

Product data sheet



MedKoo Cat#: 318851 Name: Tetrabenazine CAS#: 58-46-8 Chemical Formula: C ₁₉ H ₂₇ NO ₃ Exact Mass: 317.19909 Molecular Weight: 317.429		
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:

Tetrabenazine is a drug for the symptomatic treatment of hyperkinetic movement disorder. On August 15, 2008 the U.S. Food and Drug Administration (FDA) approved the use of tetrabenazine to treat chorea associated with Huntington's disease (HD), the first in the US. The precise mechanism of action of tetrabenazine is unknown. The antichorea effect is believed to be related to its effect as a reversible depletory of monoamines (such as dopamine, serotonin, norepinephrine and histamine) from nerve terminals) Tetrabenazine reversibly inhibits VMAT-2 resulting in decreased of monoamines into synaptic vesicles

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	41.02	129.24
Ethanol	20.77	65.43

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	3.15 mL	15.75 mL	31.50 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

N/A

In vivo study

1. Tseng KY, Kuo TT, Wang V, Huang EY, Ma KH, Olson L, Hoffer BJ, Chen YH. Tetrabenazine Mitigates Aberrant Release and Clearance of Dopamine in the Nigrostriatal System, and Alleviates L-DOPA-Induced Dyskinesia in a Mouse Model of Parkinson's Disease. *J Parkinsons Dis.* 2022;12(5):1545-1565. doi: 10.3233/JPD-223195. PMID: 35599497.

2. Wang H, Chen X, Li Y, Tang TS, Bezprozvanny I. Tetrabenazine is neuroprotective in Huntington's disease mice. *Mol Neurodegener.* 2010 Apr 26;5:18. doi: 10.1186/1750-1326-5-18. PMID: 20420689; PMCID: PMC2873255.

7. Bioactivity

Biological target:

Tetrabenazine (Ro 1-9569) is a reversible inhibitor of the vesicular monoamine transporter VMAT2 with the K_d value of 1.34 nM.

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In vitro activity

N/A

In vivo activity

Feeding of TBZ (tetrabenazine) to WT mice did not cause significant changes in striatal neuronal counts in these mice (Fig 5C). However, TBZ feeding significantly increased striatal neuronal counts ($p < 0.05$) in YAC128 mice (Fig 5C), indicating that TBZ protects YAC128 MSNs from cell death.

Reference: Mol Neurodegener. 2010 Apr 26;5:18. <https://pubmed.ncbi.nlm.nih.gov/20420689/>

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.