Product Data Sheet

Product Name: Amisulpride hydrochloride
Cat. No.: GC35323

Chemical Properties

Cas. No.	81342-13-4		
SMILES	CCN1C(CNC(C2=CC(S(=O)(CC)=O)=C(N)C=C2OC)=O)CCC1.Cl		
Formula	$C_{17}H_{28}ClN_3O_4S$	M.Wt	405.94
Solubility	Soluble in DMSO	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	Amisulpride hydrochloride		

Protocol

Cell experiment:

The functional effects of Amisulpride hydrochloride at the dopamine D3 receptor subtype are assessed. Briefly, the mitogenic response elicited in NG108-15 neuroblastoma-glioma cells stably transfected with human dopamine D3 receptor cDNA by the addition of 10 nM quinpirole in the presence of 1 μM forskolin is quantified by the incorporation of [3H]thymidine. Antagonism of quinpirole-induced mitogenesis is measured in the presence of increasing (0.1 to 100 nM) concentrations of Amisulpride hydrochloride[1].

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com
Address: 10292 Central Ave. #205, Montclair, CA, USA

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Animal experiment:

A total of 64 male Swiss albino mice weighing between 20 to 30 g are used. The animals are fed with standard pellet diet and water ad libitum. The mice are divided in different groups (n=8 in each group) and drug administration is done as follows: Group 1 (control): distilled water (1 mL/kg) 23.5, 5 and 1 h before the test. Group 3 (Amisulpride hydrochloride): Amisulpride hydrochloride (70 mg/kg) 23.5, 5 and 1 h before the test[2].

References:

[1]. Schoemaker H, et al. Neurochemical characteristics of amisulpride, an atypical dopamine D2/D3 receptor antagonist with both presynaptic and limbic selectivity. J Pharmacol Exp Ther. 1997 Jan;280(1):83-97.
[2]. Pawar GR, et al. Evaluation of antidepressant like property of amisulpride per se and its comparison with fluoxetine and olanzapine using forced swimming test in albino mice. Acta Pol Pharm. 2009 May-Jun;66(3):327-31.

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Background

Amisulpride is a dopamine D_2 and D_3 receptor antagonist (K_is = 3 and 3.5 nM, respectively).[1] It is also an antagonist of the serotonin (5-HT) receptor subtypes 5-HT_{2B}, 5-HT_7, and 5-HT_{7A} (K_is = 13, 11.5, and 135.5 nM, respectively). It is selective for these receptors over a panel of 39 additional receptors, ion channels, and transporters (K_is = >1,000 nM for all). Amisulpride increases 7-OH-DPAT-induced decreases in dopamine and acetylcholine release in electrically stimulated rat striatal slices (EC_{50}s = 2.2 and 1.2 nM, respectively).[2] It increases the levels of dopamine and the dopamine metabolite 3,4-dihydroxyphenylacetic acid (DOPAC) in rat striatum and nucleus accumbens when administered intraperitoneally at a dose of 10 mg/kg. Amisulpride decreases immobility time in the forced swim test in rats, as well as increases stress-induced decreases in sucrose consumption in a rat model of depression induced by chronic mild stress.[3]

1.Abbas, A.I., Hedlund, P.B., Huang, X.P., et al.Amisulpride is a potent 5-HT7 antagonist: Relevance for antidepressant actions in vivoPsychopharmacology (Berl.)205(1)119-128(2009) 2.Schoemaker, H., Claustre, Y., Fage, D., et al.Neurochemical characteristics of amisulpride, an atypical dopamine D2/D3 receptor antagonist with both presynaptic and limbic selectivityJ. Pharmacol. Exp. Ther.280(1)83-97(1997) 3.Papp, M., and Wieronska, J.Antidepressant-like activity of amisulpride in two animal models of depressionJ. Psychopharmacol.14(1)46-52(2000)

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