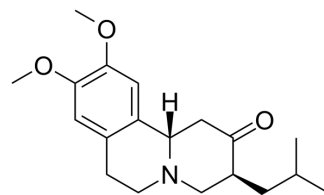


Tetrabenazine

Cat. No.:	HY-B0590												
CAS No.:	58-46-8												
Molecular Formula:	C ₁₉ H ₂₇ NO ₃												
Molecular Weight:	317.43												
Target:	Monoamine Transporter												
Pathway:	Membrane Transporter/Ion Channel												
Storage:	<table border="0"> <tr> <td>Powder</td> <td>-20°C</td> <td>3 years</td> </tr> <tr> <td></td> <td>4°C</td> <td>2 years</td> </tr> <tr> <td>In solvent</td> <td>-80°C</td> <td>2 years</td> </tr> <tr> <td></td> <td>-20°C</td> <td>1 year</td> </tr> </table>	Powder	-20°C	3 years		4°C	2 years	In solvent	-80°C	2 years		-20°C	1 year
Powder	-20°C	3 years											
	4°C	2 years											
In solvent	-80°C	2 years											
	-20°C	1 year											



relative stereochemistry

SOLVENT & SOLUBILITY

In Vitro

DMSO : 33.33 mg/mL (105.00 mM; Need ultrasonic)
 H₂O : < 0.1 mg/mL (ultrasonic) (insoluble)

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	3.1503 mL	15.7515 mL	31.5030 mL
	5 mM	0.6301 mL	3.1503 mL	6.3006 mL
	10 mM	0.3150 mL	1.5752 mL	3.1503 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
 Solubility: ≥ 2.5 mg/mL (7.88 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
 Solubility: ≥ 2.5 mg/mL (7.88 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Tetrabenazine (Ro 1-9569) is a reversible inhibitor of the vesicular monoamine transporter VMAT2 with the K_d value of 1.34 nM. Tetrabenazine can be used for research on diseases related to hyperactive movement disorders such as Huntington's disease^{[1][2][3]}.

In Vivo

Tetrabenazine (subcutaneous injection, 1-10 mg/kg, once) can reduce the aggressive behavior in a dose-dependent manner and the levels of neurotransmitter molecules NE, DA and 5-HT in adult male mice^[1].
 Tetrabenazine (intraperitoneal injection, 0-2 mg/kg, once) has selective effects on movement which can significantly attenuate morphine-induced hypermobility but oral tremors and stereotyped behaviors in male ICR mice^[2].
 Tetrabenazine (intraperitoneal injection, 0.25-2 mg/kg, once a week) increases tremulous jaw movement (TJM) in a dose-

dependent manner in adult male Sprague-Dawley rat^[3].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Adult male MAO A KO or wide type mice aged 1-2 months ^[1]
Dosage:	1-10 mg/kg
Administration:	Subcutaneous injection; once
Result:	Completely eliminated the aggressive behavior at a concentration of 5 mg/kg and significantly reduced their NE, DA and 5-HT levels.
Animal Model:	Male ICR mice (10 weeks old) ^[2]
Dosage:	0-2 mg/kg
Administration:	Intraperitoneal injection; once
Result:	Attenuated the subsequent morphine-induced hypermobility after pretreatment with tetrabenazine. Reduced METH-induced increases in locomotion at 1 mg/kg.
Animal Model:	Adult male Sprague-Dawley rat weighed 350-450 g ^[3]
Dosage:	0.25-2 mg/kg
Administration:	Intraperitoneal injection; once a week
Result:	Induced tremulous jaw movement (TJM) significantly at the concentration of 2 mg/kg and more motor impairments with higher doses such as 3-4 mg/kg.

REFERENCES

- [1]. J C Shih, et al. Ketanserin and tetrabenazine abolish aggression in mice lacking monoamine oxidase A. *Brain Res.* 1999 Jul 24;835(2):104-12.
- [2]. Nobue Kitanaka, et al. Tetrabenazine, a vesicular monoamine transporter-2 inhibitor, attenuates morphine-induced hyperlocomotion in mice through alteration of dopamine and 5-hydroxytryptamine turnover in the cerebral cortex. *Pharmacol Biochem Behav.* 2018
- [3]. S J Podurgiel, et al. The vesicular monoamine transporter (VMAT-2) inhibitor tetrabenazine induces tremulous jaw movements in rodents: implications for pharmacological models of parkinsonian tremor. *Neuroscience.* 2013 Oct 10;250:507-19. doi: 10.1016/j.neu
- [4]. Jankovic, J. and J. Beach, Long-term effects of tetrabenazine in hyperkinetic movement disorders. *Neurology*, 1997. 48(2): p. 358-62.
- [5]. Kenney, C., C. Hunter, and J. Jankovic, Long-term tolerability of tetrabenazine in the treatment of hyperkinetic movement disorders. *Mov Disord*, 2007. 22(2): p. 193-7.
- [6]. Ondo, W.G., P.A. Hanna, and J. Jankovic, Tetrabenazine treatment for tardive dyskinesia: assessment by randomized videotape protocol. *Am J Psychiatry*, 1999. 156(8): p. 1279-81.

Caution: Product has not been fully validated for medical applications. For research use only.

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