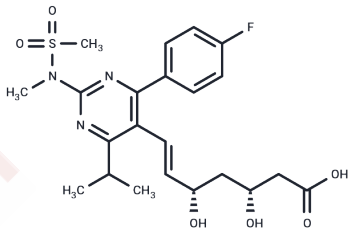
Data Sheet (Cat.No.T1676)

TargetMol

Rosuvastatin

Chemical Properties



CAS No. : 287714-41-4

Formula: C22H28FN3O6S

Molecular Weight: 481.54

Appearance: no data available

Storage: keep away from moisture,store at low temperature
Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Biological Description

Description	Rosuvastatin (ZD4522) is an inhibitor of HMG-CoA reductase (HMGCR) (IC50=11 nM), selective and competitive. Rosuvastatin has hypolipidemic and antiatherosclerotic effects.
Targets(IC50)	HMG-CoA Reductase,Autophagy,Potassium Channel
In vitro	**METHODS**: Microglia cultures subDIV were treated with Rosuvastatin (1 μM) and LPS (20 ng/mL) for 24 h, and cell counts were measured by Bürker chamber. **RESULTS**: After the 24 h treatment period, Rosuvastatin significantly inhibited cell proliferation in unchallenged and LPS-challenged cultures by 47.8% and 68.9%, respectively. [1] **METHODS**: Nthy-ori 3-1 and B-CPAP cells were treated with Rosuvastatin (12.5-200 μM) for 48-72 h. Apoptosis was detected by TUNEL assay. **RESULTS**: The number of apoptotic cells increased in both Nthy ori 3-1 and B-CPAP cells after Rosuvastatin treatment. 12.5 μM concentration of Rosuvastatin treatment resulted in an increase in Apoptotic Index of Nthy ori 3-1 and B-CPAP cells after 48 h. The results were summarized as follows. [2]
In vivo	**METHODS**: To investigate the anti-atherosclerotic effects, Rosuvastatin (5 mg/kg) and candesartan (2.5 mg/kg) were administered by gavage to streptozotocin-induced diabetic Apoe-/- mice once daily for 20 weeks. **RESULTS**: In the absence of lipid-lowering effects, Rosuvastatin attenuated plaque area in diabetic mice.The anti-atherosclerotic effect of Rosuvastatin was comparable to that of candesartan. Dual therapy had similar beneficial effects, although it was not superior to monotherapy. [3]

Solubility Information

Solubility	H2O: 199.4 mM,Sonication is recommended. DMSO: 50 mg/mL (103.83 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.0767 mL	10.3834 mL	20.7667 mL
5 mM	0.4153 mL	2.0767 mL	4.1533 mL
10 mM	0.2077 mL	1.0383 mL	2.0767 mL
50 mM	0.0415 mL	0.2077 mL	0.4153 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.

Reference

Kata D, et al. Rosuvastatin enhances anti-inflammatory and inhibits pro-inflammatory functions in cultured microglial cells. Neuroscience. 2016 Feb 9;314:47-63.
Zhang W, Pan X, Xu Y, et al.Mevalonate improves anti-PD-1/PD-L1 efficacy by stabilizing CD274 mRNA.Acta Pharmaceutica Sinica B.2023
Li W, Iusuf D, Sparidans R W, et al.Organic anion-transporting polypeptide 2B1 knockout and humanized mice; insights into the handling of bilirubin and drugs.Pharmacological Research.2023: 106724.
Zeybek ND, et al. Rosuvastatin induces apoptosis in cultured human papillary thyroid cancer cells. J Endocrinol. 2011 Jul;210(1):105-15.
Li W, Sparidans R W, Wang Y, et al.Interplay of OATP1A/1B/2B1 uptake transporters and ABCB1 and ABCG2 efflux transporters in the handling of bilirubin and drugs.Biomedicine & Pharmacotherapy.2024, 175: 116644.
Calkin AC, et al. The HMG-CoA reductase inhibitor rosuvastatin and the angiotensin receptor antagonist candesartan attenuate atherosclerosis in an apolipoprotein E-deficient mouse model of diabetes via effects on advanced glycation, oxidative stress and inflammation. Diabetologia. 2008 Sep;51(9):1731-40.