

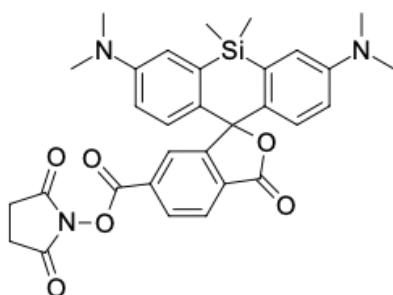
SiRhius® 650 NHS ester

<http://www.lumiprobe.com/p/sir-nhs-ester>

SiRhius® 650 NHS ester (also known as SiR dye 1) is a far-red fluorescent dye designed for efficient covalent labeling of biomolecules containing primary amines, such as proteins, peptides, and antibodies. The NHS ester group readily reacts with ϵ -amino groups of lysine residues or N-terminal amino groups under mild aqueous conditions, forming stable amide bonds.

SiRhius® 650 belongs to the family of silicon-rhodamine (SiR) dyes and combines long-wavelength fluorescence with high molar absorptivity, excellent photostability, and minimal photo- and cytotoxicity, making it indispensable for super-resolution microscopy (STED, SIM, PALM/STORM) and long-term live cell imaging. Unlike many cyanine dyes, SiRhius 650 is stable under alkaline conditions.

The far-red fluorescence of the dye does not overlap with cellular autofluorescence, which is important for fluorescence microscopy, flow cytometry, and other bioanalytical methods.



Structure of SiRhius® 650 NHS ester

General properties

Appearance:	green crystals
Molecular weight:	569.69
CAS number:	1808181-14-7
Molecular formula:	C ₃₁ H ₃₁ N ₃ O ₈ Si
IUPAC name:	(2,5-dioxopyrrolidin-1-yl) 3',7'-bis(dimethylamino)-5',5'-dimethyl-1-oxospiro[2-benzofuran-3,10'-benzo[b][1]benzosilole]-5-carboxylate
Solubility:	ethyl acetate, methanol, acetonitrile, DMF, DCM, DMSO
Quality control:	NMR ¹ H and HPLC-MS (95+%)
Storage conditions:	12 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:	646
ϵ , L·mol ⁻¹ ·cm ⁻¹ :	112000
Emission maximum, nm:	669
Fluorescence quantum yield:	0.57
CF ₂₆₀ :	0.07
CF ₂₈₀ :	0.02