Product Data Sheet

Product Name: AMN 082 dihydrochloride
Cat. No.: GC11287

Chemical Properties

Cas. No.	97075-46-2		
Chemical Name	N1,N2-dibenzhydrylethane-1,2-diamine dihydrochloride		
SMILES	C(C1=CC=CC=C1)(C2=CC=CC=C2)NCCNC(C3=CC=CC=C3)C4=CC=CC=C4.Cl.Cl		
Formula	$C_{28}H_{28}N_2$.2HCl	M.Wt	465.45
Solubility	<46.55mg/ml 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	AMN 082 dihydrochloride		

Background

AMN 082 dihydrochloride is an specific allosteric agonist of mGluR7 [1]. In the absence of orthosteric agonist, AMN 082 activated the human mGlu7 receptor with an EC50 of 64 nM in vitro [2].

MGlu receptors belong to the family 3 G-protein coupled receptors (GPCRs) [2]. The GPCR metabotropic glutamate receptor 7 (mGluR7) is widely expressed in the nervous system. MGluR7 is implicated in many physiological processes such as synaptic plasticity and neuroprotection [1].

Dissociated hippocampal cultured neurons had been transfected with N-terminally myc-tagged mGluR7a were used in the assay. In these neurons, treatment with AMN082 at concentrations ranging from 0.5-1 μM strikingly caused robust mGluR7 internalization. The receptor internalization was increased to 291 ± 30% of control levels. The binding site of AMN082 on mGluR7 is distinct from the glutamate binding pocket on the receptor,

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conventional competitive antagonists are not able to prevent the activation of the allosteric agonist to the receptor [1].

In vivo, treatment with AMN082 was shown to penetrate into the brain and hence it modulated the level of stress hormones (ACTH and cortisol) in wild type animal. But these effects were not found in the mGluR7 ko mouse [2].

References:
[1]. Pelkey KA, Yuan X, Lavezzari G, et al. mGluR7 undergoes rapid internalization in response to activation by the allosteric agonist AMN082. Neuropharmacology, 2007, 52(1): 108-117.
[2]. Gasparini F, Spooren W. Allosteric modulators for mGlu receptors. Current neuropharmacology, 2007, 5(3): 187-194.