

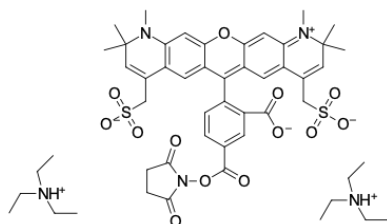
## AF 594 NHS ester

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

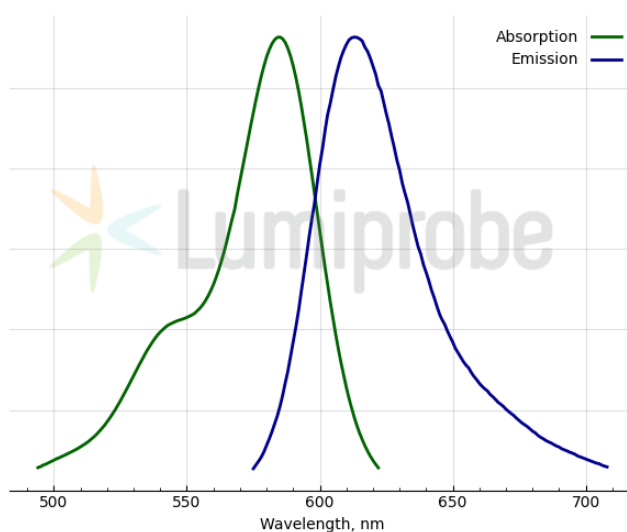
AF 594 is a bright water-soluble dye that is not sensitive to pH changes within the range from 4 to 10. This red-fluorescent dye is commonly used for flow cytometry and fluorescent microscopy.

AF 594 NHS ester is used for labeling proteins, peptides, antibodies, and any molecules containing an -NH<sub>2</sub> 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<sub>51</sub>H<sub>67</sub>N<sub>5</sub>O<sub>13</sub>S<sub>2</sub>  
IUPAC name: 5-(((2,5-dioxopyrrolidin-1-yl)oxy)carbonyl)-2-(1,2,2,10,11-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 <sup>1</sup>H, HPLC-MS (95%)  
Storage conditions: Storage: 12 months after receipt 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<sup>-1</sup>·cm<sup>-1</sup>: 105000  
Emission maximum, nm: 613  
Fluorescence quantum yield: 0.77  
CF<sub>280</sub>: 0.28  
CF<sub>280</sub>: 0.51