

**Product number: K8-7049**

**Product name: Seta-750-NHS**

## General Data

<b>Molecular Mass:</b>	1296.64
	1038.15 (protonated form)
<b>Solubility:</b>	Water, Alcohol, DMF, DMSO
<b>Insoluble:</b>	Acetone, Chloroform, Toluene
<b>Storage:</b>	Store in absence of light, desiccate and refrigerate

## Description

- **Seta-750-NHS (K8-7049)** 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.

## 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 680, 700 or 750 nm diode lasers
- Sensitive; high extinction coefficients and high quantum yields (**Alexa 750**: QY = 12% and **Cy7**: QY = 13%)
- 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, **Cy7** or **Alexa 750**
- 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

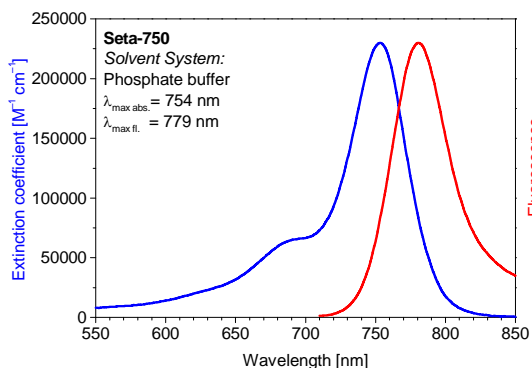
**Solvent System:** phosphate buffer pH 7.4

Sample	Dye-to-protein Ratio	Absorption max. [nm]	Extinction Coefficient [ $M^{-1}cm^{-1}$ ]	Fluorescence <sup>1</sup> max. [nm]	Quantum Yield [%]
Free dye	—	754	230,000	779	14
IgG conjugate 1	1.0	755		780	10
IgG conjugate 2	2.0	755		780	8
IgG conjugate 3	4.0	755		780	6
IgG conjugate 4	6.0	755		780	4
Cy7	—	747	200,000	776	13

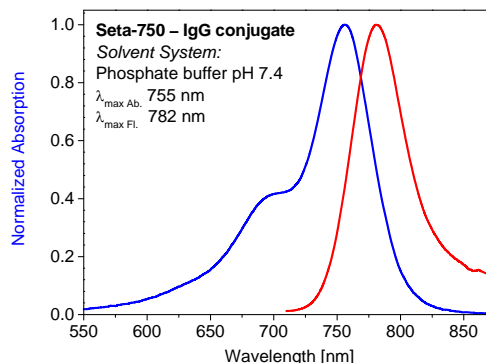
<sup>1</sup> Excitation at 700 nm

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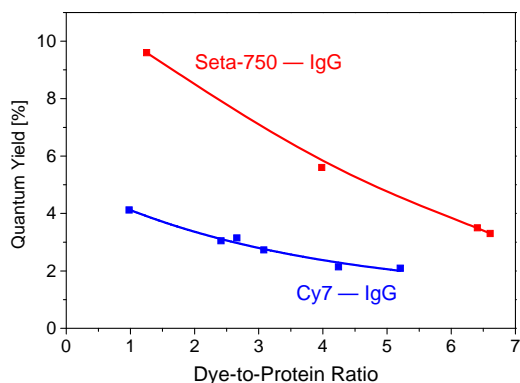
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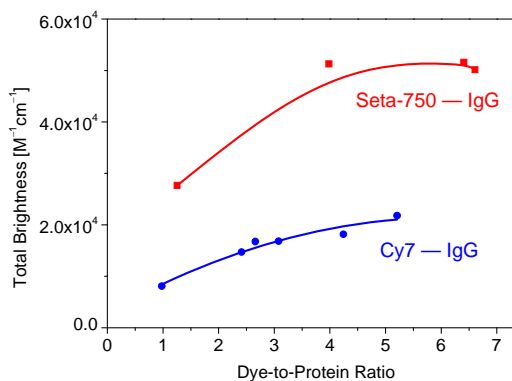
Absorption and emission spectrum of **Seta-750** in phosphate buffer (pH 7.4)



Absorption and emission spectrum of a **Seta-750 – IgG conjugate** in phosphate buffer (pH 7.4, Dye-to-protein ratio 1.0)



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



Total brightness ( $QY \times \epsilon \times D/P$ ) vs. dye-to-protein ratio (D/P) of **Seta-750 – IgG conjugates** in phosphate buffer (pH 7.4)