

# PRODUCT INFORMATION



## (+)-Pilocarpine-d<sub>3</sub> (hydrochloride)

Item No. 29078

**Formal Name:** (3S,4R)-3-ethylidihydro-4-[(1-(methyl-d<sub>3</sub>)-1H-imidazol-5-yl)methyl]-2(3H)-furanone, monohydrochloride

**Synonym:** Pilocarpine-d<sub>3</sub>

**MF:** C<sub>11</sub>H<sub>13</sub>D<sub>3</sub>N<sub>2</sub>O<sub>2</sub> • HCl

**FW:** 247.7

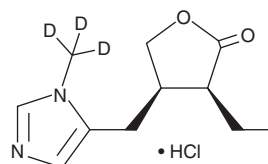
**Chemical Purity:** ≥98% ((+)-Pilocarpine)

**Deuterium Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>3</sub>); ≤1% d<sub>0</sub>

**Supplied as:** A solid

**Storage:** -20°C

**Stability:** ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

(+)-Pilocarpine-d<sub>3</sub> (hydrochloride) is intended for use as an internal standard for the quantification of (+)-pilocarpine (Item No. 14487) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

(+)-Pilocarpine-d<sub>3</sub> (hydrochloride) is supplied as a solid. A stock solution may be made by dissolving the (+)-pilocarpine-d<sub>3</sub> (hydrochloride) in the solvent of choice, which should be purged with an inert gas. (+)-Pilocarpine-d<sub>3</sub> (hydrochloride) is soluble in organic solvents such as ethanol and DMSO.

### Description

(+)-Pilocarpine is a muscarinic acetylcholine receptor agonist that binds to human hippocampal, pons, and submandibular gland membranes, which are endogenously enriched in the M<sub>1</sub>, M<sub>2</sub>, and M<sub>3</sub> receptor subtypes, respectively (apparent K<sub>i</sub>s = 6, 8.2, and 6.9 μM, respectively).<sup>1</sup> It induces salivary secretion in rats when administered intraperitoneally at a dose of 1 mg/kg.<sup>2</sup> Topical administration of (+)-pilocarpine inhibits methylcellulose-induced increases in intraocular pressure in rabbits in a dose-dependent manner.<sup>3</sup> (+)-Pilocarpine is a chemoconvulsant that has been used in the generation of temporal lobe epilepsy animal models.<sup>4-6</sup> Formulations containing (+)-pilocarpine have been used in the treatment of elevated intraocular pressure and dry mouth.

### References

1. Vanderheyden, P., Gies, J.-P., Ebinger, G., et al. *J. Neurol. Sci.* **97(1)**, 67-80 (1990).
2. Renzi, A., Colombari, E., Mattos Filho, T.R., et al. *J. Dent. Res.* **72(11)**, 1481-1484 (1993).
3. Lorenzetti, O.J. *Ophthalm. Res.* **2(6)**, 328-336 (1971).
4. Kokate, T.G., Cohen, A.L., Karp, E., et al. *Neuropharmacology* **35(8)**, 1049-1056 (1996).
5. Ma, L., Wang, L., Yang, F., et al. *CNS Neurosci. Ther.* **20(10)**, 905-915 (2014).
6. Smolders, I., Khan, G.M., Manil, H., et al. *Br. J. Pharmacol.* **121(6)**, 1171-1179 (1997).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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