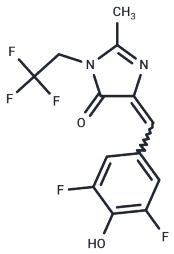
Data Sheet (Cat.No.T31408)

TargetMol

DFHBI-1T

Chemical Properties



CAS No. : 1539318-36-9

Formula: C13H9F5N2O2

Molecular Weight: 320.21

Storage: Keep away from direct sunlight,Keep away from moisture
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	DFHBI-1T is an RNA aptamer-activated fluorescent probe that transmits through cell membranes.DFHBI-1T can be used for dynamic localization imaging of RNA in living cells.
Targets(IC50)	Others,Autophagy
In vitro	DFHBI-1T (20 μM; 10 minutes) enhances the fluorescence expression of (CGG)60-Spinach2 in COS7 cells compared to DFHBI (20 μM)[2]. The fluorescence characteristics are specified as follows: Broccoli-DFHBI-1T with ex/em=472 nm/507 nm, and Spinach2-DFHBI-1T with ex/em=482 nm/505 nm[1].
Cell Research	I. Neuronal morphological studies: 1. Tissue preparation: SR101 can be used on brain slices or living tissues. Incubate the tissue with SR101 solution for 10-30 minutes. 2. Imaging: After incubation, observe the tissue using a fluorescence microscope. SR101 emits red fluorescence at 605 nm when excited at 586 nm, allowing the structure of neurons to be observed. II. Astrocyte labeling 1. Cell incubation: Incubate SR101 with cultured cells or brain slices for about 10-20 minutes. Astrocytes preferentially absorb the dye. 2. Imaging: Using a fluorescence microscope, the red fluorescence of SR101 can distinguish astrocytes from other cell types. It is often used in combination with other neuronal markers for colocalization studies. III. In vivo studies 1. Injection: SR101 can label astrocytes in vivo by intravenous injection or cerebrospinal fluid injection. 2. In vivo imaging: Use in vivo fluorescence microscopy or multiphoton microscopy to image the labeled cells. IV. Slice imaging 1. Tissue incubation: Incubate brain slices with SR101 solution for 10-20 minutes to allow the dye to penetrate into the cells. 2. Imaging: After incubation, observe the tissue under a fluorescence microscope for detailed structural and cellular analysis.

Cell Research	The above information is based on published literature. Experimental procedures should be appropriately modified to meet specific research demands.

Solubility Information

Solubility	DMSO: 101 mg/mL (315.42 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.123 mL	15.6148 mL	31.2295 mL
5 mM	0.6246 mL	3.123 mL	6.2459 mL
10 mM	0.3123 mL	1.5615 mL	3.123 mL
50 mM	0.0625 mL	0.3123 mL	0.6246 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

Li T, et al. A binary system based DNA tetrahedron and fluorogenic RNA aptamers for highly specific and label-free mRNA imaging in living cells. Talanta. 2024 Mar 1;269:125465.
Cao G, et al. A light-up fluorescence platform based DNA: RNA hybrid G-quadruplet for detecting single nucleotide variant of ctDNA and miRNA-21. Talanta. 2023 May 15;257:124373.
Bychenko OS, et al. Use of Genetically Encoded Fluorescent Aptamers for Visualization of Mycobacterium tuberculosis Small RNA MTS1338 in Infected Macrophages. Dokl Biochem Biophys. 2020 Jul;493(1):185-189.