



# SZABO SCANDIC

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## Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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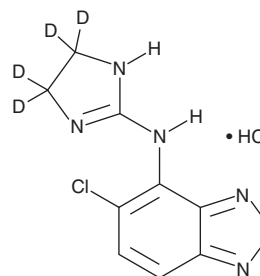
# PRODUCT INFORMATION



## Tizanidine-d<sub>4</sub> (hydrochloride)

Item No. 26521

**CAS Registry No.:** 1188263-51-5  
**Formal Name:** 5-chloro-N-(4,5-dihydro-1H-imidazol-2-yl-4,4,5,5-d<sub>4</sub>)-2,1,3-benzothiadiazol-4-amine, monohydrochloride  
**MF:** C<sub>9</sub>H<sub>4</sub>ClD<sub>4</sub>N<sub>5</sub>S • HCl  
**FW:** 294.2  
**Chemical Purity:** ≥98% (Tizanidine)  
**Deuterium Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>4</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

Tizanidine-d<sub>4</sub> (hydrochloride) is intended for use as an internal standard for the quantification of tizanidine (Item No. 16477) 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).

Tizanidine-d<sub>4</sub> (hydrochloride) is supplied as a solid. A stock solution may be made by dissolving the tizanidine-d<sub>4</sub> (hydrochloride) in the solvent of choice. Tizanidine-d<sub>4</sub> (hydrochloride) is soluble in organic solvents such as methanol, which should be purged with an inert gas.

### Description

Tizanidine is an  $\alpha_2$ -adrenergic receptor ( $\alpha_2$ -AR) agonist.<sup>1</sup> Administration of tizanidine reduces neuronal excitation induced by noxious stimuli and depresses spontaneous neuronal firing in anesthetized cats. Tizanidine-induced neuronal depression is reversed by the selective  $\alpha_2$ -AR antagonist RX781094 but not the  $\alpha_1$ -AR antagonists prazosin (Item No. 15023) and WB-4101. It acts as a muscle relaxant that inhibits  $\alpha$ - and  $\gamma$ -rigidity in rats, reflex muscle tone in rabbits, and the linguomadibular reflex in cats without sedative, hemodynamic, or neurochemical effects.<sup>2</sup> Formulations containing tizanidine have been used for the treatment of stiff-person syndrome and to improve gait function in patients with incomplete spinal cord injuries.<sup>3,4</sup>

### References

1. Davies, J. and Quinlan, J.E. *Neuroscience* **16(3)**, 673-682 (1985).
2. Sayers, A.C., Bürki, H.R., and Eichenberger, E. *Arzneimittelforschung* **30(5)**, 793-803 (1980).
3. Meinck, H.-M., Ricker, K., and Conrad, B. *J. Neurol. Neurosurg. Psychiatry* **47(3)**, 280-287 (1984).
4. Duffell, L.D., Brown, G.L., and Mirbagheri, M.M. *J. Neuroeng. Rehabil.* **12**, 29 (2015).

#### 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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