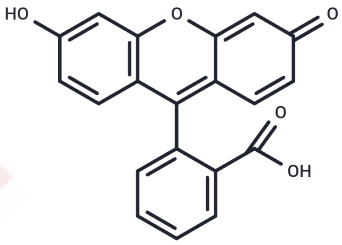
Data Sheet (Cat.No.T1392)

TargetMol

Fluorescein

Chemical Properties



CAS No. : 2321-07-5

Formula: C20H12O5

Molecular Weight: 332.31

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	Fluorescein (Solvent Yellow 94) is a phthalic indicator dye, use as a synthetic fluorescent tracer.
Targets(IC50)	Others
Animal Research	1. As a fluorescent tracer in tissue imaging 1. Material preparation: 1) Fluorescein solution: usually prepared as a 0.1%-1% solution, which can be dissolved in water, PBS or an appropriate buffer. 2) Tissue sample: biological tissue samples such as tumors, blood vessels or organs. 3) Fluorescence detection equipment: using a fluorescence microscope or imaging system, the excitation wavelength is 490 nm and the emission wavelength is 520 nm. 2. Steps: 1) Solution preparation: dissolve fluorescein in an appropriate solvent and prepare it to the required concentration. 2) Administration: Fluorescein solution can be injected (such as intravenous injection, subcutaneous injection) or applied topically into the organism or tissue. 3) Fluorescence imaging: after fluorescein is administered, it is distributed in the tissue or system, and then imaged using a fluorescence microscope or imaging system, usually using an excitation wavelength of 490 nm and an emission wavelength of 520 nm for detection. 4) Analysis: Analyze the distribution and localization of fluorescein in tissues. In cancer research, the selective uptake or retention of fluorescein by tumor tissue can help identify tumors. 2. Application of Fluorescein in Vascular Imaging 1. Material preparation: 1) Fluorescein solution: The commonly used sodium fluorescein solution is 10% concentration and is usually used for intravenous injection. 2) Imaging equipment: Use a fundus camera or fluorescent angiography system. 2. Steps: 1) Injection: Intravenous injection of fluorescein sodium. 2) Imaging: Use a fundus camera or angiography system to capture the fluorescent signal in the blood vessels. The system usually uses blue light to excite fluorescein and capture the yellow-green fluorescence emitted by the blood vessels.

Animal Research	3. Application of Fluorescein in Tumor Imaging 1. Material preparation: 1) Fluorescein solution: Prepare a fluorescein solution of appropriate concentration, usually dissolved in saline or PBS. 2) Tumor model: such as animal models with implanted tumors or clinical tumor samples. 2. Steps: 1) Administration: Inject fluorescein into tumor-bearing animals or human tumor tissue. 2) Imaging: Use fluorescence microscopy or other imaging techniques to observe the localization of fluorescein in the tumor. Tumor tissue usually exhibits bright green fluorescence due to the selective uptake of fluorescein. Notes: 1) Toxicity: Although fluorescein is generally safe in clinical and research, there may be toxicity risks in the case of high doses or long-term exposure. 2) Photosensitivity: Fluorescein is sensitive to light and should be avoided from prolonged exposure to strong light to prevent photobleaching and dye degradation. 3) Dosage: The dose should be reasonably selected according to the experimental requirements to avoid excessive dye accumulation and ensure imaging effect.

Solubility Information

Solubility	DMSO: 250 mg/mL (752.31 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: 2.5 mg/mL (7.52 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	3.0092 mL	15.0462 mL	30.0924 mL
5 mM	0.6018 mL	3.0092 mL	6.0185 mL
10 mM	0.3009 mL	1.5046 mL	3.0092 mL
50 mM	0.0602 mL	0.3009 mL	0.6018 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

Yin Y, et al. Enhancing the photo-induced oxidase-like activity of fluorescein with methyl viologen for colorimetric detection of organophosphorus pesticide. Food Chem. 2025 Feb 15;465(Pt 2):142164.
Iqbal A,et al. Quantifying tear exchange during rigid contact lens wear using corneoscleral profilometry: A proof of concept study. Ophthalmic Physiol Opt. 2025 Jan 18.

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