

Product number: K8-1342

Product name: Seta-670-mono-NHS

General Data

- Molecular Mass:** 966.07
- Solubility:** Water, Alcohol, DMF, DMSO
- Insoluble:** Acetone, Chloroform, Toluene
- Storage:** Store out of light, desiccated and refrigerate

Description

High hydrophilic, amine-reactive fluorescent label containing one reactive NHS-ester group.

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
- Resonance Energy Transfer (RET)
- Single molecule, homo-FRET measurements
- Flow Cytometry
- Immunofluorescence
- Gene Expression
- Homogeneous Assays
- Assessment of protein structure

Advantages

- Perfectly suited for excitation with the 380, 404, 635, 670-nm diode lasers and UV light
- Sensitive; high extinction coefficients and high quantum yields up to 50% after covalent attachment to proteins
- Quantum yield is increased when covalently and non-covalently bound to protein
- 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 Cy5™
- 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

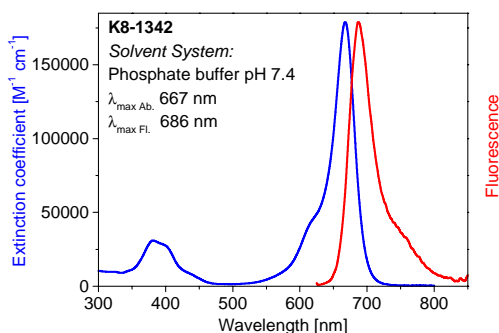
Solvent System: phosphate buffer pH 7.4

Sample	Dye-to-protein Ratio	Absorption max. [nm]	Extinction Coefficient [M ⁻¹ .cm ⁻¹]	Fluorescence* max. [nm]	Quantum Yield [%]
Free dye	—	667	179,000	686	7
BSA conjugate 1	0.5	681		695	45
BSA conjugate 2	1.0	681		696	38
BSA conjugate 3	1.3	681		698	32

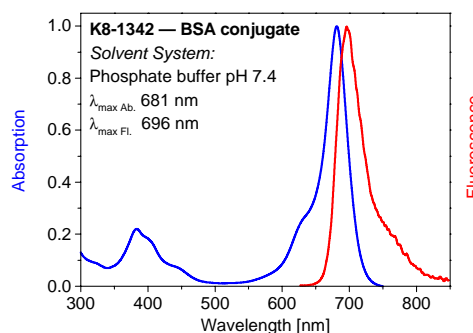
* Excitation at 635 nm

Quantum yield is increased when covalently and non-covalently bound to protein.

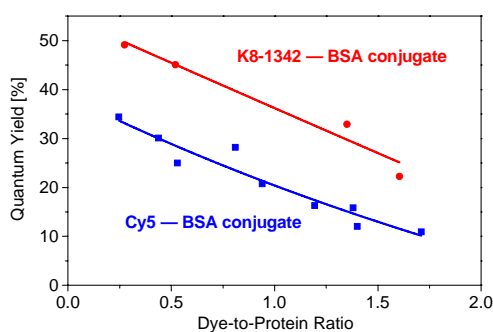
Product number: K8-1342
Product name: Seta-670-mono-NHS



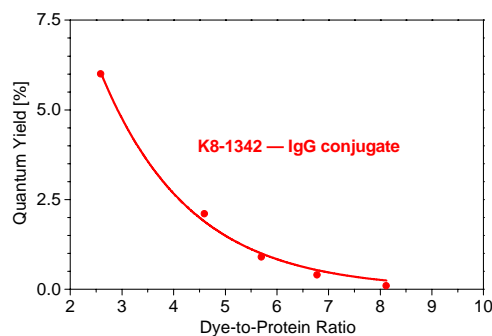
Absorption and fluorescence spectra of **K8-1342** in phosphate buffer (pH 7.4)



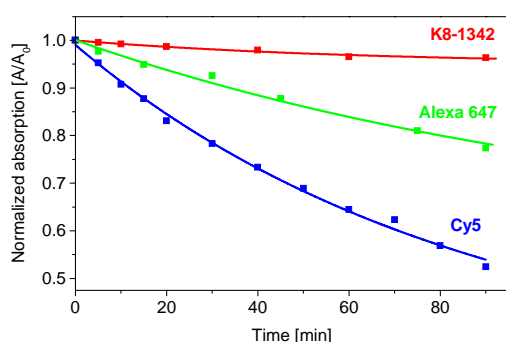
Absorption and fluorescence spectra of **K8-1342 — BSA conjugate** in phosphate buffer (pH 7.4) (Dye-to-protein ratio 1.0)



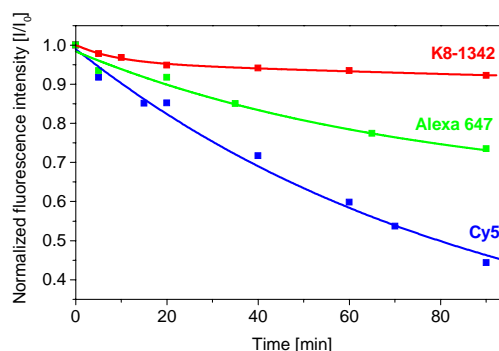
Quantum Yield vs Dye-to-protein Ratio of **K8-1342 — BSA conjugates** in phosphate buffer (pH 7.4)



Quantum Yield vs Dye-to-protein Ratio of **K8-1342 — IgG conjugates** in phosphate buffer (pH 7.4)



Relative decrease of the long-wavelength absorption band of **K8-1342** as compared to **Cy5** and **Alexa Fluor 647** upon irradiation with a Xenon lamp



Relative decrease of the emission of **K8-1342** as compared to **Cy5** and **Alexa Fluor 647** upon irradiation with a Xenon lamp