Tiludronate-d5 sodium

Cat. No.: HY-A0213AS

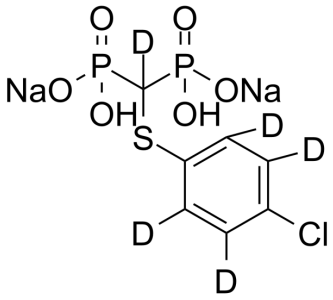
Molecular Formula: $C_7H_2D_5ClNa_2O_6P_2S$

Molecular Weight: 367.6

Target: Proton Pump

Pathway: Membrane Transporter/Ion Channel

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



BIOLOGICAL ACTIVITY

Description	Tiludronate-d5 (Tiludronic acid-d5) sodiumis the deuterium labeled Tiludronate disodium. Tiludronate (Tiludronic Acid) disodium, an orally active bisphosphonate, can act an osteoregulator. Tiludronate is used for the research of the metabolic bone disorders. Tiludronate is a potent inhibitor of the osteoclast vacuolar H(+)-ATPase. Antiresorptive and anti-inflammatory properties[1][2][3][4].
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.

REFERENCES

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

[2]. Reginster JY, et al. Prevention of postmenopausal bone loss by tiludronate. Lancet. 1989 Dec 23-30;2(8678-8679):1469-71.

[3]. Nunes NLT, et al. Effects of local administration of tiludronic acid on experimental periodontitis in diabetic rats. J Periodontol. 2018 Jan;89(1):105-116.

[4]. Bonjour JP, et al. Tiludronate: bone pharmacology and safety. Bone. 1995;17(5 Suppl):473S-477S.

[5]. David P, et al. The bisphosphonate tiludronate is a potent inhibitor of the osteoclast vacuolar H(+)-ATPase. J Bone Miner Res. 1996;11(10):1498-1507.

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