Tizanidine hydrochloride

Cat. No.: HY-B0194A

CAS No.: 64461-82-1

Molecular Formula: $C_9H_9Cl_2N_5S$

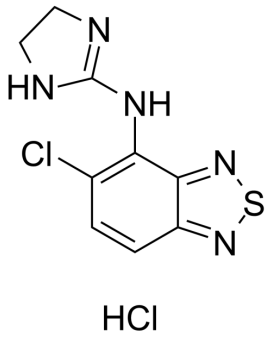
Molecular Weight: 290.17

Target: Adrenergic Receptor

Pathway: GPCR/G Protein; Neuronal Signaling

Storage: 4°C, sealed storage, away from moisture

* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 50 mg/mL (172.31 mM; ultrasonic and warming and heat to 60°C)

H_2O : 20 mg/mL (68.93 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.4463 mL	17.2313 mL	34.4626 mL
5 mM	0.6893 mL	3.4463 mL	6.8925 mL
10 mM	0.3446 mL	1.7231 mL	3.4463 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 5 mg/mL (17.23 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 5 mg/mL (17.23 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Tizanidine hydrochloride is an α2-adrenergic receptor agonist and inhibits neurotransmitter release from CNS noradrenergic neurons.Target: α2-adrenergic receptorTizanidine is a drug that is used as a muscle relaxant. It is a centrally acting α2 adrenergic agonist. It is used to treat the spasms, cramping, and tightness of muscles caused by medical problems such as multiple sclerosis, ALS, spastic diplegia, back pain, or certain other injuries to the spine or central nervous system. It is also prescribed off-label for migraine headaches, as a sleep aid, and as an anticonvulsant. It is also prescribed for some symptoms of fibromyalgia.Tizanidine has been found to be as effective as other antispasmodic drugs and has superior tolerability to that of baclofen and diazepam. Tizanidine can be very strong even at the 2 mg dose and may cause hypotension, so caution is advised when it is used in patients who have a history of orthostatic hypotension, or when switching from gel cap to tablet form and vice versa. Tizanidine can occasionally cause liver damage, generally the hepatocellular type. Clinical trials show that up to 5% of patients treated with tizanidine had elevated liver function test

values, though symptoms disappeared upon withdrawal of the drug. Care should be used when first beginning treatment with tizanidine with regular liver tests for the first 6 months of treatment.

REFERENCES

[1]. Kamen L, et al. A practical overview of tizanidine use for spasticity secondary to multiple sclerosis, stroke, and spinal cord injury. Curr Med Res Opin. 2008 Feb;24(2):425-39.

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