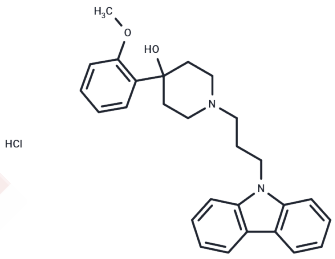
Data Sheet (Cat.No.T23072)

TargetMol

NNC 05-2090 hydrochloride

Chemical Properties



CAS No. : 184845-18-9

Formula: C27H31ClN2O2

Molecular Weight: 451

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	NNC 05-2090 hydrochloride is a betaine/GABA transporter (BGT-1) inhibitor with an IC50 value of 10.6 μM.NNC 05-2090 hydrochloride can be used for the study of epilepsy and neurological disorders.
Targets(IC50)	GABA Receptor,Transaminase
In vitro	NNC05-2090 hydrochloride binds to prazosin and spiperone with IC50 values of 266 nM and 1632 nM, respectively.[1] NNC05-2090 hydrochloride (0.1-100 μM) inhibits [3H]GABA uptake in rat cortical synaptosomes with an IC50 value of 4.4 μM.[1] NNC05-2090 hydrochloride (0.1-100 μM) inhibits [3H]GABA uptake in inferior colliculus synaptosomes with an IC50 value of 2.5 μM.[1] NNC05-2090 hydrochloride inhibits serotonin, norepinephrine, dopamine transporter, and BGT-1 with IC50 values of 5.29, 7.91, 4.08, and 10.6 μM respectively.[1] NNC05-2090 hydrochloride inhibits GAT-1, GAT-2 and GAT-3 with IC50s of 29.62, 45.29 and 22.51 μM respectively.[1]
In vivo	NNC05-2090 hydrochloride (i.p.; PSL mice) dose-dependently protects mice from maximal electric shock (MES) ED50 of 73 μmol/kg and against tonic and clonic convulsions in DBA/2 mice with an ED50 of 19 μmol /kg and 26 μmol/kg.[1] NNC05-2090 hydrochloride (0.01, 0.1, 0.3 mg/kg; intraperitoneal or intrathecal injection; once) can dose-dependently reverse mechanical allodynia in PSL model mice by both intraperitoneal injection and intrathecal injection.[2]

Solubility Information

Solubility	Ethanol: < 5.64 mg/mL,Sonication is recommended. DMSO: 50 mg/mL (110.86 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.2173 mL	11.0865 mL	22.1729 mL
5 mM	0.4435 mL	2.2173 mL	4.4346 mL
10 mM	0.2217 mL	1.1086 mL	2.2173 mL
50 mM	0.0443 mL	0.2217 mL	0.4435 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Dalby NO, et al. Anticonvulsant properties of two GABA uptake inhibitors NNC 05-2045 and NNC 05-2090, not acting preferentially on GAT-Epilepsy Res. 1997;28(1):51-6

Jinzenji A, et al. Antiallodynic action of 1-(3-(9H-Carbazol-9-yl)-1-propyl)-4-(2-methyoxyphenyl)-4-piperidinol (NNC05-2090), a betaine/GABA transporter inhibitor. J Pharmacol Sci. 2014;125(2):217-226.