

Product number: K4-205
Product name: Seta-375-NHS

General Data

- Molecular Mass:** 514.37
- Solubility:** Water, Alcohol, DMF
- Insoluble:** Benzene, Toluene
- Storage:** Store in absence of light, desiccate and refrigerate

Description

- Extremely bright, positively charged, water-soluble amine-reactive label containing one NHS-ester group

Applications

- Covalent labeling of proteins, amino-modified DNA and amino-modified oligonucleotides
- Resonance Energy Transfer (RET)
- Flow Cytometry
- Immunofluorescence
- Gene Expression
- Homogeneous Assays
- Assessment of protein structure

Advantages

- Perfectly suited for excitation with 330, 375 and 380-nm diode lasers
- Large Stokes' shift** of about 100 nm
- Low molecular weight — **Seta** dyes do not add substantial mass to the conjugates
- Ideal for non-radioactive labeling of proteins, amino-modified DNA probes and amino-modified oligonucleotides

Spectral Data

Solvent System: phosphate buffer pH 7.4

Sample	Dye-to-protein Ratio	Absorption max. [nm]	Extinction Coefficient [$M^{-1}cm^{-1}$]	Fluorescence max. [nm]	Quantum Yield ¹ [%]	Fluorescence Lifetime at 25 °C [ns]
Free dye	—	372	24,500	476	86	3.14 ² ; 3.20 ^{3,4}
IgG conjugate 1	0.5	372		480	22	4.1 ⁵
IgG conjugate 2	1.0	372		480	24	4.0 ⁵
IgG conjugate 3	3.0	372		480	30	3.8 ⁵
IgG conjugate 4	5.0	372		480	42	3.5 ⁵

¹ Excitation at 355 nm.

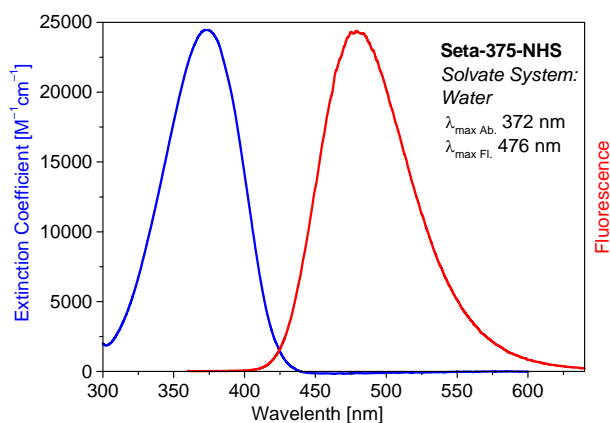
² Measured for **K4-204** (free acid), ISS Chronos BH, vs. Ludox, water, $\lambda_{ex.} = 408$ nm laser, $\tau = 3.14 \pm 0.01$ ns, $\chi^2 = 1.12$.

³ Measured for **K4-204** (free acid), ISS Chronos FD, PB, $\lambda_{ex.} = 370$ nm LED, $\tau = 3.20$ ns; $\chi^2 = 1.15$.

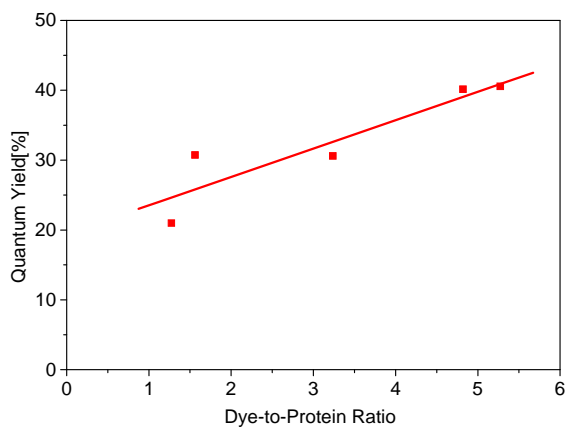
⁴ Measured for **K4-204** (free acid), ISS Chronos BH, vs. Ludox, water, $\lambda_{ex.} = 370$ nm LED, $\tau = 3.20 \pm 0.01$ ns, $\chi^2 = 1.22$.

⁵ ISS Chronos FD, PB, $\lambda_{ex.} = 370$ nm LED.

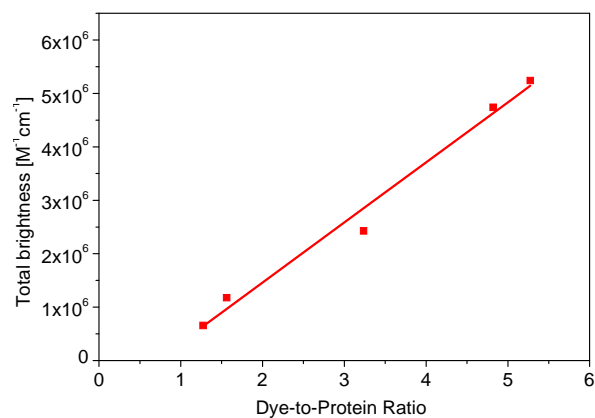
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Absorption and emission spectrum of **Seta-375-NHS** in phosphate buffer (pH 7.4)



Quantum yield vs. dye-to-protein ratio of **Seta-375 – IgG conjugates** in phosphate buffer (pH 7.4)



Total brightness (Q.Y. x D/P x ϵ) of **Seta-375 – IgG conjugates** in phosphate buffer (pH 7.4)