Moxonidine

Cat. No.: HY-B0374

CAS No.: 75438-57-2

Molecular Formula: $C_9H_{12}ClN_5O$

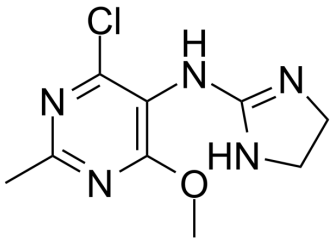
Molecular Weight: 241.68

Target: Imidazoline Receptor

Pathway: Neuronal Signaling

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	2 years
	-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 20 mg/mL (82.75 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	4.1377 mL	20.6885 mL	41.3770 mL
	5 mM	0.8275 mL	4.1377 mL	8.2754 mL
	10 mM	0.4138 mL	2.0689 mL	4.1377 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 mg/mL (8.28 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2 mg/mL (8.28 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2 mg/mL (8.28 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Moxonidine(BDF5895) is a selective agonist at the imidazoline receptor subtype 1, used as antihypertensive agent.Target: I1-RMoxonidine 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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