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

Product number: K8-1352
Product name: Square-660-mono-NHS

General Data

Molecular Mass: 735.81 (protonated form)

Solubility: Alcohol, DMF, DMSO, Low soluble in Water

Insoluble: Acetone, Chloroform,Toluene

Storage: Store out of light, desiccated and refrigerate

Description

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)
- Flow Cytometry
- Immunofluorescence
- Gene Expression
- Homogeneous Assays
- Assessment of protein structure

Advantages

- Perfectly suited for excitation with the 404, 635, 670-nm diode lasers and UV light
- Sensitive; high extinction coefficients and high quantum yields up to 25% after covalent attachment to proteins
- 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 **Cy5**™
- Low molecular weight — ***Square*** 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 [%]	Fluorescence Lifetime [ns]
Free dye	—	658	182,000	677	3	0.29
BSA conjugate 1	0.5	676		695	25	
BSA conjugate 2	1.0	676		695	13	
BSA conjugate 3	1.2	676		695	8	3.32

* Excitation at 620 nm

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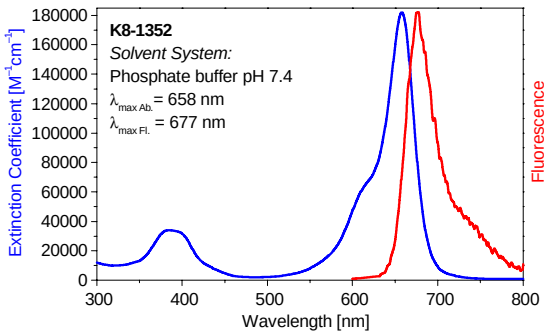
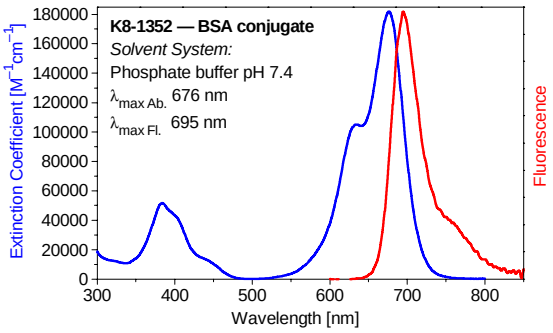
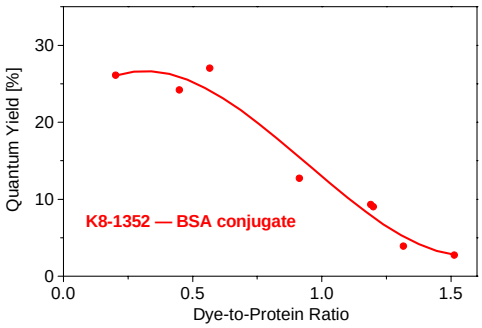


Absorption and fluorescence spectra of **K8-1352** in phosphate buffer (pH 7.4)



Absorption and fluorescence spectra of **K8-1352 — BSA conjugate** in phosphate buffer (pH 7.4, Dye-to-protein ratio 1.2)

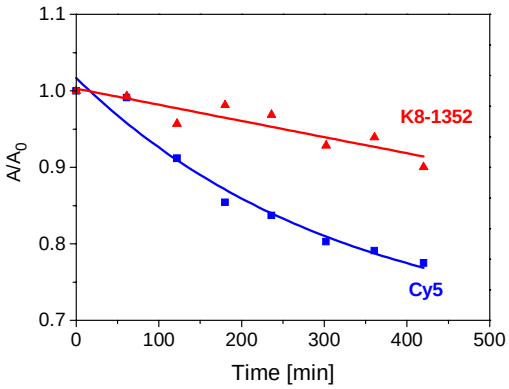


Quantum Yield *vs* Dye-to-protein Ratio of **K8-1352 — BSA conjugates** in phosphate buffer (pH 7.4)

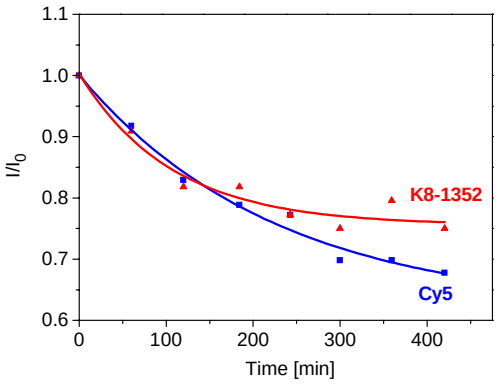
Photostability

when exposed to light from a lamp (200 W)

Solvent System: phosphate buffer pH 7.4



Decay of the long-wavelenght absorption band of **K8-1352** as compared to **Cy5**™



Decay of the fluorescence intensity of **K8-1352** as compared to **Cy5**™