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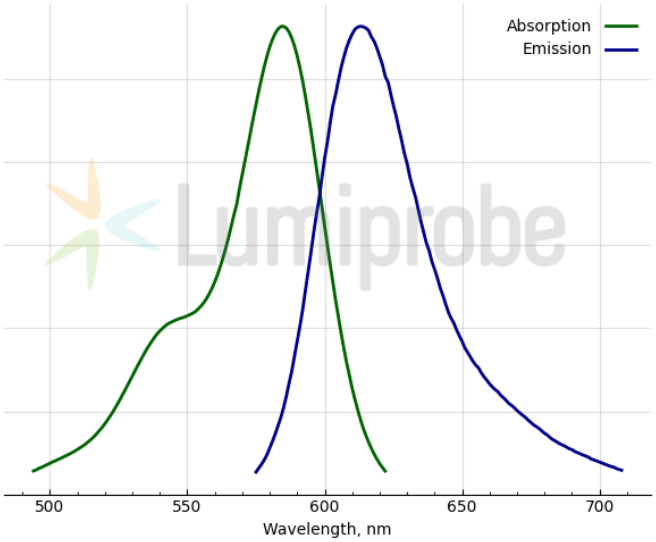
AF 594 C5 maleimide

http://www.lumiprobe.com/p/af-594-c5-maleimide

AF594 C5 Maleimide is a bright, photostable fluorescent dye functionalized with a maleimide group via a flexible pentamethylene (C5) spacer. The maleimide moiety reacts selectively and rapidly with sulfhydryl (—SH) groups at physiological pH (6.5–7.5), forming stable thioether conjugates. The extended hydrophilic spacer minimizes steric hindrance, thereby enhancing the labeling efficiency of proteins, antibodies, peptides, and other biomolecules containing free cysteine residues or thiols introduced through the reduction of disulfide bonds.

The dye exhibits excellent water solubility and low pH sensitivity. It is ideally suited for confocal microscopy, super-resolution microscopy (STED, SIM), and long-duration experiments due to its high photobleaching resistance.



Absorption and emission spectra of AF 594

General properties

Appearance:	dark blue crystals
Molecular weight:	887.00
Molecular formula:	$C_{44}H_{46}N_4O_{12}S_2$
IUPAC name:	4-[5-(2,5-dioxopyrrol-1-yl)pentylcarbamoyl]-2-[6,7,7,19,19,20-hexamethyl-9,17-bis(sulfomethyl)-2-oxa-20-aza-6-azoniapentacyclo[12.8.0.03,12.05,10.016,21]docosa-1(14),3,5,8,10,12,15,17,21-nonaen-13-yl]benzoic acid
Solubility:	good solubility in water, DMSO, DMF, and acetonitrile; limited solubility in DCM
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.
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:	586
ε, $L \cdot mol^{-1} \cdot cm^{-1}$:	105000
Emission maximum, nm:	613
Fluorescence quantum yield:	0.77
CF_{260}:	0.28
CF_{280}:	0.51