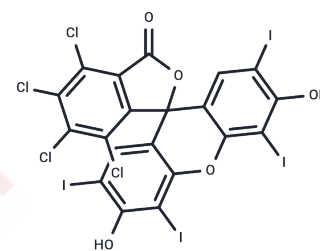


Rose bengal lactone

Chemical Properties

| | |
|-------------------|---|
| CAS No. : | 4159-77-7 |
| Formula: | C ₂₀ H ₄ Cl ₄ I ₄ O ₅ |
| Molecular Weight: | 973.67 |
| Storage: | 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 | Rose bengal lactone (C.I. Solvent Red 141) is a rose bengal lactone stain commonly used to stain the nuclei of plant and animal cells. |
| Targets(IC50) | Others |
| Cell Research | <p>Instructions</p> <p>I. Dye preparation:</p> <ol style="list-style-type: none"> 1. Stock solution preparation: Dissolve it in an appropriate solvent (usually water, ethanol or buffer solution) to prepare a stock solution. 2. Working solution preparation: The commonly used working concentration range is 1-10 µM, and the specific concentration can be adjusted according to experimental needs. <p>II. Operation steps</p> <ol style="list-style-type: none"> 1. Cell preparation: <ol style="list-style-type: none"> 1) Inoculate the cells to be stained onto a microscope slide, culture dish or other suitable substrate. 2) Incubation: Add the prepared rose bengal lactone solution to the cells. The incubation time is usually 30 minutes to 1 hour at 37°C, but it can be optimized according to the cell type and staining intensity requirements. 3) Washing: After incubation, wash the cells with an appropriate buffer or PBS (phosphate buffered saline) to remove unbound dye. 2. Imaging and analysis: <ol style="list-style-type: none"> 1) After the cells are stained and washed, they can be observed under a fluorescence microscope. Rose bengal lactone usually emits strong fluorescence, which facilitates the visualization of the cell nucleus. 2) The excitation wavelength of rose bengal lactone is usually around 550 nm, and the emission wavelength is in the red to orange spectrum. 3. Data interpretation: <ol style="list-style-type: none"> 1) Fluorescence intensity is related to the amount of dye uptake and can be used to determine the number and state of cells. 2) It can also be used to evaluate cell morphological changes or observe specific cell structures and processes, depending on the context of the experiment. <p>Notes:</p> <ol style="list-style-type: none"> 1. Toxicity: Rose bengal lactone is a synthetic dye and should be used with caution. It is recommended to wear gloves and goggles during operation and work in a well-ventilated area. |

| | |
|---------------|--|
| Cell Research | <p>2. Photosensitivity: Like many fluorescent dyes, rose bengal lactone is light-sensitive, so long-term exposure to strong light should be avoided during operation and storage to prevent photobleaching.</p> <p>3. Concentration control: The concentration of the dye needs to be properly controlled. Excessive staining concentration may cause high background fluorescence or cytotoxicity.</p> <p>The above information is based on published literature. Experimental procedures should be appropriately modified to meet specific research demands.</p> |
|---------------|--|

Preparing Stock Solutions

| | 1mg | 5mg | 10mg |
|-------|-----------|-----------|------------|
| 1 mM | 1.027 mL | 5.1352 mL | 10.2704 mL |
| 5 mM | 0.2054 mL | 1.027 mL | 2.0541 mL |
| 10 mM | 0.1027 mL | 0.5135 mL | 1.027 mL |
| 50 mM | 0.0205 mL | 0.1027 mL | 0.2054 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

Sun B, et al. Light-responsive smart nanocarriers for wirelessly controlled photodynamic therapy for prostate cancers. *Acta Biomater.* 2023 Nov;171:553-564.

Kuryanova AS, et al. Effect of Chitosan and Amphiphilic Polymers on the Photosensitizing and Spectral Properties of Rose Bengal. *Molecules.* 2022 Oct 11;27(20):6796.

Garcia EA, et al. Effect of side-chain length on solute encapsulation by amphiphilic heterografted brush copolymers. *Soft Matter.* 2020 Oct 7;16(38):8871-8876.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

This product is for Research Use Only · Not for Human or Veterinary or Therapeutic Use

Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481