

Product number: K8-1782
Product name: Seta-660-B-di-NHS

General Data

- Molecular Mass:** 1565.57(protonated form)
Solubility: Water, Alcohol, DMF, DMSO
Insoluble: Acetone, Chloroform, Toluene
Storage: Store out of light, desiccated and refrigerate

Description

Amine-reactive fluorescent label containing two reactive NHS-ester groups.

Applications

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

Fluorescence Lifetime Label — this label exhibits a distinct lifetime change upon binding to a biomolecule

Advantages

- Perfectly suited for excitation with the 635 and 670-nm diode laser, 404, 436, 470-nm diode lasers, and UV light
- Sensitive; high extinction coefficient and high quantum yield up to 30% after covalent attachment to proteins
- When bound to a protein the quantum yield is higher as compared to **Cy5TM**
- Low non-specific binding
- pH-insensitive between pH 3 and pH 10
- Good aqueous solubility; this label does not alter the solubility of the protein conjugate
- High photostability; e.g. compared to fluorescein or **Cy5TM**
- 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

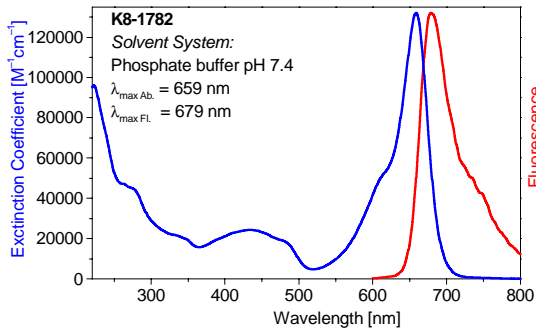
Solvent system: phosphate buffer, pH 7.4

Sample	Dye-to-protein Ratio	Absorption max. [nm]	Extinction Coefficient [M ⁻¹ .cm ⁻¹]	Fluorescence* max. [nm]	Quantum Yield [%]
Free dye	—	659	132,000	679	9
BSA conjugate 1	0.5	674		696	31
BSA conjugate 2	0.9	672		695	28
IgG conjugate	1.5	665		684	16

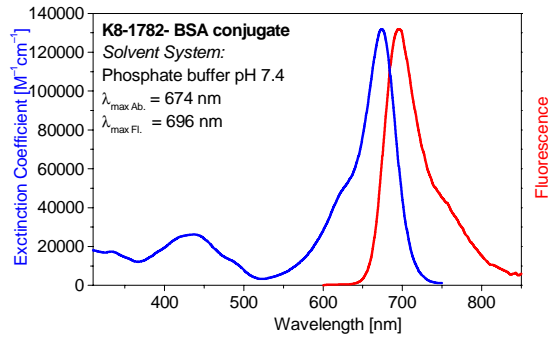
* Excitation at 620 nm

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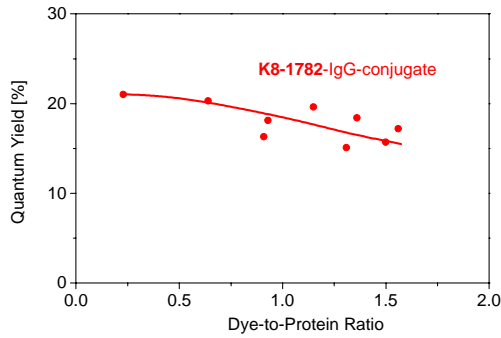
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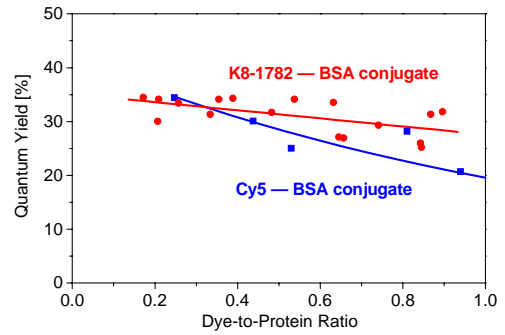
Absorption and fluorescence spectra of **K8-1782** in phosphate buffer (pH 7.4)



Absorption and fluorescence spectra of **K8-1782 — BSA conjugate** in phosphate buffer (pH 7.4)



Quantum Yield vs. Dye-to-protein Ratio of **K8-1782 — IgG conjugates** in phosphate buffer (pH 7.4)

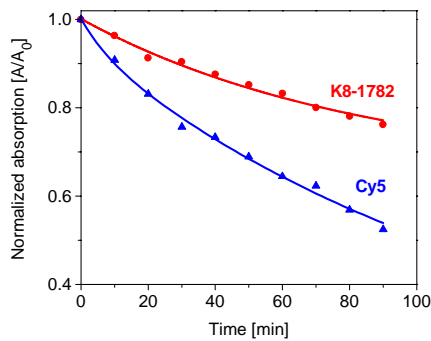


Quantum Yield vs. Dye-to-protein Ratio of **K8-1782 — BSA conjugates** as compared to **Cy5 — BSA conjugates** in phosphate buffer (pH 7.4)

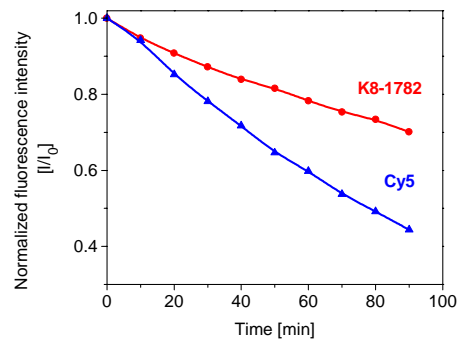
Photostability

when exposed to light from a halogen lamp (200 W)

Solvent System: phosphate buffer pH 7.4



Decay of the long-wavelength absorption band of **K8-1782** as compared to **Cy5™**



Decay of the fluorescence intensity of **K8-1782** as compared to **Cy5™**