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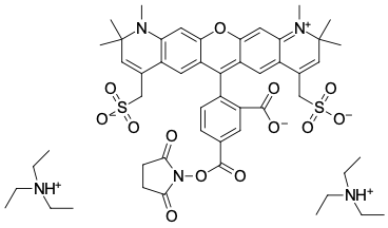
AF 594 NHS ester

http://www.lumiprobe.com/p/af594-nhs-ester

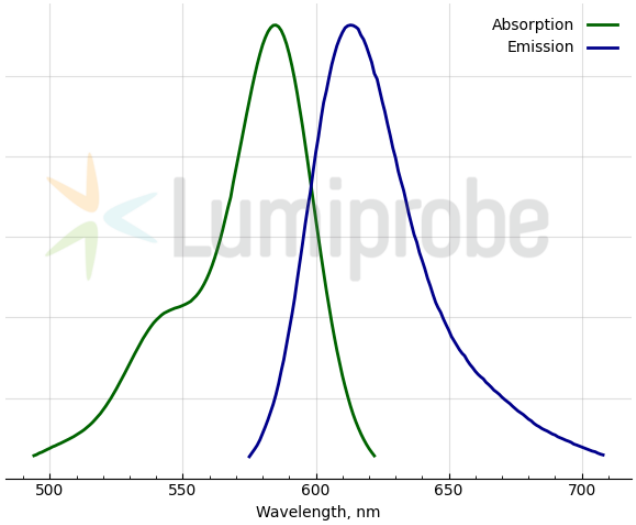
AF 594 is a bright water-soluble dye that is not sensitive to pH changes within the range from 4 to 10. This red-fluorescent dye is commonly used for flow cytometry and fluorescent microscopy.

AF 594 NHS ester is used for labeling proteins, peptides, antibodies, and any molecules containing an -NH2 group (such as amino-modified oligonucleotides); it results in the formation of stable amide bonds between the dye and the target molecule. The best result in conjugation reaction achieved at pH from 7 to 9.

AF 594 can be used for protein labeling with a high molar dye-to-protein ratio. The resulting conjugates with a high degree of labeling (DOL) do not exhibit significant fluorescence quenching. In contrast, the conjugates have brighter fluorescence, which allows increasing the lowest limit of detection of the labeled product.



Structure of AF 594 activated ester, 5-isomer



AF 594 absorbance and emission spectra

General properties

Appearance:	dark-blue crystals
Molecular weight:	1022.23
CAS number:	1638544-48-5
Molecular formula:	$C_{51}H_{67}N_5O_{13}S_2$
IUPAC name:	5-(((2,5-dioxopyrrolidin-1-yl)oxy)carbonyl)-2-(1,2,2,10,10,11-hexamethyl-4,8-bis(sulfonatomethyl)-10,11-dihydro-2H-pyrano[3,2-g:5,6-g']diquinolin-1-ium-6-yl)benzoate
Solubility:	soluble in water, DMSO, DMF
Quality control:	NMR ^{1}H, HPLC-MS (95%)
Storage conditions:	Storage: 12 months after receival at -20°C in the dark. Transportation: at room temperature for up to 3 weeks. Avoid prolonged exposure to light. Desiccate.

Spectral properties

Excitation/absorption maximum, nm:	586
ε, L·mol^{-1}·cm^{-1}:	105000
Emission maximum, nm:	613
Fluorescence quantum yield:	0.77
CF_{260}:	0.28
CF_{280}:	0.51