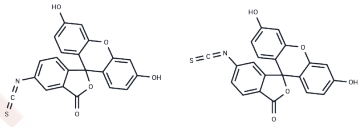
Data Sheet (Cat.No.T18896)

TargetMol

5(6)-FITC

Chemical Properties



CAS No. : 27072-45-3

Formula: C21H11NO5S

Molecular Weight: 389.38

Storage: Keep away from direct sunlight
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	5(6)-FITC (Fluorescein isothiocyanate), or Fluorescein 5(6)-isothiocyanate, is a versatile amine-reactive derivative of fluorescein dye. It serves as an effective label for antibodies and other probes, finding utility in fluorescence microscopy, flow cytometry, and immunofluorescence-based assays such as ELISA and Western blotting.
Targets(IC50)	Others
In vitro	Instructions 1. Solvent selection: 5(6)-FITC is dissolved in anhydrous dimethyl sulfoxide (DMSO) at a typical concentration of 1-10 mg/mL. The solution can be diluted to achieve the desired labeling concentration. 2. Labeling reaction: 1) Add 5(6)-FITC solution to a solution containing the target molecule (such as an antibody or protein), usually using a 5-10-fold molar ratio of FITC. The reaction is usually carried out at 4°C for 1-2 hours without light exposure. 2) Dilute FITC with PBS or other suitable buffer and adjust the pH to around 8.0 to promote the reaction. 3. Reaction termination: 1) After the labeling reaction, unreacted FITC needs to be removed by dialysis or gel filtration column. 2) The labeled sample can be used immediately for downstream experiments or frozen for storage. 4. Detection and analysis: Fluorescence microscopy: Observe the labeled samples with a fluorescence microscope. The excitation wavelength of FITC is 495 nm and the emission wavelength is 519 nm. Flow cytometry: Analyze the fluorescence signal by flow cytometry. The green fluorescence emitted by FITC can be used to quantitatively analyze cell labeling. Fluorescence spectrophotometer: Detect the fluorescence intensity of the sample, usually at 495 nm excitation and 519 nm emission. The above information is based on published literature. Experimental procedures should be appropriately modified to meet specific research demands.

Solubility Information

Solubility	DMSO: 160 mg/mL (410.91 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: 3.3 mg/mL (8.48 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	2.5682 mL	12.8409 mL	25.6819 mL
5 mM	0.5136 mL	2.5682 mL	5.1364 mL
10 mM	0.2568 mL	1.2841 mL	2.5682 mL
50 mM	0.0514 mL	0.2568 mL	0.5136 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

Zheng Y, et al. The effects of fluorescent labels on Aβ42 aggregation detected by fluorescence correlation spectroscopy. Biopolymers. 2018 Nov;109(11):e23237.

Zhang J, Zhou E C, He Y, et al.ZYG11B potentiates the antiviral innate immune response by enhancing cGAS-DNA binding and condensation.Cell Reports.2023, 42(3).

Goding JW. Conjugation of antibodies with fluorochromes: modifications to the standard methods. J Immunol Methods. 1976;13(3-4):215-26.

Der-Balian GP, Kameda N, Rowley GL. Fluorescein labeling of Fab' while preserving single thiol. Anal Biochem. 1988 Aug 15;173(1):59-63.