SETA BioMedicals
http://www.setabiomedicals.com
e-mail: info@setabiomedicals.com

Product number: K9-4113
Product name: Seta-665-di-NHS

General Data

Molecular Mass: 1868.18

Solubility: Water, Alcohol, DMF, DMSO

Insoluble: Acetone, Chloroform, Toluene

Storage: Store in absence of light, desiccate and refrigerate

Description

Extremely bright and photostable, amine-reactive fluorescent label containing two reactive NHS-ester groups

Applications

Covalent labeling of proteins, amino-modified DNA and amino-modified oligonucleotides
Fluorescence Polarization Label - this label combines a long lifetime and high fundamental anisotropy

Advantages

- Perfectly suited for excitation with the 665-nm, 650-nm, or 647-nm lasers
- **Extremely sensitive:** high extinction coefficients and high quantum yields of 60% in aqueous environments
- **Good aqueous solubility:** this label does not alter the solubility of the protein conjugate
- **Ozone stability:** Higher ozone stability than Alexa Fluor™ 647 or Cy5 enables array experiments to be performed with **SeTau 665** under any environmental condition
- **Low molecular weight**: — ***SeTau*** dyes do not add substantial mass to the conjugates
- **Photostability:** Much higher photostability than Alexa Fluor 647 or Cy5
- **Long fluorescence lifetime:** ~ 3.1 ns in water
- Ideal for non-radioactive labeling of proteins, amino-modified DNA probes and amino-modified oligonucleotides
- **SeTau-665** shows a **record increase of up to 400 times** in single molecule measurement on silver island films

Spectral Data

Solvent System: water

Sample	Dye-to-protein Ratio	Absorption max. [nm]	Extinction Coefficient [$M^{-1} \cdot cm^{-1}$]	Fluorescence* max. [nm]	Quantum Yield [%]
Free dye	—	665	~ 150,000	707	**64**
IgG conjugate	1.0	664		709	38
IgG conjugate	3.0	664		709	33

* Excitation at 620 nm

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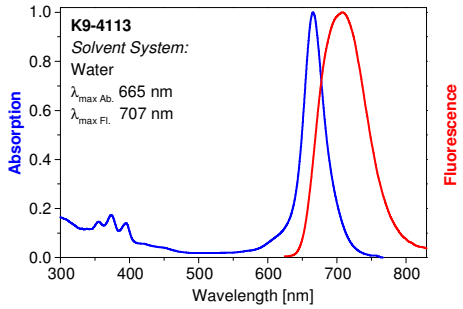
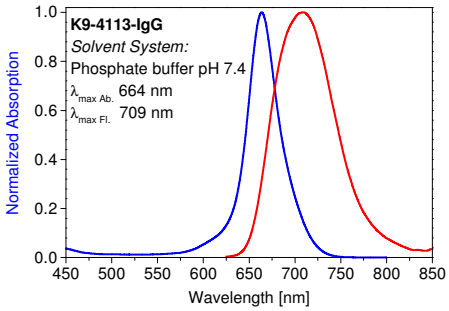
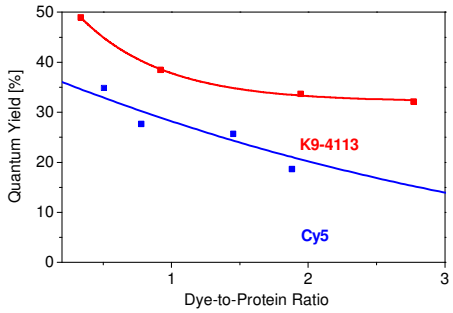


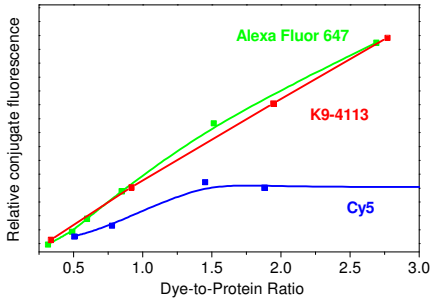
Absorption and emission spectrum
of a **K9-4113** in phosphate buffer
(pH 7.4)



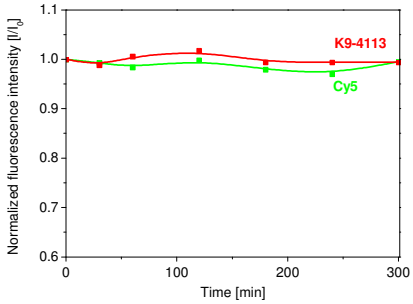
Absorption and emission spectrum
of a **K9-4113 — IgG conjugate** in phosphate buffer
(pH 7.4, Dye-to-protein ratio 0.9)



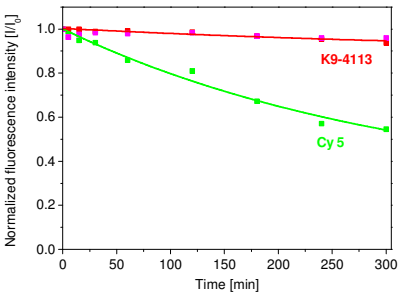
Quantum yield *vs.* dye-to-protein ratio of **K9-4113 – IgG conjugates** in phosphate buffer (pH 7.4)



Relative fluorescence (Q.Y x D/P ratio) of **K9-4113 — IgG conjugates** in phosphate buffer (pH 7.4) as compared to Cy5 and Alexa Fluor 647 conjugates



Changes in fluorescence intensity
of K9-4113 as compared to Cy5 in bicarbonate buffer pH 9.4
in absence of light



Decrease in fluorescence intensity
of K9-4113 in water compared to Cy5
upon exposure to light

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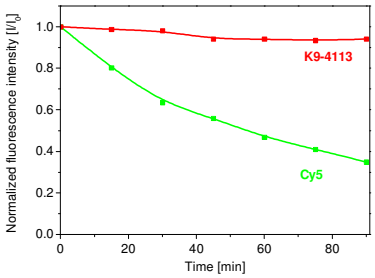
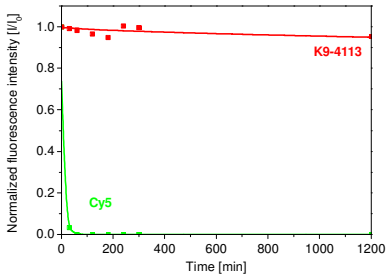


Decrease in fluorescence intensity of K9-4113 as compared to Cy5 in water in presence of (35%) H_2O_2



Change in fluorescence intensity of K9-4113 as compared to Cy5 in buffer pH 9.4 in presence of H_2O_2 (35%)