

5-FAM

Chemical Properties

CAS No. : 76823-03-5

Formula: C₂₁H₁₂O₇

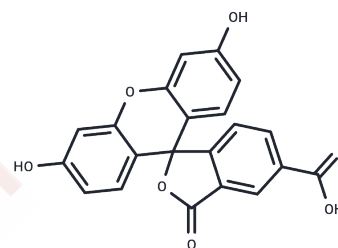
Molecular Weight: 376.32

Storage:

Keep away from direct sunlight, Keep away from moisture

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-FAM (5-Carboxyfluorescein) (5-Carboxyfluorescein) contains a carboxylic acid, which can be used to react with primary amines via carbodiimide activation of the carboxylic acid. Fluorescein is the most common fluorescent derivatization reagent for labeling biomolecules. In addition to its excellent fluorescence quantum yield, relatively high absorptivity, and good water solubility, it also has an excitation maximum that closely matches the 488 nm spectral line of the argon-ion laser.
Targets(IC50)	Others
Cell Research	<p>Instructions</p> <ol style="list-style-type: none"> 1. Preparation and storage <ol style="list-style-type: none"> a. Solubility: 5-FAM is usually provided in powder form and is easily soluble in DMSO, DMF, or aqueous solution with pH \geq 8. b. Recommended stock solution concentration: 10–100 mM (adjusted according to experimental needs). Before use, it is recommended to prepare with anhydrous solvent and dispense in small volumes to avoid repeated freezing and thawing. 2. Biomolecule labeling (such as proteins, nucleic acids) <ol style="list-style-type: none"> a. Activation reaction: 5-FAM is usually combined with an activation reagent (such as EDC/NHS) to generate active esters to facilitate reaction with the amine group of the target molecule. b. Amine-free neutral buffer (such as MES or PBS, pH 6–8) is recommended for the reaction buffer. c. Binding step: Mix the active ester with the target molecule and react at room temperature for 1–2 hours. Optimize the pH and reaction time if necessary. d. Purification: Use dialysis or gel filtration to remove unreacted 5-FAM. 3. Fluorescence imaging <ol style="list-style-type: none"> a. Sample preparation: dilute 5-FAM to working concentration (usually 1–10 μM). b. Directly apply or incubate cells or tissue for 10–30 minutes, followed by washing with PBS to remove unbound dye. c. Microscope observation: Excitation wavelength: \sim495 nm. Emission wavelength: \sim520 nm (green fluorescence). <p>The above information is based on published literature. Experimental procedures should be appropriately modified to meet specific research demands.</p>

Solubility Information

Solubility	DMSO: 200 mg/mL (531.46 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.6573 mL	13.2866 mL	26.5731 mL
5 mM	0.5315 mL	2.6573 mL	5.3146 mL
10 mM	0.2657 mL	1.3287 mL	2.6573 mL
50 mM	0.0531 mL	0.2657 mL	0.5315 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

Rosa M, et al. Inclusion of Cationic Amphiphilic Peptides in Fmoc-FF Generates Multicomponent Functional Hydrogels. ACS Appl Bio Mater. 2024 Dec 9.

Minopoli A, et al. Double-Resonant Nanostructured Gold Surface for Multiplexed Detection. ACS Appl Mater Interfaces. 2022 Feb 9;14(5):6417-6427.

Verma K, Patel A. Pyruvate Kinase M2 serves as blockade for nucleosome repositioning and abrogates Chd7 remodeling activity. PLoS One. 2019 Feb 8;14(2):e0211515.

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