

Fluorescein Biotin

Chemical Properties

CAS No. : 134759-22-1

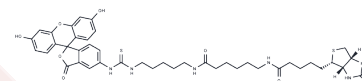
Formula: C₄₂H₅₀N₆O₈S₂

Molecular Weight: 831.01

Storage: Store at low temperature, Keep away from direct sunlight

Powder: -20°C for 3 years

Actual storage temperature shall be subject to the COA.



Biological Description

Description	Fluorescein Biotin is a biotin-substituting fluorescent dye that detects and quantifies biotin binding sites by fluorescence or absorbance. Fluorescein Biotin undergoes fluorescence quenching when bound to avidin or streptavidin.
Targets(IC50)	Others
Cell Research	<p>Instructions</p> <p>1. Solution preparation Stock solution: Dissolve Fluorescein Biotin in anhydrous DMSO or water to prepare a 1-10 mM stock solution. Working solution: Dilute to a working concentration of 1-10 μM in assay buffer (e.g., PBS, pH 7.4).</p> <p>2. Application steps</p> <p>a. Detection of biotin binding sites Mix the target protein or molecule (usually avidin or streptavidin conjugated) with the Fluorescein Biotin solution and incubate for 30 minutes to 1 hour at room temperature or 4°C, protected from light. Wash the sample to remove unbound Fluorescein Biotin (e.g., using PBS containing 0.05% Tween-20).</p> <p>b. Fluorescence detection Excitation wavelength: 485-495 nm Emission wavelength: 515-525 nm Fluorescence microscopy, flow cytometer, or fluorescence spectrophotometer can be used to detect the signal.</p> <p>c. Fluorescence quenching study After mixing the Fluorescein Biotin solution with avidin or streptavidin, observe the change in fluorescence intensity. The degree of quenching is usually related to the binding efficiency and can be used to quantify the density of biotin binding sites.</p> <p>3. Calibration and control Set up an unbound Fluorescein Biotin control to distinguish specific binding signals from nonspecific background signals. Construct a concentration gradient standard curve to calibrate the relationship between the fluorescence signal and the number of binding sites.</p> <p>4. Precautions</p>

A DRUG SCREENING EXPERT

Cell Research	<p>Storage conditions: Fluorescein Biotin should be stored at -20°C in a dark environment and avoid repeated freezing and thawing.</p> <p>Avoid photobleaching: Avoid strong light exposure during the experiment to avoid weakening the fluorescence signal.</p> <p>Buffer selection: Use a pH-neutral buffer to ensure the stability of the fluorophore.</p> <p>The above information is based on published literature. Experimental procedures should be appropriately modified to meet specific research demands.</p>
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.2034 mL	6.0168 mL	12.0335 mL
5 mM	0.2407 mL	1.2034 mL	2.4067 mL
10 mM	0.1203 mL	0.6017 mL	1.2034 mL
50 mM	0.0241 mL	0.1203 mL	0.2407 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

Homklinkaew P, et al. Development of a recombinase-aided amplification method combined with lateral flow dipstick assay to detect Porcine circovirus type 2. *Vet World*. 2023 Nov;16(11):2313-2320.

Ivanov AV, et al. Comparison of Single-Stranded DNA Probes Conjugated with Magnetic Particles for Trans-Cleavage in Cas12a-Based Biosensors. *Biosensors (Basel)*. 2023 Jul 1;13(7):700.

Li X, et al. Research Note: Development of rapid isothermal amplification assay for detection of duck circovirus. *Poult Sci*. 2021 Sep;100(9):101339.

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