

Product number: K8-7035

Product name: Seta-750-mono-NHS

General Data

- Molecular Mass:** 1268.58
1010.10 (protonated form)
- Solubility:** Water, Alcohol, DMF, DMSO
- Insoluble:** Acetone, Chloroform, Toluene
- Storage:** Store in absence of light, desiccate and refrigerate

Description

Seta-750-mono-NHS (K8-7035) is a hydrophilic, amine-reactive label containing one NHS-ester group with almost identical absorption and emission as **Cy7** or **Alexa 750** and can therefore be used with these filter sets. It combines high photostability and brightness. Its extinction coefficient is $235,000 \text{ M}^{-1}\text{cm}^{-1}$.

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 695 nm or 740 nm diode lasers
- Sensitive; high extinction coefficients and high quantum yields
- pH-insensitive between pH 3 and pH 10
- Good aqueous solubility; this label does not alter the solubility of bioconjugates
- High photostability; e.g. compared to fluorescein or **Cy7**
- Low molecular weight — **Seta-750** does not add substantial mass to the conjugates
- Ideal for non-radioactive labeling of proteins, amino-modified oligonucleotides and amino-modified lipids

Spectral Data

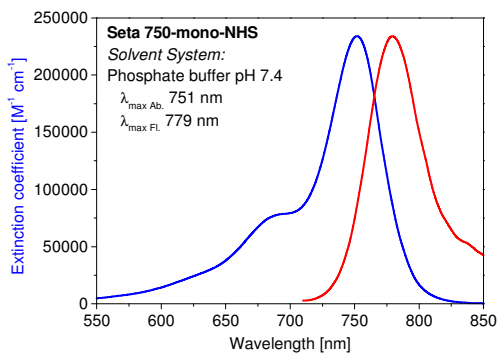
Solvent System: phosphate buffer pH 7.4

Sample	Dye-to-protein Ratio	Absorption max. [nm]	Extinction Coefficient [$\text{M}^{-1}\cdot\text{cm}^{-1}$]	Fluorescence* max. [nm]	Quantum Yield [%]
Free dye	-	751	235,000	779	13
IgG conjugate 1	1.0	756		782	14
IgG conjugate 2	2.0	755		782	12
IgG conjugate 3	4.0	755		782	10

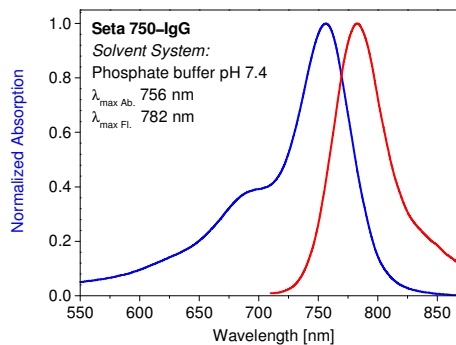
* Excitation at 700 nm

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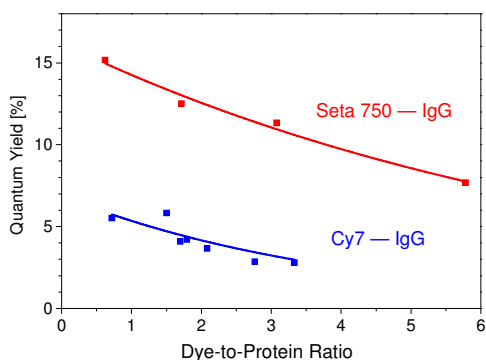
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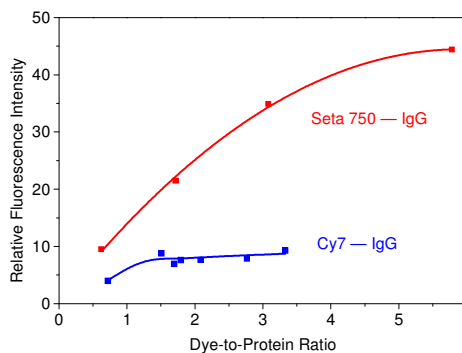
Absorption and emission spectrum of **Seta 750** in phosphate buffer (pH 7.4)



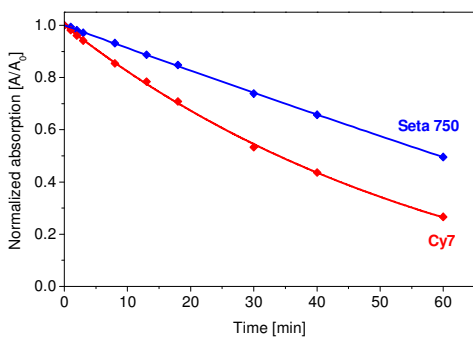
Absorption and emission spectrum of a **Seta 750 — IgG conjugate** in phosphate buffer (pH 7.4, Dye-to-protein ratio ~0.6)



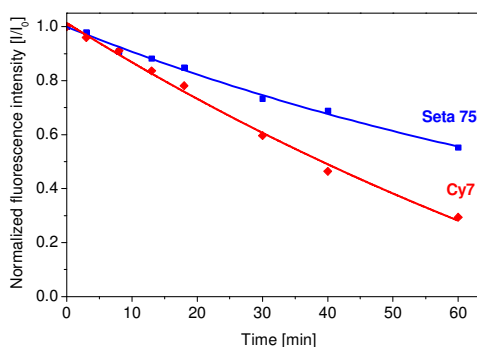
Quantum yield vs. dye-to-protein ratio (D/P) of **Seta 750 — IgG conjugates** in phosphate buffer (pH 7.4)



Relative fluorescence intensity (Q.Y. × D/P) vs. dye-to-protein ratio (D/P) of **Seta 750 — IgG conjugates** in phosphate buffer (pH 7.4)



Decrease of the long-wavelength absorption of **Seta-750** compared to **Cy7** upon irradiation with a Metal-halogen lamp Philips HPI-T Plus 400W/645



Decrease of fluorescence intensity of **Seta-750** compared to **Cy7** upon irradiation with a Metal-halogen lamp Philips HPI-T Plus 400W/645