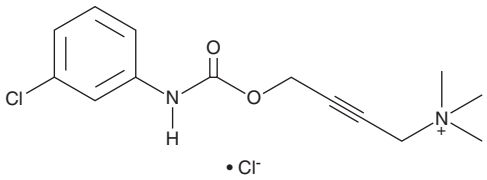
PRODUCT INFORMATION

McNA343

Item No. 30961

CAS Registry No.:	55-45-8
Formal Name:	4-[[[(3-chlorophenyl)amino]carbonyl]oxy]-N,N,N-trimethyl-2-butyn-1-aminium, monochloride
MF:	$C_{14}H_{18}ClN_2O_2 \bullet Cl$
FW:	317.2
Purity:	≥98%
UV/Vis.:	λ_{max}: 239 nm
Supplied as:	A solid
Storage:	-20°C
Stability:	≥2 years



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

Laboratory Procedures

McNA343 is supplied as a solid. A stock solution may be made by dissolving the McNA343 in the solvent of choice, which should be purged with an inert gas. McNA343 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of McNA343 in ethanol and DMF is approximately 15 mg/ml and approximately 25 mg/ml in DMSO.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of McNA343 can be prepared by directly dissolving the solid in aqueous buffers. The solubility of McNA343 in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

McNA343 is a partial agonist of muscarinic acetylcholine receptors (K_is = 5, 1, 5, 0.2, and 7.6 µM for $M_{1\text{-}5}$ receptors, respectively, in radioligand binding assays).[1] It induces contraction of isolated human umbilical veins (EC_{50} = 1.23 µM), an effect that can be reversed by various M_1 muscarinic receptor selective antagonists. McNA343 also inhibits forskolin-induced cAMP production in CHO cells expressing M_1 or M_4 receptors, as well as phosphatidylinositol hydrolysis in CHO-K1 cells expressing M_3 receptors and CHO cells expressing M_5 receptors. Intrathecal administration of McNA343 inhibits compulsive hindlimb neck-scratching behavior induced by 5'-guanidinonaltrindole (GNTI) in mice. It has nootropic activity, enhancing spontaneous working memory in the Y maze in wild-type mice, and it reverses learning and memory impairments induced by bulbectomy in mice in a passive avoidance test.

Reference

1. Mitchelson, F.J. The pharmacology of McN-A-343. *Pharmacol. Ther.* **135(2)**, 216-245 (2012).

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