

Product data sheet



MedKoo Cat#: 563431 Name: Muscimol HBr CAS: 18174-72-6 Chemical Formula: C ₄ H ₇ BrN ₂ O ₂ Molecular Weight: 195.016	
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:

Muscimol HBr is a GABAA receptor agonist.

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
TBD	TBD	TBD

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	5.13 mL	25.64 mL	51.28 mL
5 mM	1.03 mL	5.13 mL	10.26 mL
10 mM	0.51 mL	2.56 mL	5.13 mL
50 mM	0.10 mL	0.51 mL	1.03 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. Kim EJ, Kwon OS, Hur CG, Nyiramana MM, Lee DK, Hong SG, Han J, Kang D. Muscimol Directly Activates the TREK-2 Channel Expressed in GABAergic Neurons through Its N-Terminus. *Int J Mol Sci.* 2021 Aug 27;22(17):9320. doi: 10.3390/ijms22179320. PMID: 34502229; PMCID: PMC8431218.

2. Kanasaki H, Tumurbaatar T, Oride A, Hara T, Okada H, Kyo S. Gamma-aminobutyric acidA receptor agonist, muscimol, increases KiSS-1 gene expression in hypothalamic cell models. *Reprod Med Biol.* 2017 Oct 4;16(4):386-391. doi: 10.1002/rmb2.12061. PMID: 29259493; PMCID: PMC5715903.

In vivo study

1. Jafari-Sabet M, Jannat-Dastjerdi I. Muscimol state-dependent memory: involvement of dorsal hippocampal mu-opioid receptors. *Behav Brain Res.* 2009 Aug 24;202(1):5-10. doi: 10.1016/j.bbr.2009.03.010. Epub 2009 Mar 19. PMID: 19447274.

2. Gleason NR, Gallos G, Zhang Y, Emala CW. The GABAA agonist muscimol attenuates induced airway constriction in guinea pigs in vivo. *J Appl Physiol (1985).* 2009 Apr;106(4):1257-63. doi: 10.1152/jappphysiol.91314.2008. Epub 2009 Feb 12. PMID: 19213928; PMCID: PMC2698643.

7. Bioactivity

Biological target:

Muscimol HBr is a GABAA receptor agonist.

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In vitro activity

The present study was performed to identify the effect of GABAR agonists on K2P channel expression and activity in the neuroblastic B35 cells that maintain glutamic acid decarboxylase (GAD) activity and express GABA. In particular, muscimol, a GABAAR agonist, significantly increased TREK-2 expression and activity, but the effect was reduced in the presence of the GABAAR antagonist bicuculine or TREK-2 inhibitor norfluoxetine. In the whole-cell and single-channel patch configurations, muscimol increased TREK-2 activity, but the muscimol effect disappeared in the N-terminal deletion mutant.

Reference: Int J Mol Sci. 2021 Aug 27;22(17):9320. <https://pubmed.ncbi.nlm.nih.gov/34502229/>

In vivo activity

This study hypothesized that muscimol, a selective GABA(A) agonist, could act on endogenous GABA(A) channels expressed on airway smooth muscle to attenuate induced increases in airway pressures in anesthetized guinea pigs in vivo. Pretreatment with intravenous muscimol alone attenuated intravenous histamine-, intravenous acetylcholine-, or vagal nerve-stimulated increases in peak pulmonary inflation pressure. Pretreatment with the GABA(A) antagonist gabazine blocked muscimol's effect.

Reference: J Appl Physiol (1985). 2009 Apr;106(4):1257-63. <https://pubmed.ncbi.nlm.nih.gov/19213928/>

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.