

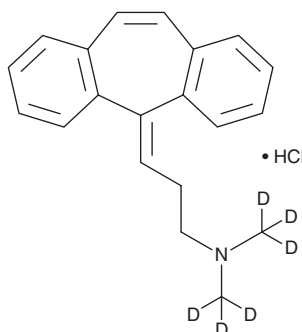
# PRODUCT INFORMATION



## Cyclobenzaprine-d<sub>6</sub> (hydrochloride)

Item No. 39834

**CAS Registry No.:** 2748492-38-6  
**Formal Name:** 3-(5H-dibenzo[a,d]cyclohepten-5-ylidene)-N,N-dimethyl-d<sub>3</sub>-1-propanamine, monohydrochloride  
**Synonym:** MK-130-d<sub>6</sub>  
**MF:** C<sub>20</sub>H<sub>15</sub>D<sub>6</sub>N • HCl  
**FW:** 317.9  
**Chemical Purity:** ≥95% (Cyclobenzaprine (hydrochloride))  
**Deuterium Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>6</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

Cyclobenzaprine-d<sub>6</sub> (hydrochloride) is intended for use as an internal standard for the quantification of cyclobenzaprine 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).

Cyclobenzaprine-d<sub>6</sub> (hydrochloride) is supplied as a solid. A stock solution may be made by dissolving the cyclobenzaprine-d<sub>6</sub> (hydrochloride) in the solvent of choice, which should be purged with an inert gas. Cyclobenzaprine-d<sub>6</sub> (hydrochloride) is soluble in methanol and DMSO.

### Description

Cyclobenzaprine is a skeletal muscle relaxant.<sup>1-3</sup> It is an antagonist of M<sub>1</sub>, M<sub>2</sub>, and M<sub>3</sub> muscarinic acetylcholine receptors (mAChRs; K<sub>i</sub>s = 25, 60, and 6 nM, respectively), the histamine H<sub>1</sub> receptor (IC<sub>50</sub> = 20 nM), and serotonin (5-HT) receptor subtypes 5-HT<sub>2A</sub>, 5-HT<sub>2B</sub>, and 5-HT<sub>2C</sub> (K<sub>i</sub>s = 1,685, 330, and 56 nM, respectively). Cyclobenzaprine (1 mg/kg) prevents increases in the flexor reflex induced by the 5-HT<sub>2</sub> receptor agonist DOI in spinalized rats.<sup>3</sup> Formulations containing cyclobenzaprine have been used as muscle relaxants.

### References

1. Gregori-Puigjané, E., Setola, V., Hert, J., *et al.* Identifying mechanism-of-action targets for drugs and probes. *Proc. Natl. Acad. Sci. USA* **109**(28), 11178-11183 (2012).
2. Lounkine, E., Keiser, M.J., Whitebread, S., *et al.* Large scale prediction and testing of drug activity on side-effect targets. *Nature* **486**(7403), 361-367 (2012).
3. Honda, M., Nishida, T., and Ono, H. Tricyclic analogs cyclobenzaprine, amitriptyline and cyproheptadine inhibit the spinal reflex transmission through 5-HT<sub>2</sub> receptors. *Eur. J. Pharmacol.* **458**(1-2), 91-99 (2003).

#### 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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