Product Data Sheet

Product Name: Moxonidine hydrochloride
Cat. No.: GC11198

Chemical Properties

Cas. No.	75536-04-8		
Chemical Name	4-chloro-N-(4,5-dihydro-1H-imidazol-2-yl)-6-methoxy-2-methylpyrimidin-5-amine;hydrochloride		
SMILES	CC1=NC(=C(C(=N1)Cl)NC2=NCCN2)OC.Cl		
Formula	$C_9H_{13}Cl_2N_5O$	M.Wt	278.14
Solubility	DMSO : 100 mg/mL (359.53 mM; Need ultrasonic)	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ 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	Moxonidine hydrochloride		

Background

Moxonidine hydrochloride is a mixed agonist of α2-adrenergic receptor (α2AR) and imidazoline-1 receptor(I1R) with Ki values of 4.2±3.2 nmol/L, 13.0±4.2 nmol/L, 9.5±4.1 nmol/L and 15.6±9.8 nmol/L for I1R, α2AAR, α2BAR andα2CAR, respectively [1].

In multiple acute pain assays, moxonidine has been reported to produce dose-dependent analgesia.In both the α2AAR-dysfunctional and α2CAR-KO experimentsin mice, the rest analgesia function of moxonidine has been revealed to be mediated by α2ARs but not I1Rs [1]. In addition, Moxonidine has been reported to potently inhibit the binding of [3H]-clonidine to VLM (ventrolateral medulla) membranes in a dose-dependent manner with the IC50 value of 53 ± 10nM. In bovine adrenal medullary cells, Moxonidine has shown low affinity for I2-relative to I1R sites [2].

References:
[1]Stone LS1, Fairbanks CA, Wilcox GL. Moxonidine, a mixed alpha(2)-adrenergic and imidazoline receptor agonist, identifies a novel adrenergic target for spinal analgesia.

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Ann N Y Acad Sci. 2003 Dec;1009:378-85.
[2]Ernsberger P1, Damon TH, Graff LM, Schäfer SG, Christen MO.Moxonidine, a centrally acting antihypertensive agent, is a selective ligand for I1-imidazoline sites. J Pharmacol Exp Ther. 1993 Jan;264(1):172-82.

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