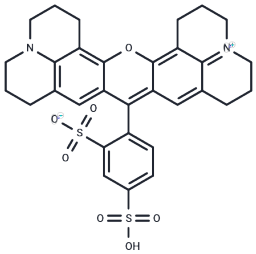
Data Sheet (Cat.No.T19062)

TargetMol

Sulforhodamine 101

Chemical Properties



CAS No. : 60311-02-6

Formula: C31H30N2O7S2

Molecular Weight: 606.71

Appearance: no data available

Storage: keep away from direct sunlight
Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Biological Description

Description	Sulforhodamine 101 (SR101) is a red fluorescent dye.
Targets(IC50)	Others
In vitro	Sulforhodamine 101 does not label astrocytes in brainstem slices as specific and strong as in the cortex or hippocampus. To minimize excitatory side effects, the concentration of Sulforhodamine 101 has to be kept as low as possible [1].
In vivo	In vivo, Sulforhodamine 101 can induce epileptic activity by intra-hippocampal injection of small volumes of 10 μM or topical application of 100 μM [1].
Cell Research	I. Neuronal morphology study 1. Application to tissue: SR101 can be applied to brain slices or living tissue in vitro. Incubate the tissue with SR101 solution, usually for 10-30 minutes, to allow the dye to enter the cells. 2. Imaging: After incubation, observe the tissue under a fluorescence microscope. SR101 emits red fluorescence at 605 nm under 586 nm excitation, which can visualize and analyze the morphology of individual neurons. II. Astrocyte labeling 1. Preparation: Tissue or cell culture is incubated with SR101 for 10-20 minutes. SR101 will preferentially bind to astrocytes and remain stable under physiological conditions. 2. Imaging: Observe using a fluorescence microscope and distinguish astrocytes from other cells based on their unique red fluorescence. 3. Distinguishing from neurons: By combining with other markers (e.g., neuronal markers such as NeuN or neural activity markers), SR101 can be used for colocalization studies to distinguish astrocytes from neurons. III. In vivo applications 1. Injection: SR101 can be injected into the body via intravascular or intracerebrospinal fluid injection to selectively label astrocytes or neurons. 2. In vivo imaging: Observe labeled cells using in vivo fluorescence microscopy or multiphoton microscopy. IV. Brain slice imaging 1. Slice preparation: Prepare brain slices from animal models and incubate them in SR101 solution for several minutes. 2. Imaging: Then use a fluorescence microscope to capture the red fluorescence of

SR101-labeled astrocytes for detailed cell structure examination.

Solubility Information

Solubility	DMSO: 45 mg/mL (74.17 mM),Sonication is recommended. H2O: 8 mg/mL (13.19 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.6482 mL	8.2412 mL	16.4823 mL
5 mM	0.3296 mL	1.6482 mL	3.2965 mL
10 mM	0.1648 mL	0.8241 mL	1.6482 mL
50 mM	0.033 mL	0.1648 mL	0.3296 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.

Reference

Li M,et al. Bis-Naphthylacrylonitrile-Based Supramolecular Artificial Light-Harvesting System for White Light Emission. Macromol Rapid Commun. 2025 Jan 7:e2400929.

Yang XZ, et al. Artificial light-harvesting system with sequential energy transfer in photocatalytic CP coupling based on supramolecular organic framework of triphenylamine. J Colloid Interface Sci. 2025 Feb 15;680(Pt A):587-595.

Li W,et al. Renal-Clearable Organic Probes From D-A-D Type Aza-BODIPY Fluorophores for Multiphoton Deep-Brain Imaging. Small. 2024 Dec;20(50):e2403994.

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