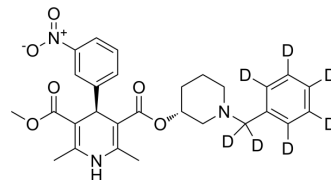


## (Rac)-Benidipine-d7

Cat. No.:	HY-B1448AS
Molecular Formula:	C <sub>28</sub> H <sub>24</sub> D <sub>7</sub> N <sub>3</sub> O <sub>6</sub>
Molecular Weight:	512.61
Target:	Apoptosis; Calcium Channel
Pathway:	Apoptosis; Membrane Transporter/Ion Channel; Neuronal Signaling
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



### BIOLOGICAL ACTIVITY

<b>Description</b>	(Rac)-Benidipine-d <sub>7</sub> is the deuterium labeled Benidipine[1]. Benidipine is a potent and orally active calcium channel antagonist[2]. Benidipine shows anti-apoptosis effects in ischaemic/reperfused myocardial cells[3]. Benidipine increases the activity of endothelial cell-type nitric oxide synthase and improves coronary circulation in hypertensive rats[4].
<b>In Vitro</b>	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 <sup>[1]</sup> . 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 Feb;53(2):211-216.
- [2]. Yao K, et al. Pharmacological, pharmacokinetic, and clinical properties of benidipine hydrochloride, a novel, long-acting calcium channel blocker. *J Pharmacol Sci*. 2006 Apr;100(4):243-61.
- [3]. Gao F, et al. Anti-apoptotic effect of benidipine, a long-lasting vasodilating calcium antagonist, in ischaemic/reperfused myocardial cells. *Br J Pharmacol*. 2001 Feb132(4):869-78.
- [4]. Kobayashi N, et al. Benidipine stimulates nitric oxide synthase and improves coronary circulation in hypertensive rats. *Am J Hypertens*. 1999 May12(5):483-91.
- [5]. Masanori S, et al. Orally administered benidipine and manidipine prevent ischemia-reperfusion injury in the rat heart. *Circ J*. 2004 Mar68(3):241-6.

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

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