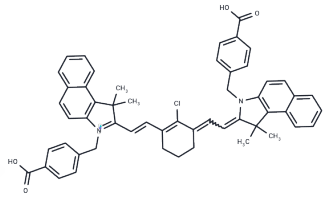
Data Sheet (Cat.No.T19652)

TargetMol

IR-825

Chemical Properties



CAS No. : 1558079-49-4

Formula: C54H48ClN2O4

Molecular Weight: 824.42

Storage: Keep away from moisture,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	IR-825 is a near-infrared dye. IR-825 nanoparticles showed pH-dependent fluorescence emission and excellent near-infrared irradiation of cancer cells targeted in vitro to provide cytotoxicity. IR-825 nanoparticles showed efficient tumor homing together with rapid renal excretion behaviors, as revealed by MR imaging and confirmed by biodistribution measurement.
Targets(IC50)	Others
Animal Research	I. Application of photodynamic therapy 1. Material preparation (1) IR-825 dye: usually dissolved in an appropriate organic solvent (such as DMSO), the concentration is generally in the range of 1-10 μM. (2) Cell or animal model: use cultured cancer cells (such as HeLa cells) or animal models. (3) Light source: use a laser light source with a specific wavelength (such as an excitation wavelength of about 800 nm). (4) Culture medium or injection solution: for cell experiments, use conventional cell culture medium; for animal experiments, use physiological saline or appropriate buffer. 2. Experimental steps (1) Cell experiment: dissolve IR-825 and add it to the cancer cell culture medium, incubate for a certain period of time (usually 2-4 hours), then irradiate the cells with a light source with a specific wavelength (excitation wavelength of about 800 nm), and use the MTT method, cell viability kit, etc. to detect cell survival rate. (2) Animal experiment: Inject IR-825 photosensitizer into animals by intravenous injection or local injection, select the appropriate time for illumination, and observe indicators such as tumor size and tissue pathological changes after illumination. (3) ROS detection: Use fluorescent probes (such as DCFH-DA, DHE, etc.) to detect reactive oxygen species (ROS) produced under illumination. 2. Fluorescence imaging 1. Inject IR-825 into animals or add it to cell culture medium. 2. Use appropriate fluorescence microscopes or imaging equipment to observe its distribution in the body or cells.

Solubility Information

Solubility	DMSO: Soluble (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.213 mL	6.0649 mL	12.1297 mL
5 mM	0.2426 mL	1.213 mL	2.4259 mL
10 mM	0.1213 mL	0.6065 mL	1.213 mL
50 mM	0.0243 mL	0.1213 mL	0.2426 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

Islamy Mazrad ZA, In I, Lee KD, Park SY. Rapid fluorometric bacteria detection assay and photothermal effect by fluorescent polymer of coated surfaces and aqueous state. Biosens Bioelectron. 2016 Oct 14. pii: S0956-5663(16)31034-X. doi: 10.1016/j.bios.2016.10.027. [Epub ahead of print] PubMed PMID: 27825519.

Liu X, Yang G, Zhang L, Liu Z, Cheng Z, Zhu X. Photosensitizer cross-linked nano-micelle platform for multimodal imaging guided synergistic photothermal/photodynamic therapy. Nanoscale. 2016 Aug 18;8(33):15323-39. doi: 10.1039/c6nr04835h. PubMed PMID: 27503666.

Zhang Y, Ang CY, Li M, Tan SY, Qu Q, Zhao Y. Polymeric Prodrug Grafted Hollow Mesoporous Silica Nanoparticles Encapsulating Near-Infrared Absorbing Dye for Potent Combined Photothermal-Chemotherapy. ACS Appl Mater Interfaces. 2016 Mar 23;8(11):6869-79. doi: 10.1021/acsami.6b00376. PubMed PMID: 26937591.

Yang Y, Liu J, Liang C, Feng L, Fu T, Dong Z, Chao Y, Li Y, Lu G, Chen M, Liu Z. Nanoscale Metal-Organic Particles with Rapid Clearance for Magnetic Resonance Imaging-Guided Photothermal Therapy. ACS Nano. 2016 Feb 23;10(2):2774-81. doi: 10.1021/acsnano.5b07882. PubMed PMID: 26799993.

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