

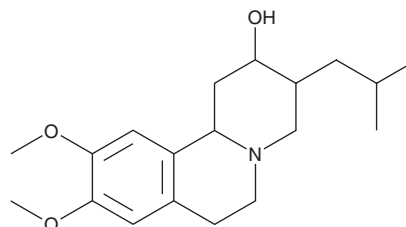
# PRODUCT INFORMATION



## Dihydratetabenazine

Item No. 27182

**CAS Registry No.:** 3466-75-9  
**Formal Name:** 1,3,4,6,7,11b-hexahydro-9,10-dimethoxy-3-(2-methylpropyl)-2H-benzo[a]quinolizin-2-ol  
**Synonyms:** DTBZ, *trans*-(2,3)-Dihydro Tetrabenazine  
**MF:** C<sub>19</sub>H<sub>29</sub>NO<sub>3</sub>  
**FW:** 319.4  
**Purity:** ≥98% (mixture of isomers)  
**Supplied as:** A solid  
**Storage:** -20°C  
**Stability:** ≥4 years



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

### Laboratory Procedures

Dihydratetabenazine is supplied as a solid. A stock solution may be made by dissolving the dihydratetabenazine in the solvent of choice. Dihydratetabenazine is soluble in organic solvents such as methanol and chloroform, which should be purged with an inert gas.

### Description

Dihydratetabenazine is an active metabolite of the vesicular monoamine transporter 2 (VMAT2) inhibitor tetrabenazine (Item No. 20380) that is generated by hepatic carbonyl reductases.<sup>1</sup> Dihydratetabenazine binds to mouse pons medulla, hypothalamus, and striatum ( $K_d$ s = 2.72, 2.28, and 2.4 nM, respectively) and inhibits synaptic vesicular serotonin (5-HT) uptake ( $IC_{50}$ s = 2.2, 2.8, and 2.3 nM, respectively).<sup>2</sup> It also binds to human caudate nucleus, hippocampus, and substantia nigra pars compacta ( $K_d$ s = 2.9, 2.5, and 2.8 nM, respectively).<sup>3</sup> Dihydratetabenazine stereoisomers bind to VMAT2 in rat striatum.<sup>4</sup>

### References

1. Chen, J.J., Ondo, W.G., Dashtipour, K., *et al.* Tetrabenazine for the treatment of hyperkinetic movement disorders: A review of the literature. *Clin. Ther.* **34(7)**, 1487-1504 (2012).
2. Scherman, D. Dihydratetabenazine binding and monoamine uptake in mouse brain regions. *J. Neurochem.* **47(2)**, 331-339 (1986).
3. Scherman, D., Raisman, R., Ploska, A., *et al.* [<sup>3</sup>H]dihydratetabenazine, a new *in vitro* monoaminergic probe for human brain. *J. Neurochem.* **50(4)**, 1131-1136 (1988).
4. Yao, Z., Wei, X., Wu, X., *et al.* Preparation and evaluation of tetrabenazine enantiomers and all eight stereoisomers of dihydratetabenazine as VMAT2 inhibitors. *Eur. J. Med. Chem.* **46(5)**, 1841-1848 (2011).

#### 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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#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897  
[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM