

SR101 Astroglia Stain

<http://www.lumiprobe.com/p/sulforhodamine-101>

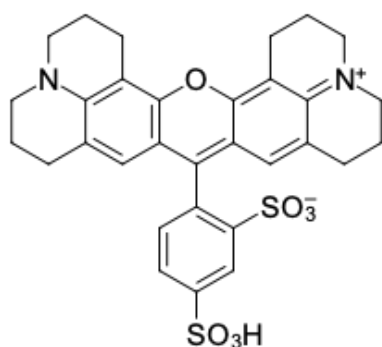
Sulforhodamine 101 (SR101) is a water-soluble, photostable fluorescent dye widely used for labeling live astrocytes.

In live-cell imaging, extracellular application of SR101 results in its preferential uptake by astrocytes, facilitating clear visualization of their morphology and network integrity without significant staining of neurons. It makes SR101 an indispensable tool for *in vivo* studies of glial function and cytoarchitecture ^[1].

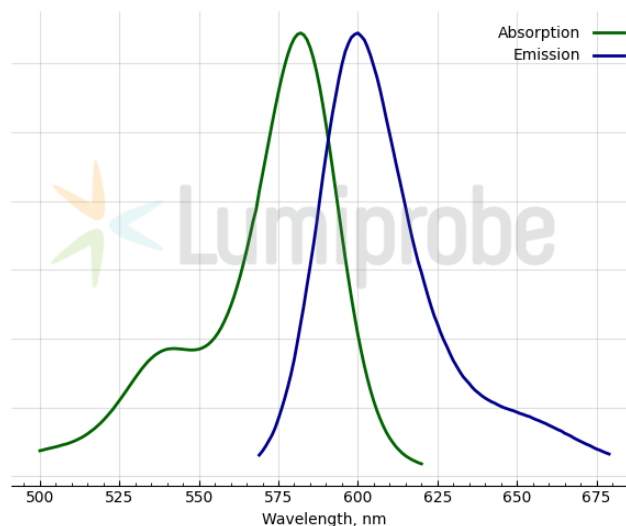
SR101 labels astrocytes primarily via an active transport mechanism involving the specific cellular transporter OATP1C1, which is preferentially expressed in astroglial cells. OATP1C1 selectivity is not absolute and can be influenced by several factors ^[2]. Also, SR101 can spread from astrocytes to mature oligodendrocytes via gap junctions ^[3].

SR101 can also be used as an effective fluorescent tracer to investigate vascular perfusion, gap junction permeability, and fluid dynamics, thanks to its high hydrophilicity and bright emission. Furthermore, its structural similarity to Rose Bengal allows it to function as an efficient photosensitizer in photodynamic therapy research.

^[1] Nat. Methods. 2004. 1(1):31-37; ^[2] Brain Struct. Funct. 2015. 220:193-203; ^[3] Nat. Methods. 2014. 11(11):1081-1082.



Structure of sulforhodamine-101



Excitation and emission spectra of LumiCell® SR101 Astroglia Stain

General properties

Appearance:	dark crystals
Molecular weight:	606.72
CAS number:	60311-02-6
Molecular formula:	C ₃₁ H ₃₀ N ₂ O ₇ S ₂
Quality control:	NMR ¹ H and HPLC-MS (95+%)
Storage conditions:	24 months after receipt at -20°C in the dark. Transportation: at room temperature for up to 3 weeks. Desiccate.
Legal statement:	This Product is offered and sold for research purposes only. It has not been tested for safety and efficacy in food, drug, medical device, cosmetic, commercial or any other use. Supply does not express or imply authorization to use for any other purpose, including, without limitation, in vitro diagnostic purposes, in the manufacture of food or pharmaceutical products, in medical devices or in cosmetic products.

Spectral properties

Excitation/absorption maximum, nm: 582

Emission maximum, nm: 600
Fluorescence quantum yield: 0.79