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Rosuvastatin-$_{13}$C,d_3 sodium

Cat. No.: HY-17504BS2

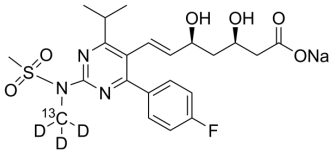
Molecular Formula: $C_{21}{}^{13}CH_{24}D_3FN_3NaO_6S$

Molecular Weight: 507.53

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

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

Storage: Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Rosuvastatin-^{13}C,d_3 sodium is ^{13}C and deuterated labeled Rosuvastatin sodium (HY-17504B). 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].
In Vitro	Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Rosuvastatin Sodium (10 mg/kg, intraperitoneal) prolonges QTc in conscious and unrestraines guinea pigs from 201±1 to 210±2 ms[3]. Rosuvastatin (20 mg/kg/day, for 2 weeks) significantly reduces very low-density lipoproteins Sodium (VLDL) in diabetes mellitus rats induced by Streptozocin[5]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

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.

[5]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. Ann Pharmacother. 2019 Feb;53(2):211-216.

Caution: Product has not been fully validated for medical applications. For research use only.

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