



# SZABO SCANDIC

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## Produktinformation



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Laborgeräte & Service

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# PRODUCT INFORMATION



## Tetrabenazine-d<sub>7</sub>

Item No. 27181

**Formal Name:** *rel*-1,3R,4,6,7,11bR-hexahydro-9,10-dimethoxy-3-(2-(methyl-d<sub>3</sub>)propyl-2,3,3,3-d<sub>4</sub>)-2H-benzo[a]quinolizin-2-one

**Synonym:** TBZ-d<sub>7</sub>

**MF:** C<sub>19</sub>H<sub>20</sub>D<sub>7</sub>NO<sub>3</sub>

**FW:** 324.5

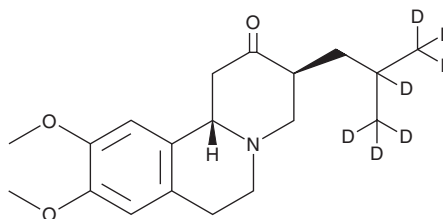
**Chemical Purity:** ≥98% (mixture of enantiomers)

**Deuterium Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>7</sub>); ≤1% d<sub>0</sub>

**Supplied as:** A solid

**Storage:** -20°C

**Stability:** ≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

Tetrabenazine-d<sub>7</sub> is intended for use as an internal standard for the quantification of tetrabenazine (Item No. 20380) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

Tetrabenazine-d<sub>7</sub> is supplied as a solid. A stock solution may be made by dissolving the tetrabenazine-d<sub>7</sub> in the solvent of choice. Tetrabenazine-d<sub>7</sub> is soluble in the organic solvent chloroform, which should be purged with an inert gas.

### Description

Tetrabenazine is an inhibitor of vesicular monoamine transporter 2 (VMAT2) that is selective over VMAT1 (K<sub>s</sub> = 97 and >20,000 nM, respectively, in a serotonin uptake assay).<sup>1</sup> It dose-dependently reduces levels of the monoamines norepinephrine (Item No. 16673), dopamine (Item No. 21992), and serotonin (5-HT; Item No. 14332) in rat brain and has been used to induce depressive-like behavior in animal models.<sup>2,3</sup> Tetrabenazine (5 mg/kg) improves performance in balance beam and rotarod tests and prevents decreases in the number of striatal medium spiny neurons (MSNs) in a YAC128 transgenic mouse model of Huntington's disease.<sup>4</sup> Formulations containing tetrabenazine have been used in the treatment of chorea associated with Huntington's disease.

### References

1. Erickson, J.D., Schäfer, M.K.H., Bonner, T.I., *et al.* Distinct pharmacological properties and distribution in neurons and endocrine cells of two isoforms of the human vesicular monoamine transporter. *Proc. Natl. Acad. Sci. U.S.A.* **93**(10), 5166-5171 (1996).
2. Pettibone, D.J., Totaro, J.A., and Pflueger, A.B. Tetrabenazine-induced depletion of brain monoamines: Characterization and interaction with selected antidepressants. *Eur. J. Pharmacol.* **102**(3-4), 425-430 (1984).
3. Preskorn, S.H., Kent, T.A., Glotzbach, R.K., *et al.* Cerebromicrocirculatory defects in animal model of depression. *Psychopharmacology (Berl.)* **84**(2), 196-199 (1984).
4. Wang, H., Chen, X., Li, Y., *et al.* Tetrabenazine is neuroprotective in Huntington's disease mice. *Mol. Neurodegener.* **5**:18 (2010).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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