(+)-Tetrabenazine

Cat. No.: HY-B0590B

CAS No.: 1026016-83-0

Molecular Formula: $C_{19}H_{27}NO_3$

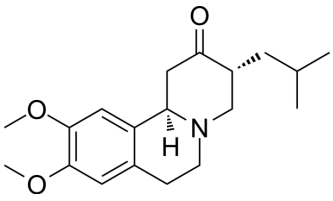
Molecular Weight: 317.42

Target: Monoamine Transporter

Pathway: Membrane Transporter/Ion Channel

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	2 years
	-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 16.67 mg/mL (52.52 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.1504 mL	15.7520 mL	31.5040 mL
5 mM	0.6301 mL	3.1504 mL	6.3008 mL
10 mM	0.3150 mL	1.5752 mL	3.1504 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 1.67 mg/mL (5.26 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 1.67 mg/mL (5.26 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 1.67 mg/mL (5.26 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

(+)-Tetrabenazine ((+)-TBZ; (3R,11bR)-TBZ; (3R,11bR)-Tetrabenazine) is a reversible inhibitor of vesicular monoamine transporter 2 (VMAT-2), inhibits transport by VMAT2 with 10-fold greater potency than transport by VMAT1. target: VMAT-2In vitro: (+)-Tetrabenazine inhibit the activity of the transporter but appear to interact differently with the protein. [2] (+)-Tetrabenazine inhibits reserpine binding to the transporter, suggesting that the sites may interact in an allosteric manner. [1]In vivo: 0.9% saline (80%) and dimethylsulfoxide (DMSO) (20%). (+)-Tetrabenazine blocks dopamine (DA) storage and depletes striatal DA; (+)-Tetrabenazine was shown to induce tremulous jaw movements (TJMs) in rats and mice. The reference dose for administration is 2.0 mg/kg.[2]

REFERENCES

[1]. Podurgiel SJ et al. The MAO-B inhibitor deprenyl reduces the oral tremor and the dopamine depletion induced by the VMAT-2 inhibitor tetrabenazine. Behav Brain Res. 2016 Feb 1;298(Pt B):188-91.

[2]. Peter D et al. Chimeric vesicular monoamine transporters identify structural domains that influence substrate affinity and sensitivity to tetrabenazine. J Biol Chem. 1996 Feb 9;271(6):2979-86.

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