SETA BioMedicals
Fluorescent Tools for BioMedical Applications

Product number: K8-1663
Product name: Seta-633-NHS

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

General Data

Molecular Mass: 1012.11 (protonated form)

Solubility: Water, Alcohol, DMF, DMSO

Insoluble: Acetone, Chloroform, Toluene

Storage: Store in absence of light, desiccate and refrigerate

Description

- Highly hydrophilic, amine-reactive label containing one NHS-ester group. Brighter (ε = 250,000 $M^{-1}cm^{-1}$, QY = 26% (IgG, D/P =1)) and more photostable replacement for Alexa 633.

Applications

- Covalent labeling of proteins, amino-modified DNA and amino-modified oligonucleotides
- Fluorescence intensity and fluorescence polarization-based applications
- Resonance Energy Transfer (RET)
- Flow Cytometry
- Immunofluorescence
- Gene Expression
- Homogeneous Assays
- Microarrays

Advantages

- Perfectly suited for excitation with the 594, 633 or 635 nm diode lasers
- Sensitive; high extinction coefficients and quantum yields highly increase after covalent attachment to biomolecules
- pH-insensitive between pH 3 and pH 10
- Good aqueous solubility; this label does not alter the solubility of the bioconjugate
- High photostability; e.g. compared to fluorescein, Cy5™ or Alexa Fluor™ 647
- Low molecular weight — **Seta** dyes do not add substantial mass to the conjugates
- Ideal for non-radioactive labeling of proteins, amino-modified oligonucleotides and amino-modified lipids

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] [%]
Free dye	—	633	250,000	644	7
BSA conjugate 1	1.0	646		656	51
BSA conjugate 2	2.0	647		656	43
BSA conjugate 3	3.0	647		656	37
BSA conjugate 4	4.0	647		656	32
IgG conjugate 1	1.0	637		647	26
IgG conjugate 2	2.0	637		647	23
IgG conjugate 3	3.0	637		647	20
IgG conjugate 4	7.0	637		647	15

[1] Excitation at 600 nm

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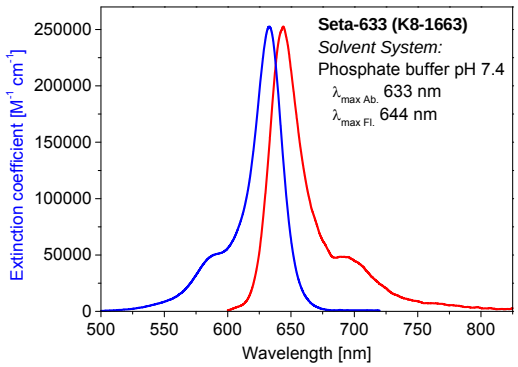
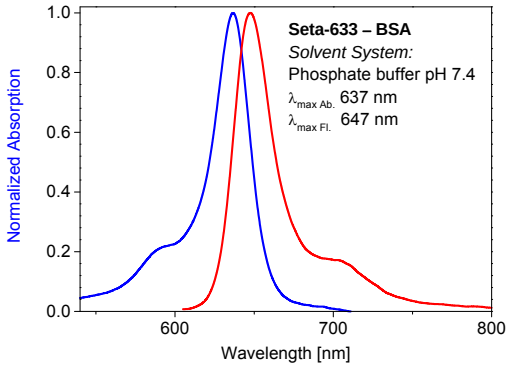
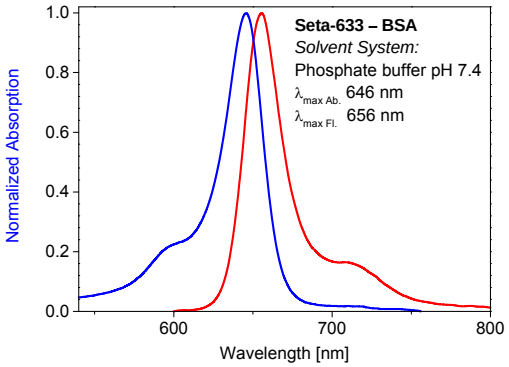


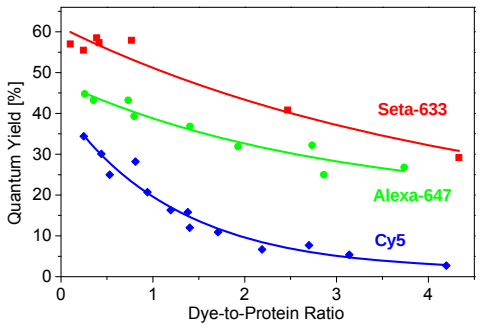
Absorption and emission spectrum of **Seta-633 (K8-1663)** in phosphate buffer (pH 7.4)



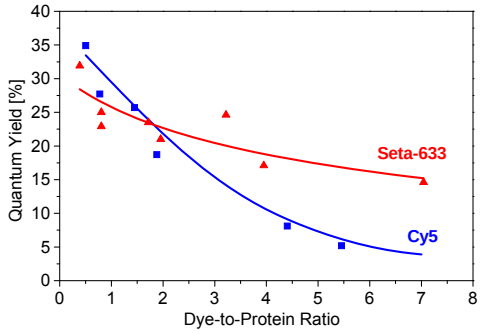
Absorption and emission spectrum of a **Seta-633 — IgG conjugate** in phosphate buffer (pH 7.4, Dye-to-protein ratio 0.8)



Absorption and emission spectrum of a **Seta-633 — BSA conjugate** in phosphate buffer (pH 7.4, Dye-to-protein ratio 1.7)



Quantum yield *vs.* dye-to-protein ratio of **Seta-633 — BSA conjugates** in phosphate buffer (pH 7.4)



Quantum yield *vs.* dye-to-protein ratio of **Seta-633 — IgG conjugates** in phosphate buffer (pH 7.4)

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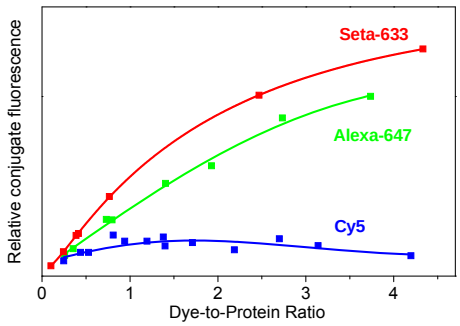
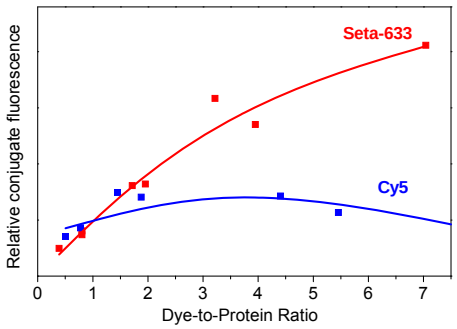


Relative fluorescence (Q.Y x D/P ratio) of **Seta-633 — BSA conjugates** in phosphate buffer (pH 7.4) as compared to Alexa 647 and Cy5 conjugates

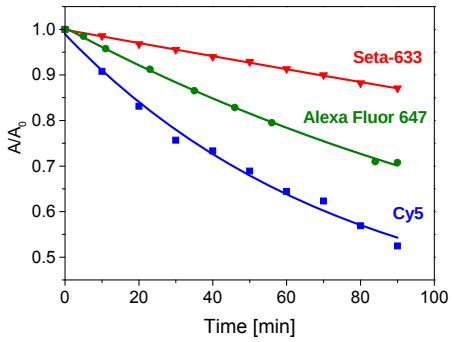


Relative fluorescence (Q.Y x D/P ratio) of **Seta-633 — IgG conjugates** in phosphate buffer (pH 7.4) as compared to Cy5 conjugates

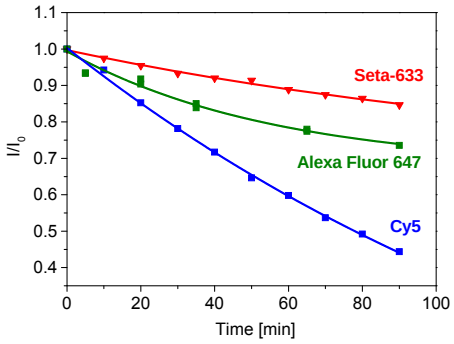
Photostability

when exposed to light from a halogen lamp (150 W)

Solvent System: phosphate buffer pH 7.4



Relative decrease of the absorption maximum of **Seta-633** as compared to **Cy5** and **Alexa Fluor 647**



Decrease of the fluorescence intensity of **Seta-633** as compared to **Cy5** and **Alexa Fluor 647**