Tizanidine

Cat. No.: HY-B0194

CAS No.: 51322-75-9

Molecular Formula: $C_9H_8ClN_5S$

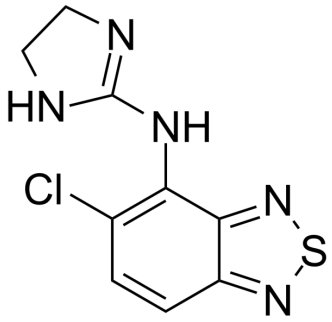
Molecular Weight: 253.71

Target: Adrenergic Receptor

Pathway: GPCR/G Protein; Neuronal Signaling

Storage: 4°C, protect from light

* In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 22.22 mg/mL (87.58 mM; ultrasonic and adjust pH to 3 with 1M HCl)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.9415 mL	19.7075 mL	39.4151 mL
	5 mM	0.7883 mL	3.9415 mL	7.8830 mL
	10 mM	0.3942 mL	1.9708 mL	3.9415 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: ≥ 2.22 mg/mL (8.75 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.22 mg/mL (8.75 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.22 mg/mL (8.75 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Tizanidine 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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