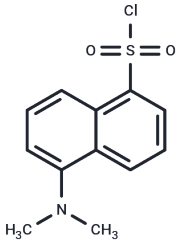
Data Sheet (Cat.No.T18967)

TargetMol

Dansyl chloride

Chemical Properties



CAS No. : 605-65-2

Formula: C12H12ClNO2S

Molecular Weight: 269.75

Storage: Keep away from direct sunlight,Keep away from moisture
Powder: -20°C for 3 years
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Dansyl chloride (DNSC-l) reacts with primary amino groups in both aliphatic and aromatic amines to produce stable blue- or blue-green-fluorescent sulfonamide adducts. It is widely used to modify amino acids, specifically, protein sequencing and amino acid analysis.
Targets(IC50)	Others
In vitro	I. Amino acid and protein modification 1. Material preparation (1) DNSC-1 solution: Dissolve DNSC-1 in an appropriate amount of organic solvent (such as acetone or acetonitrile), usually at a concentration of 1-10 mM. (2) Amino acid or protein solution: Prepare the amino acid or protein sample to be modified. The buffer is usually sodium bicarbonate buffer (pH 9-10). (3) Organic solvent: Acetone or acetonitrile is used as the reaction medium. 2. Experimental steps (1) Add DNSC-1 and amino acid/protein solution to the reaction system, ensuring that the molar ratio is 1:1 to 5:1. (2) Incubate at 30-37°C for 30 minutes to 2 hours under light-proof conditions. (3) After the reaction is completed, dilute or separate with an acetonitrile/water mixture. (4) Analyze the product using high performance liquid chromatography (HPLC) or fluorescence spectrometer. II. Amino Acid Analysis 1. Experimental Steps (1) Prepare the amino acid mixture to be analyzed. (2) Add DNSC-1 solution and adjust the pH to alkaline (9-10). (3) After incubation, dilute the product with acetonitrile and directly perform HPLC analysis. (4) On the fluorescence detector, the excitation wavelength is usually 330-350 nm and the emission wavelength is 520-540 nm. 2. Protein N-terminal Sequencing DNSC-1 can react with the N-terminal amino group of the protein to generate fluorescently labeled derivatives for protein sequencing by Edman degradation. Notes: (1) DNSC-1 is sensitive to water and should be kept dry when preparing the solution.

In vitro	(2) The reaction conditions should be kept alkaline (pH 9-10) to ensure efficient derivatization reaction. (3) Operate in a dark environment to avoid degradation of the fluorescent signal. The above information is based on published literature. Experimental procedures should be appropriately modified to meet specific research demands.

Solubility Information

Solubility	DMSO: 7.8 mg/mL (28.92 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.7071 mL	18.5357 mL	37.0714 mL
5 mM	0.7414 mL	3.7071 mL	7.4143 mL
10 mM	0.3707 mL	1.8536 mL	3.7071 mL
50 mM	0.0741 mL	0.3707 mL	0.7414 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

Larson J, et al. The Use of Dansyl Chloride to Probe Protein Structure and Dynamics. Int J Mol Sci. 2025 Jan 8;26(2):456.

Wang K, et al. Detection and quantification of biogenic amines in cephalopod using dansyl chloride pre-column derivatization-HPLC and their production. J Food Sci. 2024 May;89(5):2909-2920.

Hussein OG, et al. A novel green spectrofluorimetric method for simultaneous determination of antazoline and tetryzoline in their ophthalmic formulation. Luminescence. 2024 Mar;39(3):e4728.