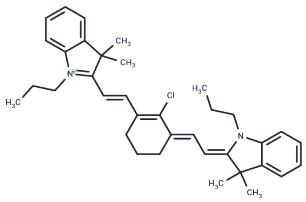
Data Sheet (Cat.No.T20974)

TargetMol

IR-780 Iodide

Chemical Properties



CAS No. : 207399-07-3

Formula: C36H44ClIN2

Molecular Weight: 667.12

Storage: Keep away from direct sunlight,Store under nitrogen
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	IR-780 Iodide (IR 780 iodide), a near-infrared fluorescent dye, is used for the exclusive characterization of human CSCs through the HIF-1α/glycolysis dependent mitochondrial transporter ABCB10's activity.
Targets(IC50)	Others
Cell Research	1. For cancer stem cell (CSC) research 1. Cell staining: Dissolve IR-780 Iodide in an appropriate solvent (such as PBS or DMEM culture medium), usually at a concentration of 10-20 μM. Add the dye solution to the cell culture medium and incubate for 30-60 minutes. 2. Washing: After staining, gently wash the cells with PBS to remove unbound dye. 3. Fluorescence microscopy: Observe using a near-infrared fluorescence microscope (e.g., excitation wavelength 745 nm, emission wavelength 780 nm). IR-780 Iodide can be localized within the cell and its distribution in different subcellular structures, especially mitochondria and cell membrane regions, can be observed. 2. For HIF-1α pathway research 1. Cell treatment: Select a suitable cancer cell line or CSC, add IR-780 Iodide and incubate, and observe the adsorption of the dye and its correlation with mitochondrial transport proteins. 2. Fluorescence detection: Fluorescence imaging technology is used to detect the effect of changes in HIF-1α pathway activity on the distribution and metabolic pathway of IR-780 dye. III. Used for multidrug resistance research 1. Staining and treatment: Add IR-780 Iodide dye to drug-treated cells to study the effect of drugs on the distribution of intracellular dye. 2. Flow cytometry detection: Use flow cytometry to analyze cells, study the binding effects of different drugs and IR-780, and evaluate the activity of transporters. IV. Cell imaging and positioning 1. Staining steps: Add IR-780 Iodide solution to cell culture medium and incubate for a certain period of time (usually 30 minutes to 1 hour). 2. Microscopic imaging: Use a high-resolution near-infrared fluorescence microscope to observe cell staining and fluorescence distribution. The above information is based on published literature. Experimental procedures should be appropriately modified to meet specific research demands.

Solubility Information

Solubility	DMSO: 6.88 mg/mL (10.31 mM),Sonication is recommended. Methanol: 6.25 mg/mL (9.37 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.499 mL	7.4949 mL	14.9898 mL
5 mM	0.2998 mL	1.499 mL	2.998 mL
10 mM	0.1499 mL	0.7495 mL	1.499 mL
50 mM	0.030 mL	0.1499 mL	0.2998 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

Sharma A, Ramanaiah Dantham V. Observation of reversible and irreversible charge transfer processes in dye-monolayer graphene systems using Raman spectroscopy as a tool. Spectrochim Acta A Mol Biomol Spectrosc. 2024 Sep 5;317:124431.

Li Y, et5 val. pH/Redox Dual-Responsive Drug Delivery System with on-Demand RGD Exposure for Photochemotherapy of Tumors. Int J Nanomedicine. 2022 Nov 23;17:5621-5639.

Yan T, et al. Confocal Laser Scanning Microscopy Based on a Silicon Photomultiplier for Multicolor In Vivo Imaging in Near-Infrared Regions I and II. Small Methods. 2022 Dec;6(12):e2201105.

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