

Product number: K8-1682

Product name: Seta-660-di-NHS

General Data

- Molecular Mass:** 1972.49
1455.52 (protonated form)
- Solubility:** Water, Alcohol, DMF, DMSO
- Insoluble:** Acetone, Chloroform, Toluene
- Storage:** Store in absence of light, desiccate and refrigerate

Description

- Extremely bright, hydrophilic, amine-reactive label containing two NHS-ester groups. QYs of up to 50% when covalently labeled to IgG.

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

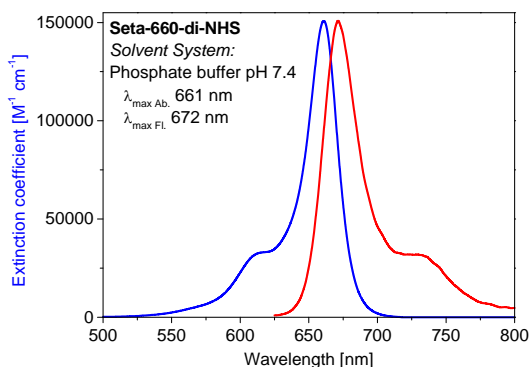
- Perfectly suited for excitation with the 635-nm and 650-nm diode lasers
- Sensitive; high extinction coefficients and high quantum yields after covalent attachment to biomolecules
- Brighter replacement for Alexa 660** (QY = 37%, $\epsilon = 132,000 \text{ M}^{-1}\text{cm}^{-1}$). **Seta-660:** QY = 49%, $\epsilon = 220,000 \text{ M}^{-1}\text{cm}^{-1}$
- 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** and **Alexa 647** or **Alexa 660**
- 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

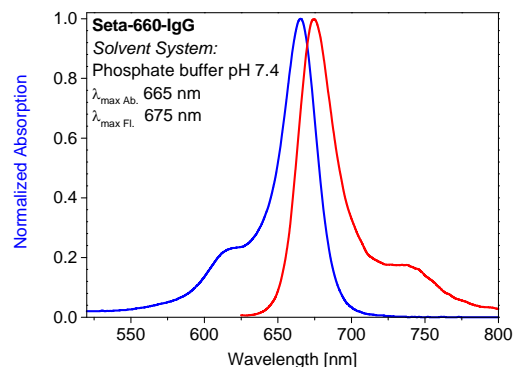
Solvent System: phosphate buffer pH 7.4

Sample	Dye-to-protein Ratio	Absorption max. [nm]	Extinction Coefficient [$\text{M}^{-1}\cdot\text{cm}^{-1}$]	Fluorescence max. [nm]	Quantum Yield ¹ [%]
Free dye	—	661	220,000	672	11
IgG conjugate 1	1.0	665		675	49
IgG conjugate 2	2.0	665		675	43
IgG conjugate 3	3.0	665		675	38
IgG conjugate 4	4.0	665		675	34

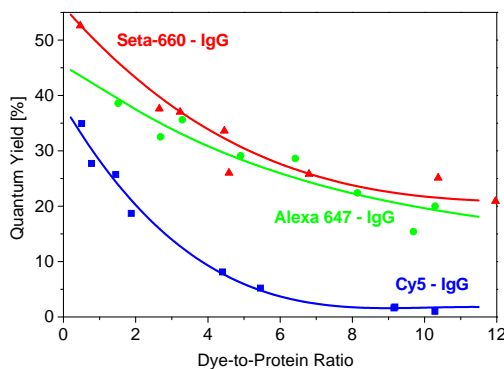
¹ Excitation at 620 nm



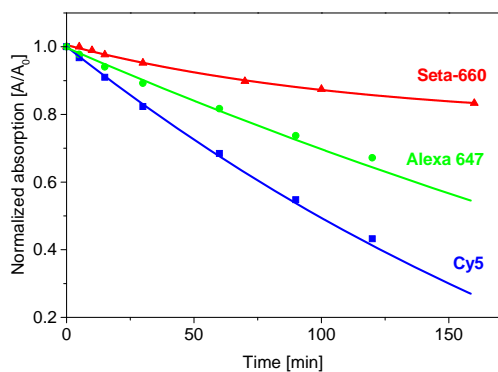
Absorption and emission spectrum of **Seta-660-di-NHS** in phosphate buffer (pH 7.4)



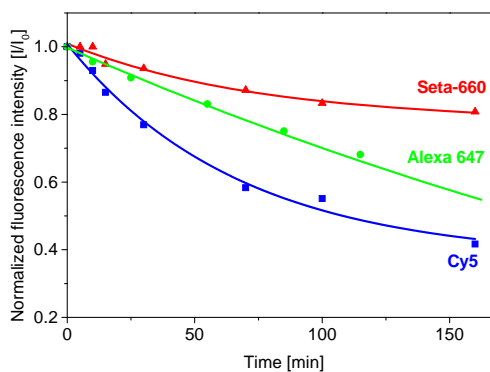
Absorption and emission spectrum of a **Seta-660 — IgG conjugate** in phosphate buffer (pH 7.4, Dye-to-protein ratio 1)



Quantum yield vs. dye-to-protein ratio of **Seta-660 — IgG conjugates** in phosphate buffer (pH 7.4)



Photostability: Decay of the long-wavelength absorption band of **Seta-660** compared to **Cy5** and **Alexa 647** under light exposure



Photostability: Decay of the fluorescence intensity of **Seta-660** compared to **Cy5** and **Alexa 647** under light exposure