Moxonidine hydrochloride

Cat. No.: HY-B0374A

CAS No.: 75536-04-8

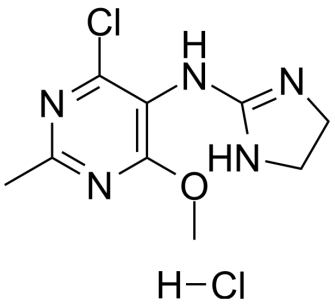
Molecular Formula: $C_9H_{13}Cl_2N_5O$

Molecular Weight: 278.14

Target: Imidazoline Receptor

Pathway: Neuronal Signaling

Storage: 4°C, sealed storage, away from moisture and light
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (359.53 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	3.5953 mL	17.9766 mL	35.9531 mL
	5 mM	0.7191 mL	3.5953 mL	7.1906 mL
	10 mM	0.3595 mL	1.7977 mL	3.5953 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: ≥ 2.5 mg/mL (8.99 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (8.99 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (8.99 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Moxonidine Hydrochloride is a selective agonist at the imidazoline receptor subtype 1, used as antihypertensive agent.Target: I1-RMoxonidine Hydrochloride is a centrally acting antihypertensive agent. Mixed Nischarin (I1 imidazoline receptor) and α2-AR (adrenergic) agonist; displays 40-fold higher affinity for I1 receptors versus α2-adrenoceptors. Moxonidine reduced stimulated NE overflow (log EC50: -6.15 +/- 0.14). AGN192403, a selective ligand at I1-R, had no influence on the dose-response curve of moxonidine (log EC50: -6.01 +/- 0.25) [1]. The hypotensive and bradycardic actions of moxonidine but not clonidine are mediated through imidazoline receptors and are dependent on intact noradrenergic pathways within the RVLM. Furthermore, the noradrenergic innervation may be associated with a 42 kDa imidazoline receptor protein [2].

REFERENCES

[1]. Schafer, U., et al., Presynaptic effects of moxonidine in isolated buffer perfused rat hearts: role of imidazoline-1 receptors and alpha2-adrenoceptors. J Pharmacol Exp Ther, 2002. 303(3): p. 1163-70.

[2]. Chan, C.K., et al., Imidazoline receptors associated with noradrenergic terminals in the rostral ventrolateral medulla mediate the hypotensive responses of moxonidine but not clonidine. Neuroscience, 2005. 132(4): p. 991-1007.

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