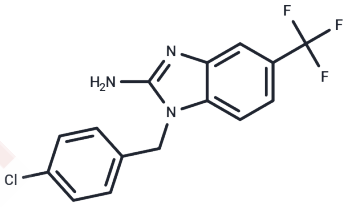
Data Sheet (Cat.No.T3543)

TargetMol

NS-638

Chemical Properties



CAS No. : 150493-34-8

Formula: C15H11ClF3N3

Molecular Weight: 325.72

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	NS-638 is a Ca2+-channel blocker. It can block K+-stimulated intracellular Ca2+-elevation (IC50: 3.4 μM).
Targets(IC50)	Calcium Channel
In vitro	NS-638 dose-dependently inhibits K+-stimulated [45 Ca2+]-uptake in chick cortical synaptosomes and 2-amino-3-(3-hydroxy-5-methylisoxazol-4-yl)propionic acid (AMPA) - stimulated [3H]GABA-release from cultured cortical neurons (IC50: 2.3 and 4.3 μM), respectively. K+-stimulated intracellular Ca2+-elevation in cultured cerebellar granule cells is equipotently blocked (IC50: 3.4 μM). At this concentration, no effect on Ca2+-induced contractions in K+-depolarized guinea pig taenia coli is observed. NS-638 reversibly blocks N- and L-type Ca2+-channels in cultured chick dorsal root ganglion cells (1-30 μM).
In vivo	In the mouse model of middle cerebral artery occlusion, NS-638 administration (50 mg/kg, i.p.) at 1 hour and 6 hours after ischemia, followed by daily dosing for two subsequent days, leads to a 48% decrease in overall infarct volume. However, it fails to demonstrate neuroprotective effects in the gerbil model of bilateral carotid artery occlusion against ischemic neuronal damage.
Cell Research	NS-638 is prepared in 1% DMSO and 1% ethanol. The effect of NS-638 on neuronal Ca2+-channels is evaluated using whole cell patch clamp techniques[1].

Solubility Information

Solubility	DMSO: 55 mg/mL (168.86 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.0701 mL	15.3506 mL	30.7012 mL
5 mM	0.614 mL	3.0701 mL	6.1402 mL
10 mM	0.307 mL	1.5351 mL	3.0701 mL
50 mM	0.0614 mL	0.307 mL	0.614 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

Møller, A., Christophersen, P., Drejer, J., Axelsson, O., Peters, D., Jensen, L., & Nielsen, E. (1995). Pharmacological profile and anti-ischemic properties of the Ca(2+)-channel blocker NS-638. Neurol Res, 17(5), 353-60.