids by activating liver cytochrome p450 to accelerate metabolism. Atorvastatin inhibited proliferation and invasion of human SV-SMC cells with IC50 values of 0.39 μM and 2.39 μM, respectively. Atorvastatin combined with clopidogrel may lead to increased thrombotic events inpatients.
Targets(IC50)	HMG-CoA Reductase,Autophagy
In vitro	In the atorvastatin group, myocardial cells were lined up more orderly and myocardial fibrosis level was decreased compared to the model group. The expressions of GRP78, caspase-12 and CHOP in myocardial cells were decreased in atorvastatin group. Moreover, in the atorvastatin-treated group the cell apoptosis rate was reduced and the endoplasmic reticulum (ER) stress was activated in response to heart failure and angiotensin II (Ang II) stimulation[1] Higher dose of atorvastatin can effectively suppress the development and progression of AAA induced by Ang II or CaCl2. Mechanistically, the activation of ER stress and inflammatory response were found involved in Ang II-induced AAA formation. The atorvastatin infusion significantly reduced ER stress signaling proteins, the number of apoptotic cells, and the activation of Caspase12 and Bax in the Ang II-induced ApoE-/- mice, compared with mice treated by Ang II alone. Furthermore, proinflammatory cytokines such as IL-6, IL-8, IL-1β were all

	remarkably inhibited after atorvastatin treatment. In vitro, the inhibitory effect of simvastatin on the ER stress signal pathway could be observed in both vascular smooth muscle cells and macrophages, and these inhibitory effects of statin were in a dose-dependent manner. In addition, apoptosis was induced with Ang II treatment. The maximal inhibitory effect of simvastatin on apoptosis was observed at 10 μmol/l.

3. Solubility Information

Solubility	DMSO: 80 mg/ml (143.20mM),(1 mg/ml refers to the product slightly soluble or insoluble)

	1 mg	5 mg	10 mg
1 mM	1.790	8.9501	17.9003
5 mM	0.358	1.790	3.5801
10 mM	0.179	0.895	1.790
50 mM	0.0358	0.179	0.358

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.

Reference

Song XJ, et al. Atorvastatin inhibits myocardial cell apoptosis in a rat model with post-myocardial infarction heart failure by downregulating ER stress response. IntJ Med Sci. 2011;8(7):564-72.Li Y, et al. Inhibition of endoplasmic reticulum stress signalling pathway: A new mechanism of statins to suppress the development of abdominal aortic