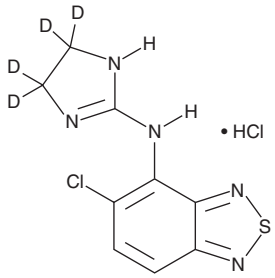
PRODUCT INFORMATION

Tizanidine-d_4 (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_4)-2,1,3-benzothiadiazol-4-amine, monohydrochloride
MF: $C_9H_4ClD_4N_5S \bullet HCl$
FW: 294.2
Chemical Purity: ≥98% (Tizanidine)
Deuterium Incorporation: ≥99% deuterated forms (d_1-d_4); ≤1% d_0
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

Tizanidine-d_4 (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_4 (hydrochloride) is supplied as a solid. A stock solution may be made by dissolving the tizanidine-d_4 (hydrochloride) in the solvent of choice, which should be purged with an inert gas. Tizanidine-d_4 (hydrochloride) is soluble in organic solvents such as methanol.

Description

Tizanidine is an α_2-adrenergic receptor (α_2-AR) agonist.[1] 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 α_2-AR antagonist RX781094 but not the α_1-AR antagonists prazosin (Item No. 15023) and WB-4101. It acts as a muscle relaxant that inhibits α- and γ-rigidity in rats, reflex muscle tone in rabbits, and the linguomandibular reflex in cats without sedative, hemodynamic, or neurochemical effects.[2] Formulations containing tizanidine have been used in the treatment of spasticity.

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).

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