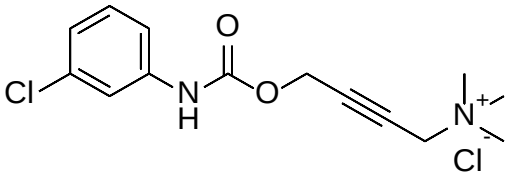
Product data sheet

MedKoo Cat#: 462190 Name: McN-A-343 CAS: 55-45-8 (chloride) Chemical Formula: $C_{14}H_{18}Cl_2N_2O_2$ Exact Mass: 316.0745 Molecular Weight: 317.21	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years.
	In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:
McN-A-343, also known as McNA343, is a muscarinic agonist, reduces inflammation and oxidative stress in an experimental model of ulcerative colitis. McN-A-343 increases renal sympathetic nerve activity and blood pressure by a muscarinic and a non-muscarinic mechanism in the rat. McN-A-343 and its nitrogen mustard derivative interact competitively with ACh and N-methylscopolamine at the orthosteric site on the M(1) muscarinic receptor.

2. CoA, QC data, SDS, and handling instruction
SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under "QC And Documents" section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMF	15.0	47.29
DMSO	25.0	78.81
Ethanol	15.0	47.29
PBS (pH 7.2)	10.0	31.52

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	3.15 mL	15.76 mL	31.52 mL
5 mM	0.63 mL	3.15 mL	6.30 mL
10 mM	0.32 mL	1.58 mL	3.15 mL
50 mM	0.06 mL	0.32 mL	0.63 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator
Please refer the product web page under section of "Calculator"

6. Recommended literature which reported protocols for in vitro and in vivo study
In vitro study

TBD

In vivo study

1. Magalhães DA, Batista JA, Sousa SG, Ferreira JDS, da Rocha Rodrigues L, Pereira CMC, do Nascimento Lima JV, de Albuquerque IF, Bezerra NLSD, Monteiro CEDS, Franco AX, da Costa Filho HB, Ferreira FCS, Havt A, Di Lenardo D, Vasconcelos DFP, de Oliveira JS, Soares PMG, Barbosa ALDR. McN-A-343, a muscarinic agonist, reduces inflammation and oxidative stress in an experimental model of ulcerative colitis. Life Sci. 2021 May 1;272:119194. doi: 10.1016/j.lfs.2021.119194. Epub 2021 Feb 18. PMID: 33609541.
2. Migita K, Nishimura A, Eto F, Koga K, Matsumoto T, Terada K, Hara S, Honda K. Muscarinic M1 receptors stimulated by intracerebroventricular administration of McN-A-343 reduces the nerve injury-induced mechanical hypersensitivity via GABAB receptors rather than GABAA receptors in mice. J Pharmacol Sci. 2020 Feb;142(2):50-59. doi: 10.1016/j.jphs.2019.06.010. Epub 2019 Jun 28. PMID: 31818640.

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7. Bioactivity

Biological target:

McN-A-343, also known as McNA343, is a muscarinic agonist.

In vitro activity

TBD

In vivo activity

After the induction of 6% acetic acid colitis, mice were treated with McN-A-343 0.5, 1.0, and 1.5 mg/kg or dexamethasone (DEXA, 2.0 mg/kg) or pirenzepine (PIR, 10 mg/kg; M1 mAChR antagonist). Treatment with McN-A-343 at a concentration of 1.5 mg/kg showed a significant reduction in intestinal damage as well as a decrease in wet weight, MPO activity, pro-inflammatory cytokine concentration, markers of oxidative stress and expression of inflammatory mediators.

Reference: Life Sci. 2021 May 1;272:119194. https://pubmed.ncbi.nlm.nih.gov/33609541/

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.