# Atorvastatin-d5 hemicalcium

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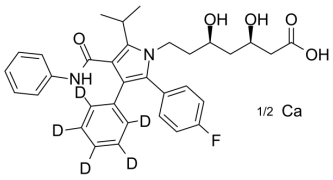
| **Cat. No.:** | HY-B0589S |
| **CAS No.:** | 222412-82-0 |
| **Molecular Formula:** | $C_{33}H_{30}D_5FN_2O_5 \cdot {}^1/_2Ca$ |
| **Molecular Weight:** | 583.71 |
| **Target:** | HMG-CoA Reductase (HMGCR); Autophagy |
| **Pathway:** | Metabolic Enzyme/Protease; Autophagy |
| **Storage:** | 4°C, sealed storage, away from moisture<br>* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture) |




## BIOLOGICAL ACTIVITY

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| **Description** | Atorvastatin-d5 hemicalcium is the deuterium labeled Atorvastatin. Atorvastatin hemicalcium is an orally active HMG-CoA reductase inhibitor, has the ability to effectively decrease blood lipids. Atorvastatin hemicalcium inhibits human SV-SMC proliferation and invasion with $IC_{50}$s of 0.39 μM and 2.39 μM, respectively[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].<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only. |

## REFERENCES

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

[2]. Nawrocki, J.W., et al., Reduction of LDL cholesterol by 25% to 60% in patients with primary hypercholesterolemia by atorvastatin, a new HMG-CoA reductase inhibitor. Arterioscler Thromb Vasc Biol, 1995. 15(5): p. 678-82.

[3]. Santodomingo-Garzón T, et al. Atorvastatin inhibits inflammatory hypernociception. Br J Pharmacol. 2006 Sep;149(1):14-22.

[4]. Turner NA, et al. Comparison of the efficacies of five different statins on inhibition of human saphenous vein smooth muscle cell proliferation and invasion. J Cardiovasc Pharmacol. 2007 Oct;50(4):458-61.

[5]. Song XJ, et al. Atorvastatin inhibits myocardial cell apoptosis in a rat model with post-myocardial infarction heart failure by downregulating ER stress response. Int J Med Sci. 2011;8(7):564-72.

[6]. 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.

[7]. Ming-Bai Hu, et al. Atorvastatin induces autophagy in MDA-MB-231 breast cancer cells. Ultrastruct Pathol. Sep-Oct 2018;42(5):409-415.

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

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