

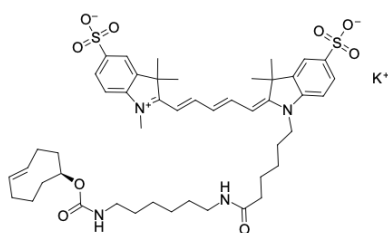
sulfo-Cyanine5 TCO

<http://www.lumiprobe.com/p/sulfo-cy5-tco>

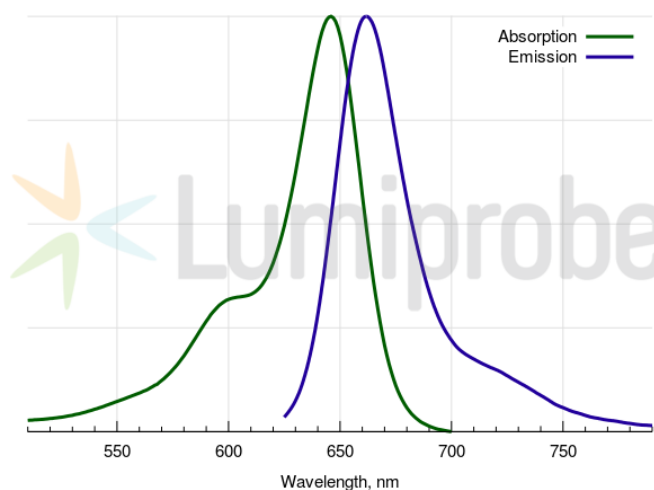
sulfo-Cyanine5 TCO is a water-soluble far-red fluorescent dye derived from sulfo-Cyanine5 and functionalized with a trans-cyclooctene (TCO) group. The molecule is designed for rapid and highly selective bioorthogonal labeling of tetrazine-containing biomolecules via the inverse electron-demand Diels–Alder (IEDDA) reaction.

The sulfo-Cyanine5 fluorophore belongs to the family of cyanine dyes emitting in the far-red region of the spectrum and is characterized by high molar absorptivity, a good quantum yield, and excellent photostability. The presence of two sulfonate groups provides high water solubility and reduces nonspecific interactions with biomolecules, making the dye well-suited for biological applications.

The trans-cyclooctene moiety enables exceptionally fast reaction kinetics with tetrazines, allowing efficient labeling at low reagent concentrations and under mild conditions, including experiments with live cells.



Structure of sulfo-Cyanine5 TCO



Absorbance and emission spectra of sulfo-Cyanine5

General properties

Appearance:	deep-blue crystals
Molecular weight:	931.27
Molecular formula:	$C_{47}H_{63}KN_4O_9S_2$
Solubility:	water, DMSO, DMF
Quality control:	NMR 1H and HPLC-MS (95+%)
Storage conditions:	24 months after receipt at $-20^\circ C$ in the dark. Transportation: at room temperature for up to 3 weeks. Desiccate. Avoid prolonged exposure to light.
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 , $L \cdot mol^{-1} \cdot cm^{-1}$:	271000
Emission maximum, nm:	662
Fluorescence quantum yield:	0.28
CF_{260} :	0.04
CF_{280} :	0.04