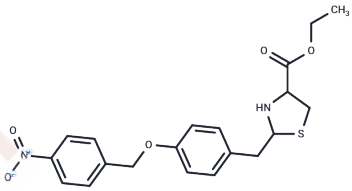
Data Sheet (Cat.No.T5457)

TargetMol

SN 6

Chemical Properties



CAS No. : 415697-08-4

Formula: C20H22N2O5S

Molecular Weight: 402.46

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	SN 6 (SN6) is a selective Na+/Ca2+ exchanger (NCX) inhibitor (IC50s of NCX1: 2.9 μM , NCX2: 16 μM ,NCX3: 8.6 μM)
Targets(IC50)	Calcium Channel,Na+/Ca2+ Exchanger
In vitro	SN-6 [2-[4-(4-nitrobenzyloxy)benzyl]thiazolidine-4-carboxylic acid ethyl ester], a newly synthesized and selective Na(+)/Ca(2+) exchange (NCX) inhibitor. SN-6 (0.3-30 microM) inhibited preferentially intracellular Na(+)-dependent (45)Ca(2+) uptake (i.e., the reverse mode) compared with extracellular Na(+)-dependent (45)Ca(2+) efflux (i.e., the forward mode) in NCX1-transfected fibroblasts. SN-6 was 3- to 5-fold more inhibitory to (45)Ca (2+) uptake in NCX1 (IC(50) = 2.9 microM) than to that in NCX2 or NCX3. SN-6 at lower doses (IC(50) = 0.63 microM) potently protected against hypoxia/reoxygenation-induced cell damage in renal tubular cells overexpressing NCX1, suggesting that this drug predominantly works under hypoxic/ischemic conditions. These properties of SN-6, which may be derived from its interaction with the XIP region, are advantageous to developing it as a new anti-ischemic drug.
Cell Research	Confluent transfectants in 24-well dishes were loaded with Na+ by incubation at 37°C for 40 min in 0.5 ml of balanced salt solution (BSS) (10 mM HEPES/Tris, pH 7.4, 146 mM NaCl, 4 mM KCl, 2 mM MgCl2, 0.1 mM CaCl2, 10 mM glucose, and 0.1% bovine serum albumin) containing 1 mM ouabain and 10 mM monensin. 45Ca2+ uptake was then initiated by switching the medium to Na+ -free BSS (replacing NaCl with equimolar choline chloride) or to normal BSS, both of which contained 0.1 mM 45CaCl2 (370 kBq/ml) and 1 mM ouabain. After a 30-s incubation, 45Ca2+ uptake was terminated by washing cells four times with an ice-cold solution containing 10 mM HEPES/Tris, pH 7.4, 120 mM choline chloride,and 10 mM LaCl3. Cells were then solubilized with 0.1 N NaOH, and aliquots were taken for determination of radioactivity and protein. When present, SN-6 and KB-R7943 were included in the medium 15 min before the start of 45Ca2+ uptake

Solubility Information

Solubility	H2O: Insoluble, DMSO: 62.5 mg/mL (155.29 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

In vivo Formulation	10% DMSO+90% Corn Oil: 2.5 mg/mL (6.21 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.4847 mL	12.4236 mL	24.8472 mL
5 mM	0.4969 mL	2.4847 mL	4.9694 mL
10 mM	0.2485 mL	1.2424 mL	2.4847 mL
50 mM	0.0497 mL	0.2485 mL	0.4969 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

Iwamoto T, et al. The exchanger inhibitory peptide region-dependent inhibition of Na+/Ca2+ exchange by SN-6 [2-[4-(4-nitrobenzyloxy)benzyl]thiazolidine-4-carboxylic acid ethyl ester], a novel benzyloxyphenyl derivative. Mol Pharmacol. 2004 Jul;66(1):45-55.