Product Data Sheet

Product Name: ALX 5407 hydrochloride
Cat. No.: GC15467

Chemical Properties

Cas. No.	200006-08-2		
Chemical Name	(S)-2-((3-([1,1'-biphenyl]-4-yloxy)-3-(4-fluorophenyl)propyl)(methyl)amino)acetic acid hydrochloride		
SMILES	FC1=CC=C(C=C1)[C@H](CCN(C)CC(O)=O)OC2=CC=C(C3=CC=CC=C3)C=C2.Cl		
Formula	$C_{24}H_{24}FNO_3$.HCl	M.Wt	429.92
Solubility	<42.99mg/ml in DMSO; <21.5mg/ml in ethanol	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	ALX 5407 hydrochloride		

Background

ALX 5407 is a potent and selective inhibitor of the hGlyT1 glycine transporter. It completely inhibited glycine transport in the GlyT1 cells with an IC50 value of 3 nM [1].

GlyT1 is a family of glycine transporters. Transporters terminate the actions of both glycine and glutamate. There are at least three splice variants in the GlyT1 family, called 1A, 1B, and 1C. GlyT1 is distributed widely throughout the CNS, and that distribution correlates better with the localization of N-methyl-D-aspartate (NMDA) receptors than with the strychnine-sensitive glycine receptor [1].

QT6-1C cells were treated with 50 nM ALX 5407, and then were washed four times with HBS. After washing, 90 ?l of HBS was added. The rate at which ALX 5407 dissociated from the GlyT1C transporter was then measured. A long half-time was found. This indicates the binding of ALX 5407 to the GlyT1C transporter is essentially irreversible [1].

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Using microdialysis, it was found that in vivo in rat prefrontal cortex (PFC), administration of ALX 5407 at a dose of 10 mg/kg, p.o., resulted in an increase of 40% in PFC glycine levels measured 60 to 90 min after drug administration, whereas the lower dose at 1 mg/kg elicited a slight, nonsignificant elevation [1].

Reference:

[1]. Atkinson BN, Bell SC, De Vivo M, et al. ALX 5407: a potent, selective inhibitor of the hGlyT1 glycine transporter. Mol Pharmacol, 2001, 60(6):1414-20.

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