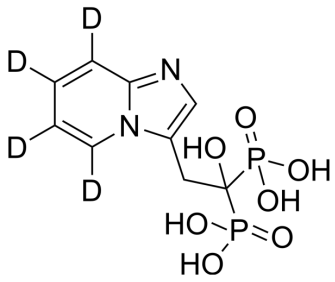
Minodronic acid-d_4

Cat. No.:	HY-16322S
CAS No.:	1807367-80-1
Molecular Formula:	$C_9H_8D_4N_2O_7P_2$
Molecular Weight:	326.17
Target:	Apoptosis; P2X Receptor; Isotope-Labeled Compounds
Pathway:	Apoptosis; Membrane Transporter/Ion Channel; Others
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Minodronic acid-d_4 is deuterium labeled Minodronic acid. Minodronic acid (YM-529) is a third-generation bisphosphonate that directly and indirectly prevents proliferation, induces apoptosis, and inhibits metastasis of various types of cancer cells. Minodronic acid (YM-529) is an antagonist of purinergic P2X2/3 receptors involved in pain[1][2].	
IC_{50} & Target	P2X2 Receptor	P2X3 Receptor
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]. Sato K, et al. A third-generation bisphosphonate, minodronic acid (YM529), successfully prevented the growth of bladder cancer in vitro and in vivo. Br J Cancer. 2006 Nov 20;95(10):1354-61.

[3]. Tanaka M, et al. Minodronic acid induces morphological changes in osteoclasts at bone resorption sites and reaches a level required for antagonism of purinergic P2X2/3 receptors. J Bone Miner Metab. 2018 Jan;36(1):54-63.

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