

Product number: K8-5075

Product name: Seta-680-NHS

General Data

Molecular Mass: 1272.36

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.

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 670 nm diode lasers
- Sensitive; high extinction coefficients and high quantum yields after covalent attachment to biomolecules
- Quantum yield is highly increased after covalent and non-covalent association with proteins
- 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 or Cy5.5TM
- 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

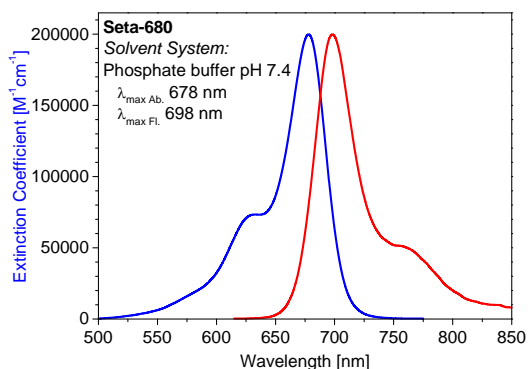
Spectral Data

Solvent System: phosphate buffer pH 7.4

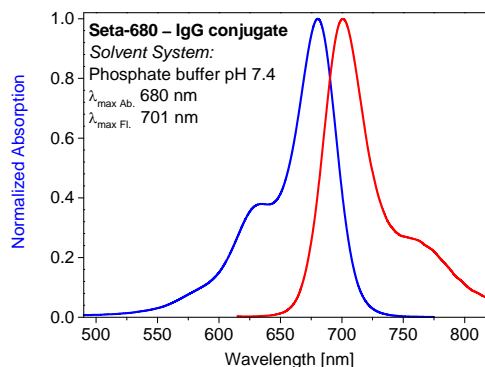
Sample	Dye-to-protein Ratio	Absorption max. [nm]	Extinction Coefficient [$M^{-1}\cdot cm^{-1}$]	Fluorescence max. [nm]	Quantum Yield ¹ [%]
Free dye	—	678	200,000	698	24
IgG conjugate 1	0.5	680		701	32
IgG conjugate 2	1.0	680		701	30
IgG conjugate 3	4.0	680		701	21

¹ Excitation at 620 nm

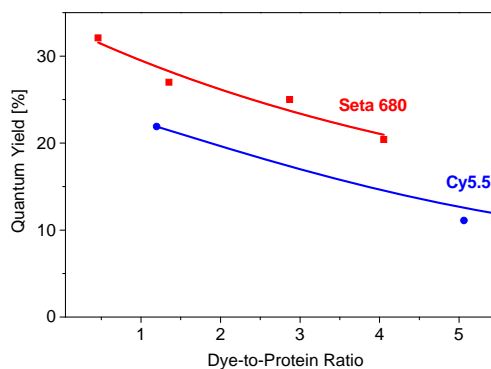
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Absorption and emission spectrum of **Seta-680** in phosphate buffer (pH 7.4)



Absorption and emission spectrum of a **Seta-680 - IgG conjugate** in phosphate buffer (pH 7.4, Dye-to-protein ratio ~1.4)



Quantum yield vs. dye-to-protein ratio of **Seta-680 - IgG conjugates** in phosphate buffer (pH 7.4)