Texas Red

Cat. No.: HY-101878

CAS No.: 60311-02-6

Molecular Formula: $C_{31}H_{30}N_2O_7S_2$

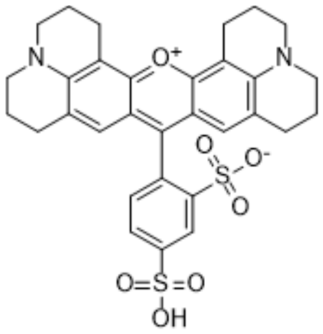
Molecular Weight: 606.71

Target: Fluorescent Dye

Pathway: Others

Storage: -20°C, protect from light

* The compound is unstable in solutions, freshly prepared is recommended.



SOLVENT & SOLUBILITY

In Vitro

DMSO : 50 mg/mL (82.41 mM; Need ultrasonic)

H_2O : 8.33 mg/mL (13.73 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
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

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: 2.08 mg/mL (3.43 mM); Suspended solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 2.08 mg/mL (3.43 mM); Suspended solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

Texas Red (Sulforhodamine 101) is an amphoteric rhodamine red fluorescent dye (excitation/emission: 586/605 nm). Texas Red is used extensively for investigating neuronal morphology and acts as acell type-selective fluorescent marker of astrocytes bothin vivoand in slice preparations[1].

In Vitro

Texas Red (Sulforhodamine 101) does not label astrocytes in brainstem slices as strong and specific as in the hippocampus or cortex. To minimize excitatory side effects, the concentration of Texas Red has to be kept as low as possible or the labeling procedure can be performed after the actual experiment[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

In vivo, epileptic activity can be induced by intra-hippocampal injection of small volumes of 10 μM Texas Red or topical

application of 100 μM[1].

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PROTOCOL

Cell Assay [1]	Acute brain slices are usually incubated in carbonated extracellular solution containing 0.5 to1 μM Texas Red for 20 to 30 min and 34 to 37°C. Following this, excess dye is removed over a period of 10 to 30 min using different protocols that were described earlier[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
Animal Administration [1]	For in vivo imaging, Texas Red (Sulforhodamine 101) is applied topically at concentrations of 250 nM to 300 μM or by bolus injection. Additionally, Texas Red injection over the tail vein (10 mg/mL) has been reported to be successful[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Neuron. 2022 Aug 6;S0896-6273(22)00655-9.
- Glia. 2021 Feb;69(2):281-295.
- Neuropharmacology. 2022 Jul 11;109191.

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REFERENCES

[1]. Axel Nimmerjahn, et al. Sulforhodamine 101 as a specific marker of astroglia in the neocortex in vivo. Nat Methods. 2004 Oct;1(1):31-7.

[2]. J Kang, et al. Sulforhodamine 101 induces long-term potentiation of intrinsic excitability and synaptic efficacy in hippocampal CA1 pyramidal neurons. Neuroscience. 2010 Sep 15;169(4):1601-9.

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