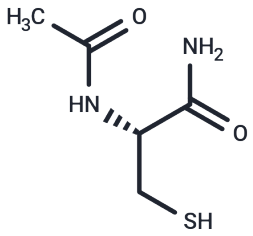
Data Sheet (Cat.No.T5518)

TargetMol

N-acetylcysteine amide

Chemical Properties



CAS No. : 38520-57-9

Formula: C5H10N2O2S

Molecular Weight: 162.21

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	N-Acetylcysteine amide is a thiol antioxidant and a neuroprotective agent with cell permeability and blood-brain barrier permeability. N-Acetylcysteine amide reduces ROS production.
Targets(IC50)	Reactive Oxygen Species,ROS
In vitro	**METHODS**: Human esophageal cancer cells KYSE30 and KYSE150 were treated with LAT1-IN-1 (1-100 mM) for 3 days, and cell viability was measured by MTT assay. **RESULTS**: LAT1-IN-1 treatment inhibited cell proliferation in a dose-dependent manner. [1] **METHODS**: HTR8 SVneo, JEG-3 and JAR cells were treated with LAT1-IN-1 (0.1-4 μM) for 24 h, and the expression levels of target proteins were detected by Western Blot. **RESULTS**: LAT1 protein was significantly reduced after 24 h LAT1-IN-1 treatment, and LAT1-IN-1 could directly regulate the expression of LAT1. [2]
In vivo	**METHODS**: To assay antitumor activity in vivo, LAT1-IN-1 (200 mg/kg) was administered intravenously to BALB/c nude mice bearing KYSE150 tumors once daily for 14 days. **RESULTS**: Daily treatment with LAT1-IN-1 for 14 consecutive days significantly delayed tumor growth. [1]
Cell Research	To determine effectiveness of NACA and NAC in protection of H9c2 cells from DOX-induced toxicity, cells were treated with NACA or NAC at 0.75 mM for 2 h followed by exposure to freshly prepared cell culture medium with DOX in presence or absence of NACA or NAC at designated concentrations. The concentrations of DOX were 0.25 μM, 0.75 μM, 2 μM, 5 μM, 20 μM, and 100 μM. The exposure durations were 24 h, 48 h, or 48 h. Cells incubated with NACA or NAC alone were used as the control[1].
Animal Research	rats were randomly divided into three groups (n=6-8 animals/group): N-acetylcysteine amide?loaded pump (18.5?mg/kg/hr) and a single 150 mg/kg bolus intraperitoneal (IP) injection of NACA given (30 min post-injury) ?N-acetylcysteine amide?(18.5 mg/kg/hr) loaded pump and a single 150 mg/kg bolus injection of N-acetylcysteine amide?given IP (30 min post-injury) ?Vehicle loaded pump and?single vehicle bolus injection given IP (30 min post-injury).?Following random distribution of all animals into one of the three previous groups, experimenters were blinded to treatment group.?The osmotic mini pumps were assembled and implanted immediately after injury and remained in the animals for 7 days[2]

Solubility Information

Solubility	H2O: 100 mg/mL (616.48 mM),Sonication is recommended. DMSO: 245 mg/mL (1510.39 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 5 mg/mL (30.82 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	6.1648 mL	30.8242 mL	61.6485 mL
5 mM	1.233 mL	6.1648 mL	12.3297 mL
10 mM	0.6165 mL	3.0824 mL	6.1648 mL
50 mM	0.1233 mL	0.6165 mL	1.233 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

Tobwala S, et al. Comparative evaluation of N-acetylcysteine and N-acetylcysteineamide in acetaminophen-induced hepatotoxicity in human hepatoma HepaRG cells. Exp Biol Med (Maywood). 2015 Feb;240(2):261-72.
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