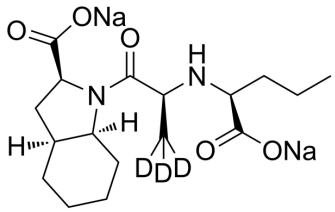
Perindoprilat-d_3 disodium

Cat. No.:	HY-B1433S
Molecular Formula:	$C_{17}H_{23}D_3N_2Na_2O_5$
Molecular Weight:	387.4
Target:	Angiotensin-converting Enzyme (ACE); Isotope-Labeled Compounds
Pathway:	Metabolic Enzyme/Protease; Others
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Perindoprilat-d_3 disodium is deuterated labeled Perindoprilat (HY-B1433). Perindoprilat (S 9780) is an angiotensin-converting enzyme (ACE) inhibitor with the IC_{50} value ranging from 1.5 to 3.2 nM. Perindoprilat can be used in hypertension research[1][2].
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]. Perindoprilat (1 μM, 10 days) treatment suppresses the angiotensin II production in HNSCC cells[3].Perindoprilat (40 μM, 3 days) treatment attenuates mesangial cell fibronectin level[4]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Perindoprilat (oral gavage; 1.5 mg/kg; once daily; 7 d) treatment improves cardiac function in mice with acute myocardial infarction and reduces the number of apoptotic myocardial cells[5]. Perindoprilat (oral gavage; 1.5 mg/kg; once daily; 7 d) treatment reduces the expression levels of myocardial Bax and Bcl-2 in infarction zones of mice with acute myocardial infarction[5]. Perindoprilat (oral gavage; 1.5 mg/kg; once daily; 7 d) treatment lowers the expression of myocardial TLR4/NF-κB in infarction zones in mice with acute myocardial infarction[5]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Izabella Z A Pawluczyk, et al. The role of bradykinin in the antifibrotic actions of perindoprilat on human mesangial cells. Kidney Int. 2004 Apr;65(4):1240-51.

[2]. Perindopril. Expert Opin Pharmacother. 2006 Jan;7(1):63-71.

[3]. X-Z Wang, et al. Perindopril inhibits myocardial apoptosis in mice with acute myocardial infarction through TLR4/NF-κB pathway. Eur Rev Med Pharmacol Sci. 2019 Aug;23(15):6672-6682.

[4]. Angiotensin-converting enzyme (ACE) inhibitors have different selectivity for bradykinin binding sites of human somatic ACE. Eur J Pharmacol. 2007 Dec 22;577(1-3):1-6.

[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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