

Product number: K8-7522

Product name: Seta-750-NHS

General Data

- Molecular Mass:** 1404.75
1146.27 (protonated form)
- Solubility:** Water, Alcohol, DMF, DMSO
- Insoluble:** Acetone, Chloroform, Toluene
- Storage:** Store in absence of light, desiccate and refrigerate

Description

- Seta-750-NHS (K8-7522)** 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 230,000 M⁻¹cm⁻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 680, 700 or 750 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

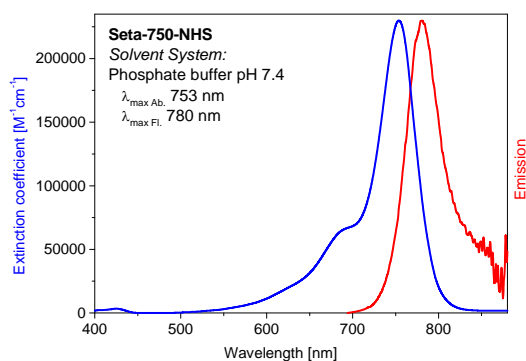
Solvent System: phosphate buffer pH 7.4

Sample	Dye-to-protein Ratio	Absorption max. [nm]	Extinction Coefficient [M ⁻¹ cm ⁻¹]	Fluorescence max. [nm]	Quantum Yield ¹ [%]
Free dye	—	753	230,000	780	14
IgG conjugate 1	1.0	756		783	17
IgG conjugate 2	2.0	756		783	15
IgG conjugate 3	4.0	756		783	12

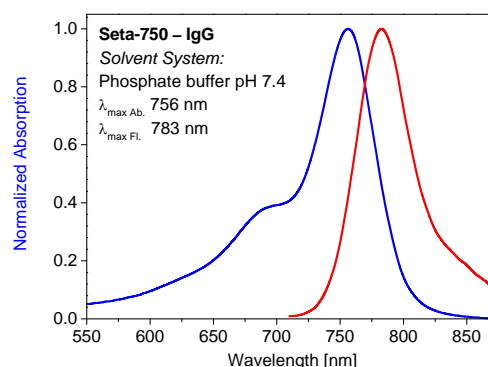
¹ **Cy7** in PBS (QY = 13% [1]) was used as a reference. λ_{Ex.} = 720 nm.

[1] Texier I., Goutayer M., Da Silva A., Guyon L., Djaker N., Josserand V., Neumann E., Bibette J., Vinet F. (2009) Cyanine-loaded lipid nanoparticles for improved in vivo fluorescence imaging. J Biomed. Opt. 14:054005

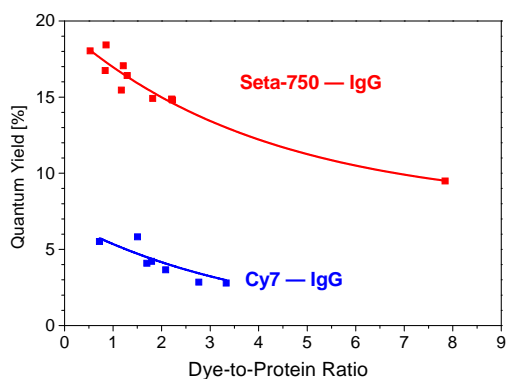
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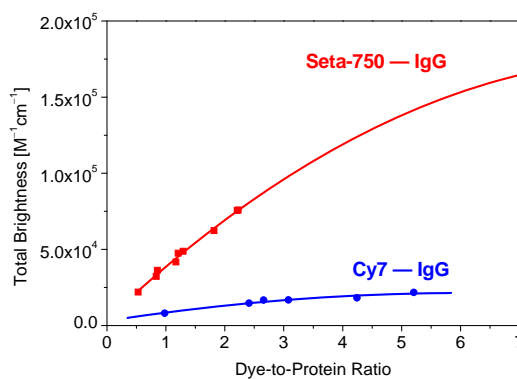
Absorption and emission spectrum of **Seta-750** in phosphate buffer (pH 7.4)



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)



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)