Product data sheet

MedKoo

MedKoo Cat#: 300162	
Name: Demecarium bromide	
CAS#: 56-94-0 (bromide)	
Chemical Formula: C32H52Br2N4O4	
Molecular Weight: 716.59	
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:

Demecarium is a parasympathomimetic that acts as an acetylcholinesterase inhibitor. It is one of several topical (applied directly to the affected area) medications used to reduce elevated intraocular pressure (IOP) associated with primary glaucoma in cats, dogs, and other animals. a cholinesterase inhibitor with sustained activity. It acts mainly on true (erythrocyte) cholinesterase. Application of HUMORSOL (demecarium) to the eye produces intense miosis and ciliary muscle contraction due to inhibition of cholinesterase, allowing acetylcholine to accumulate at sites of cholinergic transmission. These effects are accompanied by increased capillary permeability of the ciliary body and iris, increased permeability of the blood-aqueous barrier, and vasodilation. Myopia may be induced or, if present, may be augmented by the increased refractive power of the lens that results from the accommodative effect of the drug. HUMORSOL (demecarium) indirectly produces some of the muscarinic and nicotinic effects of acetylcholine as quantities of the latter accumulate.

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
DMSO	160.0	223.28

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	1.40 mL	6.98 mL	13.95 mL
5 mM	0.28 mL	1.40 mL	2.79 mL
10 mM	0.14 mL	0.70 mL	1.40 mL
50 mM	0.03 mL	0.14 mL	0.28 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. Krohne SG. Effect of topically applied 2% pilocarpine and 0.25% demecarium bromide on blood-aqueous barrier permeability in dogs. Am J Vet Res. 1994 Dec;55(12):1729-33. PMID: 7887518.
2. Ward DA, Abney K, Oliver JW. The effects of topical ocular application of 0.25% demecarium bromide on serum acetylcholinesterase levels in normal dogs. Vet Ophthalmol. 2003 Mar;6(1):23-5. doi: 10.1046/j.1463-5224.2003.00257.x. PMID: 12641839.

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7. Bioactivity

Biological target:

Demecarium Bromide (BC-48) is a potent cholinesterase inhibitor and glaucoma agent, with an apparent affinity (Kiapp) of 0.15 µM.

In vitro activity

TBD

In vivo activity

The objective of this study was to assess the effects of topical ocular application of 0.25% demecarium bromide on serum acetylcholinesterase (AChE) levels in normal dogs. Fifty micro L of 0.25% demecarium bromide were applied to one eye of each dog every 8 h for 6 days. Acetylcholinesterase levels declined over the first 24 h following commencement of demecarium administration in most dogs. This decline was highly variable and was statistically significant by 24 h. In some individuals AChE levels were suppressed to levels approaching clinical toxicity. By day 3 AChE levels had risen to levels above baseline in most dogs.

Reference: Vet Ophthalmol. 2003 Mar;6(1):23-5. https://pubmed.ncbi.nlm.nih.gov/12641839/

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.