
Product Data Sheet

Product Name: Tizanidine-d4

Cat. No.: GC63310

Chemical Properties

Cas. No. 1188331-19-2

Formula C₉H₄D₄ClN₅S M.Wt 257.74

Solubility Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure **Background**

Tizanidine-d₄ is intended for use as an internal standard for the quantification of tizanidine by GC- or LC-MS. 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 and WB-4101. It acts as a muscle relaxant that inhibits α - and γ -rigidity in rats, reflex muscle tone in rabbits, and the linguomadibular reflex in cats without sedative, hemodynamic, or neurochemical effects.² 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.^{3,4}

1. Davies, J., and Quinlan, J.E. Selective inhibition of responses of feline dorsal horn neurons to noxious cutaneous stimuli by tizanidine (DS103-282) and noradrenaline: Involvement of α_2 -adrenoceptors *Neuroscience* 16(3)673-682(1985) 2. Sayers, A.C., Bürki, H.R., and Eichenberger, E. The pharmacology of 5-chloro-4-(2-imidazolin-2-yl-amino)-2,1,3-benzothiadiazole (DS 103-282), a novel myotonolytic agent *Arzneimittelforschung* 30(5)793-803(1980) 3. Meinck, H.-M., Ricker, K., and Conrad,

Caution: Product has not been fully validated for medical applications. For research use only.

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B.The stiff-man syndrome: New pathophysiological aspects from abnormal exteroceptive reflexes and the response to clomipramine, clonidine, and tizanidineJ. Neurol. Neurosurg. Psychiatry47(3)280-287(1984) 4.Duffell, L.D., Brown, G.L., and Mirbagheri, M.M.Facilitatory effects of anti-spastic medication on robotic locomotor training in people with chronic incomplete spinal cord injuryJ. Neuroeng. Rehabil.1229(2015)

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