

Product data sheet



MedKoo Cat#: 318185 Name: Mepenzolate Bromide CAS: 76-90-4 Chemical Formula: C ₂₁ H ₂₆ BrNO ₃ Molecular Weight: 420.347	
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:

Mepenzolate Bromide is a muscarinic antagonist used to treat gastrointestinal disorders. It decreases the severity of elastase-induced airspace enlargement and respiratory dysfunction.

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	5.0	11.89
DMSO	30.0	71.37
PBS (pH 7.2)	1.0	2.38

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.38 mL	11.89 mL	23.79 mL
5 mM	0.48 mL	2.38 mL	4.76 mL
10 mM	0.24 mL	1.19 mL	2.38 mL
50 mM	0.05 mL	0.24 mL	0.48 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

1. Tsai CS, Guede-Guina F, Smith MO, Vangah-Manda M, Ochillo RF. Isolation of cholinergic active ingredients in aqueous extracts of *Mareya micrantha* using the longitudinal muscle of isolated guinea-pig ileum as a pharmacological activity marker. *J Ethnopharmacol.* 1995 Mar;45(3):215-22. doi: 10.1016/0378-8741(94)01219-p. PMID: 7623487.
2. Tsai CS, Ochillo RF. Low temperature and muscarinic receptor activities. *Cryobiology.* 1989 Oct;26(5):485-95. doi: 10.1016/0011-2240(89)90072-2. PMID: 2791613.

In vivo study

1. Salem HA, Wadie W. Effect of Niacin on Inflammation and Angiogenesis in a Murine Model of Ulcerative Colitis. *Sci Rep.* 2017 Aug 2;7(1):7139. doi: 10.1038/s41598-017-07280-y. PMID: 28769047; PMCID: PMC5541000.
2. Zheng Y, Wang X, Ji S, Tian S, Wu H, Luo P, Fang H, Wang L, Wu G, Xiao S, Xia Z. Mepenzolate bromide promotes diabetic wound healing by modulating inflammation and oxidative stress. *Am J Transl Res.* 2016 Jun 15;8(6):2738-47. PMID: 27398156; PMCID: PMC4931167.

7. Bioactivity

Biological target:

Mepenzolate Bromide is a muscarinic antagonist.

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In vitro activity

In this study's attempt to isolate the pharmacologically active ingredients in the aqueous extracts of *Mareya micrantha*, this study has selected the contractions of the longitudinal muscle of the isolated guinea-pig ileum preparation as a pharmacological marker to monitor retention of pharmacological activity during the chromatographic separation. Mepenzolate (10(-8)-10(-5) M), a specific muscarinic receptor antagonist, similarly antagonized contractions elicited by the aqueous extracts suggesting that the cholinergic ingredient(s) in the extract are acting at the muscarinic receptors of the preparation.

Reference: J Ethnopharmacol. 1995 Mar;45(3):215-22. <https://pubmed.ncbi.nlm.nih.gov/7623487/>

In vivo activity

The present study aimed at exploring the effect of niacin on experimental colitis in rats as well as throwing some light on the ability of niacin to modulate angiogenesis which plays a crucial role of in the pathogenesis of inflammatory bowel disease. Mepenzolate bromide, a GPR109A receptor blocker, abolished the beneficial effects of niacin on body weight, colon wet weight as well as colonic levels of MPO and VEGF.

Reference: Sci Rep. 2017 Aug 2;7(1):7139. <https://pubmed.ncbi.nlm.nih.gov/28769047/>

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.