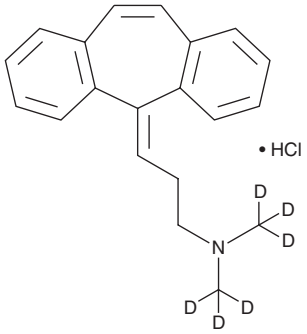
PRODUCT INFORMATION

Cyclobenzaprine-d_6 (hydrochloride)

Item No. 39834

CAS Registry No.: 2748492-38-6
Formal Name: 3-(5H-dibenzo[a,d]cyclohepten-5-ylidene)-N,N-dimethyl-d_3-1-propanamine, monohydrochloride
Synonym: MK-130-d_6
MF: $C_{20}H_{15}D_6N \bullet HCl$
FW: 317.9
Chemical Purity: ≥95% (Cyclobenzaprine (hydrochloride))
Deuterium Incorporation: ≥99% deuterated forms (d_1-d_6); ≤1% d_0
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_6 (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_6 (hydrochloride) is supplied as a solid. A stock solution may be made by dissolving the cyclobenzaprine-d_6 (hydrochloride) in the solvent of choice, which should be purged with an inert gas. Cyclobenzaprine-d_6 (hydrochloride) is soluble in methanol and DMSO.

Description

Cyclobenzaprine is a skeletal muscle relaxant.[1-3] It is an antagonist of M_1, M_2, and M_3 muscarinic acetylcholine receptors (mAChRs; K_is = 25, 60, and 6 nM, respectively), the histamine H_1 receptor (IC_{50} = 20 nM), and serotonin (5-HT) receptor subtypes 5-HT_{2A}, 5-HT_{2B}, and 5-HT_{2C} (K_is = 1,685, 330, and 56 nM, respectively). Cyclobenzaprine (1 mg/kg) prevents increases in the flexor reflex induced by the 5-HT_2 receptor agonist DOI in spinalized rats.[3] 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_2 receptors. *Eur. J. Pharmacol.* **458(1-2)**, 91-99 (2003).

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