

**Product number: K8-1626**

**Product name: Seta-633-di-NHS**

## General Data

- Molecular Mass:** 1453.76  
1195.27 (protonated form)
- Solubility:** water, DMF, DMSO
- Insoluble:** acetone, chloroform, toluene
- Storage:** Store in absence of light, desiccate and refrigerate

## Description

- Highly hydrophilic, amine-reactive label containing two reactive NHS-ester groups.

## 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.
- Homogeneous Assays.

## Advantages

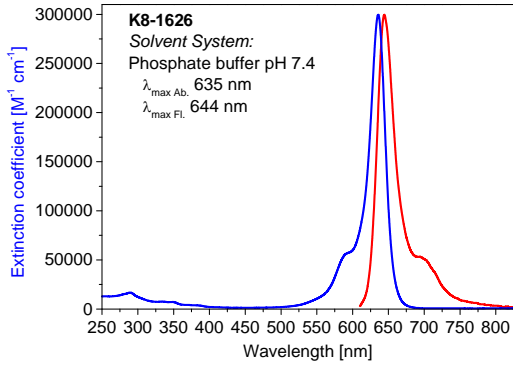
- Perfectly suited for excitation with the 635-nm diode laser.
- Sensitive; high extinction coefficients and high quantum yields after covalent attachment to biomolecules.
- Low non-specific binding.
- pH-insensitive between pH 3 and pH 10.
- Good aqueous solubility; this label does not alter the solubility of the bioconjugate.
- High photostability 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

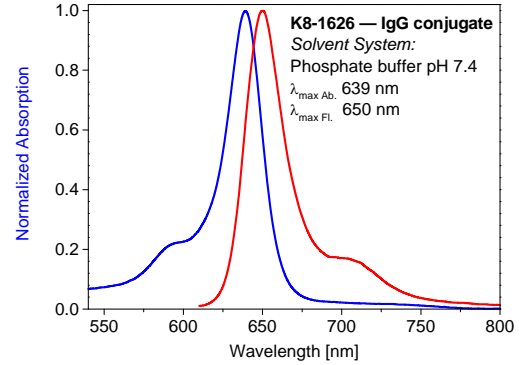
**Solvent System:** phosphate buffer pH 7.4

Sample	Dye-to-protein Ratio	Absorption max. [nm]	Extinction Coefficient [ $M^{-1}\cdot cm^{-1}$ ]	Fluorescence max. [nm]	Quantum Yield <sup>1</sup> [%]
Free dye	—	635	192,000	644	12
IgG conjugate 1	1.0	639		650	33
IgG conjugate 2	3.0	639		650	25
IgG conjugate 3	6.3	639		650	18

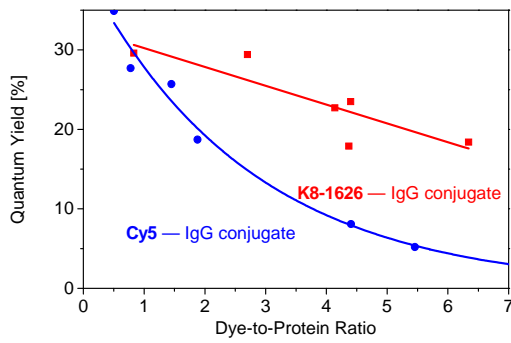
<sup>1</sup> Excitation at 600 nm



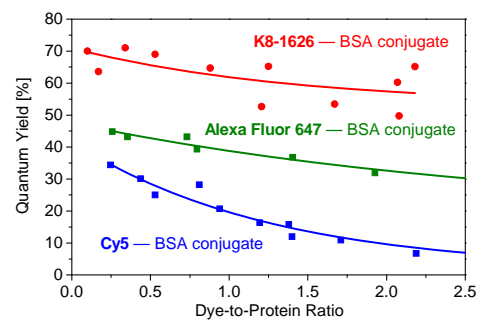
Absorption and emission spectrum of **Seta-633-di-NHS** in phosphate buffer (pH 7.4)



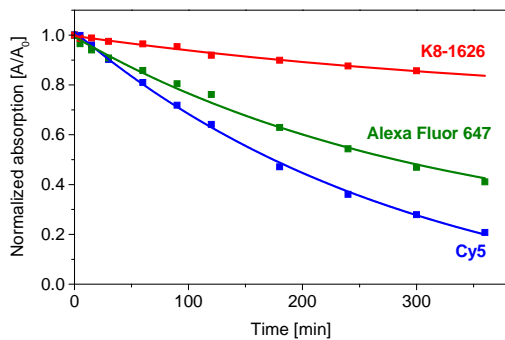
Absorption and emission spectrum of a **Seta-633-di-IgG conjugate** in phosphate buffer (pH 7.4, Dye-to-protein ratio 0.7)



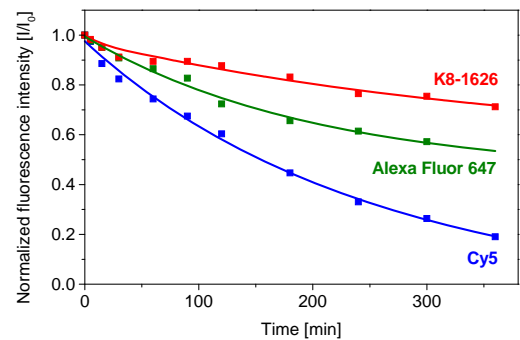
Quantum Yield vs. Dye-to-protein Ratio of **Seta-633-di-NHS-IgG conjugates** as compared to **Cy5** in phosphate buffer (pH 7.4)



Quantum Yield vs Dye-to-protein Ratio of **Seta-633-di-NHS-BSA conjugates** as compared to **Cy5** and **Alexa Fluor 647** in phosphate buffer (pH 7.4)



Decrease in relative absorption  $[A/A_0]$  of **Seta-633-di-NHS** compared to **Cy5** and **Alexa Fluor 647** upon exposure to 500 W lamp



Decrease in relative fluorescence intensity  $[I/I_0]$  of **Seta-633-di-NHS** compared to **Cy5** and **Alexa Fluor 647** upon exposure to 500 W lamp