

Product Name: Tetrabenazine

Catalog No.: 2175

Batch No.: 4

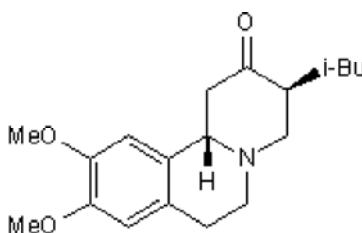
CAS Number: 58-46-8

EC Number: 200-383-6

IUPAC Name: (3*R*,11*bR*)-*rel*-1,3,4,6,7,11*b*-hexahydro-9,10-dimethoxy-3-(2-methylpropyl)-2*H*-benzo[*a*]quinolizin-2-one

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₁₉H₂₇NO₃
Batch Molecular Weight: 317.2
Physical Appearance: White solid
Solubility: ethanol to 30 mM
DMSO to 100 mM
Storage: Store at +4°C
Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.8% purity
¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	71.89	8.57	4.41
Found	71.88	8.61	4.51

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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Description:

Tetrabenazine is an inhibitor of vesicular monoamine transport with a 10-fold selectivity for the VMAT2 transporter over VMAT1 (IC₅₀ values = 0.3 μM and 3.4 μM, respectively). Tetrabenazine blocks D₂ receptors and dopamine uptake (IC₅₀ = 0.12 μM) and inhibits serotonin transport by VMAT2 (IC₅₀ = 300 nM). In an animal model of Huntington's disease, Tetrabenazine prevents the decline in motor control and reduces loss of striatal neurons. Tetrabenazine increases cFos expression in the thalamus and hippocampus, reduces brain connectivity and spontaneous locomotion and also causes behavioral depression. Please see product specific page on www.tocris.com for full description.

Physical and Chemical Properties:

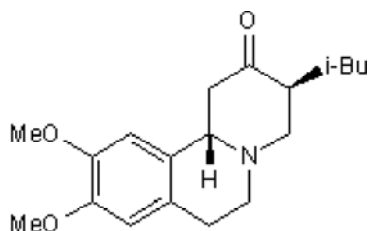
Batch Molecular Formula: C₁₉H₂₇NO₃

Batch Molecular Weight: 317.2

Physical Appearance: White solid

Minimum Purity: ≥98%

Batch Molecular Structure:



References:

Cruces-Solis et al (2020) Whole-brain signatures of functional connectivity after bidirectional modulation of the dopaminergic system in mice. *Neuropharmacology* **178** 108246. PMID: 32771528.

Peter et al (1996) Chimeric vesicular monoamine transporters identify structural domains that influence substrate affinity and sensitivity to tetraben. *J.Biol.Chem.* **271** 2979. PMID: 8621690.

Pettibone et al (1984) Tetrabenazine-induced depletion of brain monoamines: characterisation and interaction with selected antidepressants. *Eur.J.Pharmacol.* **102** 425. PMID: 6489435.

Storage: Store at +4°C

Solubility & Usage Info:

ethanol to 30 mM

DMSO to 100 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

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