Rosuvastatin Sodium

Cat. No.: HY-17504B

CAS No.: 147098-18-8

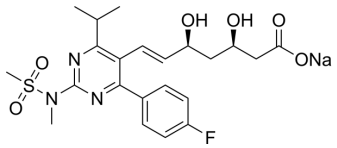
Molecular Formula: $C_{22}H_{27}FN_3NaO_6S$

Molecular Weight: 503.52

Target: HMG-CoA Reductase (HMGCR); Potassium Channel; Autophagy; Bacterial

Pathway: Metabolic Enzyme/Protease; Membrane Transporter/Ion Channel; Autophagy; Anti-infection

Storage: 4°C, sealed storage, away from moisture and light
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 250 mg/mL (496.50 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.9860 mL	9.9301 mL	19.8602 mL
	5 mM	0.3972 mL	1.9860 mL	3.9720 mL
	10 mM	0.1986 mL	0.9930 mL	1.9860 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (4.13 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (4.13 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (4.13 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Rosuvastatin Sodium is a competitive HMG-CoA reductase (HMGCR) inhibitor, with an IC_{50} of 11 nM. Rosuvastatin Sodium potently blocks hERG current with an IC_{50} of 195 nM[2]. Rosuvastatin Sodium reduces the expression of the mature hERG and the interaction of heat shock protein 70 (Hsp70) with the hERG protein. Rosuvastatin Sodium effectively lowers low-density lipoprotein (LDL) cholesterol, triglycerides, and C-reactive protein levels[1][2][3].

IC_{50} & Target

IC50: 11 nM (HMG-CoA), 195 nM (hERG)[1][2]

In Vivo	Rosuvastatin Sodium (10 mg/kg, intraperitoneal) prolonges QTc in conscious and unrestraines guinea pigs from 201±1 to 210±2 ms[2]. Rosuvastatin (20 mg/kg/day, for 2 weeks) significantly reduces very low-density lipoproteins Sodium (VLDL) in diabetes mellitus rats induced by Streptozocin[4]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Front Cell Dev Biol. 2022 Mar 3;10:806081.
- Front Cell Dev Biol. 2021 May 6;9:651579.
- Acta Pharmacol Sin. 2023 Jan 31.
- J Inflamm Res. 2021,14: 1537-1549.
- Front Oncol. 2021 May 10;11:595285.

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REFERENCES

[1]. Watanabe, M., et al., Synthesis and biological activity of methanesulfonamide pyrimidine- and N-methanesulfonyl pyrrole-substituted 3,5-dihydroxy-6-heptenoates, a novel series of HMG-CoA reductase inhibitors. Bioorg Med Chem, 1997. 5(2): p. 437-44.

[2]. Plante I, et al. Rosuvastatin blocks hERG current and prolongs cardiac repolarization. J Pharm Sci. 2012 Feb;101(2):868-78.

[3]. Feng PF, et al. Intracellular Mechanism of Rosuvastatin-Induced Decrease in Mature hERG Protein Expression on Membrane. Mol Pharm. 2019 Apr 1;16(4):1477-1488.

[4]. Carswell C.I., et al. Rosuvastatin. Drugs, 2002. 62(14): p. 2075-85; discussion 2086-7.

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