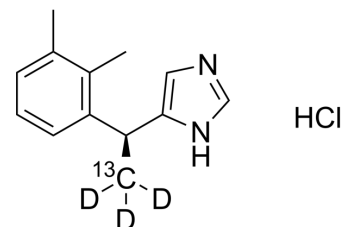


## Dexmedetomidine-<sup>13</sup>C,<sub>3</sub>D<sub>3</sub> hydrochloride

<b>Cat. No.:</b>	HY-17034AS
<b>Molecular Formula:</b>	C <sub>12</sub> <sup>13</sup> CH <sub>14</sub> D <sub>3</sub> ClN <sub>2</sub>
<b>Molecular Weight:</b>	240.75
<b>Target:</b>	Adrenergic Receptor; Isotope-Labeled Compounds
<b>Pathway:</b>	GPCR/G Protein; Neuronal Signaling; Others
<b>Storage:</b>	-20°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



### BIOLOGICAL ACTIVITY

<b>Description</b>	Dexmedetomidine- <sup>13</sup> C, <sub>3</sub> D <sub>3</sub> (hydrochloride) is the <sup>13</sup> C- and deuterium labeled Dexmedetomidine (hydrochloride). Dexmedetomidine hydrochloride ((+)-Medetomidine hydrochloride) is a potent, selective and orally active agonist of α <sub>2</sub> -adrenoceptor, with a K <sub>i</sub> of 1.08 nM. Dexmedetomidine hydrochloride shows 1620-fold selectivity against α <sub>1</sub> -adrenoceptor. Dexmedetomidine hydrochloride exhibits anxiolysis, sedation, and modest analgesia effects[1][2][3].
<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>[78]</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;53(2):211-223.
- [2]. Gertler R, et, al. Dexmedetomidine: a novel sedative-analgesic agent. *Proc (Bayl Univ Med Cent).* 2001 Jan;14(1):13-21.
- [3]. Sajid B, et, al. A comparison of oral dexmedetomidine and oral midazolam as premedicants in children. *J Anaesthesiol Clin Pharmacol.* Jan-Mar 2019;35(1):36-40.
- [4]. Virtanen R, et, al. Characterization of the selectivity, specificity and potency of medetomidine as an alpha 2-adrenoceptor agonist. *Eur J Pharmacol.* 1988 May 20;150(1-2):9-14.

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

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