

Product number: K5-3222

**Product name: 5-(and-6)-Carboxy-X-rhodamine,
inner salt, NHS ester**

General Data

Molecular Mass: 631.67

Solubility: Water, Alcohol, DMF, DMSO

Insoluble: Acetone, Chloroform, Toluene

Storage: Store out of light, desiccated and refrigerate

Description

- Amine-reactive, neutral fluorescent label containing one reactive NHS-ester groups

Applications

- Covalent labeling of proteins, amino-modified DNA and amino-modified oligonucleotides

Advantages

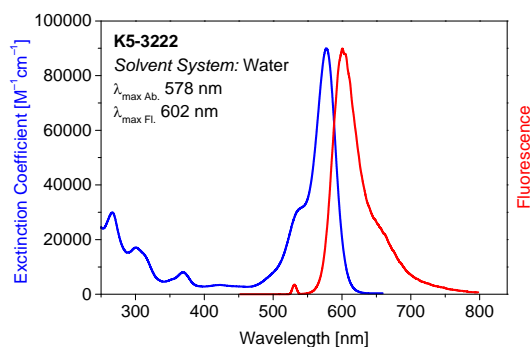
- Perfectly suited for excitation with the 532-nm diode laser
- Sensitive; high extinction coefficient and high quantum yield up to 55% after covalent attachment to proteins
- Good aqueous solubility; this label does not alter the solubility of the dye-conjugate
- Low molecular weight — **K5-3222** does not add substantial mass to the conjugates
- Ideal for non-radioactive labeling of proteins, amino-modified DNA probes and amino-modified oligonucleotides

Spectral Data

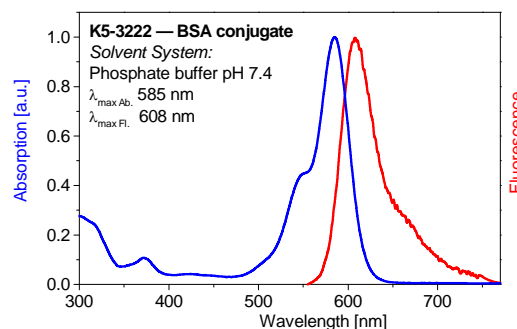
Sample	Dye-to-protein Ratio	Solvent System	Absorption max. [nm]	Extinction Coefficient [$M^{-1}\cdot cm^{-1}$]	Fluorescence ¹ max. [nm]	Quantum Yield [%]
Free dye	—	Water	578	90,000	602	55
BSA conjugate 1	0.1	PB 7.4	585		605	41
BSA conjugate 2	0.2	PB 7.4	585		605	37
BSA conjugate 3	0.5	PB 7.4	585		606	26
BSA conjugate 4	1	PB 7.4	585		608	15
BSA conjugate 5	1.5	PB 7.4	585		609	8

¹ Excitation at 532 nm

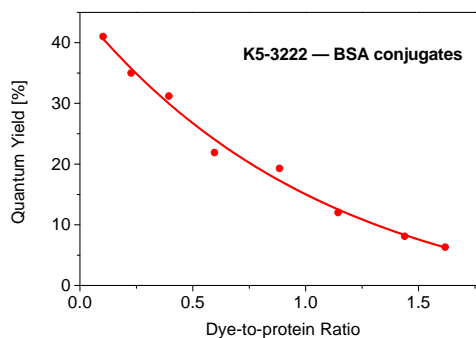
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Absorption and fluorescence spectra of **K5-3222** in water



Absorption and fluorescence spectra of **K5-3222 — BSA conjugate** (D/P = 1) in phosphate buffer (pH 7.4)



Quantum Yield vs Dye-to-protein Ratio of **K5-3222 — BSA conjugates** in phosphate buffer (pH 7.4)