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Lieferung & Zahlungsart

siehe unsere [Liefer- und Versandbedingungen](#)

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

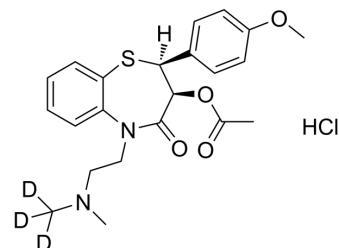
mail@szabo-scandic.com

www.szabo-scandic.com

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 

Diltiazem-d₃ hydrochloride

Cat. No.:	HY-14656S
CAS No.:	1217623-80-7
Molecular Formula:	C ₂₂ H ₂₄ D ₃ ClN ₂ O ₄ S
Molecular Weight:	454
Target:	Calcium Channel
Pathway:	Membrane Transporter/Ion Channel; Neuronal Signaling
Storage:	-20°C, sealed storage, away from moisture
	* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

H₂O : 33.33 mg/mL (73.41 mM; Need ultrasonic)

	Solvent Concentration	Mass	1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM		2.2026 mL	11.0132 mL	22.0264 mL
	5 mM		0.4405 mL	2.2026 mL	4.4053 mL
	10 mM		0.2203 mL	1.1013 mL	2.2026 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

Diltiazem-d₃ (hydrochloride) is the deuterium labeled Diltiazem hydrochloride. Diltiazem hydrochloride is a Ca²⁺ influx inhibitor (slow channel blocker or calcium antagonist)[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].
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]. Kraus RL, et al. Molecular mechanism of diltiazem interaction with L-type Ca²⁺ channels. J Biol Chem. 1998 Oct 16;273(42):27205-12.
- [3]. van Breemen C, et al. The mechanism of inhibitory action of diltiazem on vascular smooth muscle contractility. J Pharmacol Exp Ther. 1981 Aug;218(2):459-63.
- [4]. Chiesi M, et al. Stereospecific action of diltiazem on the mitochondrial Na-Ca exchange system and on sarcolemmal Ca-channels. Biochem Pharmacol. 1987 Sep

1;36(17):2735-40.

[5]. Freitas F, et al. Cardiac microvascular rarefaction in hyperthyroid rats is reversed by losartan, diltiazem, and propranolol. *Fundam Clin Pharmacol.* 2015 Feb;29(1):31-40.

[6]. Sato M, et al. Hypotensive effects of diltiazem hydrochloride in the normotensive, spontaneously hypertensive and renal hypertensive rats (author's transl). *Nihon Yakurigaku Zasshi.* 1979 Mar;75(2):99-106.

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

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA