SETA BioMedicals
Fluorescent Tools for BioMedical Applications

http://www.setabiomedicals.com
e-mail: info@setabiomedicals.com

Product number: K8-1389
Product name: Seta-700-NHS

General Data

Molecular Mass: 1729.26

1212.29 (protonated)

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 690 nm diode laser
- Quantum yield is 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**™
- 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	—	688	162000	703	14
IgG conjugate 1	1	694		710	18
IgG conjugate 2	2	694		710	9
IgG conjugate 3	4	694		710	5

[1] **Cy7** in phosphate buffer pH 7.4 (QY = 13% [1]) was used as a reference. $\lambda_{Ex.}$ = 680 nm.

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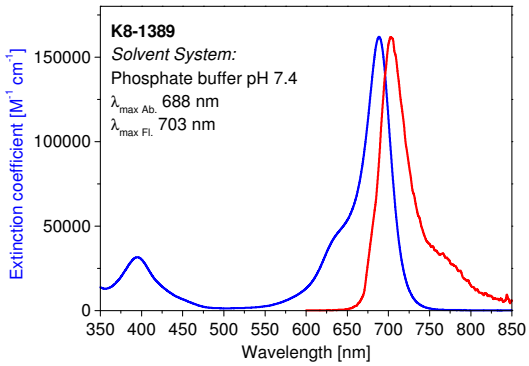
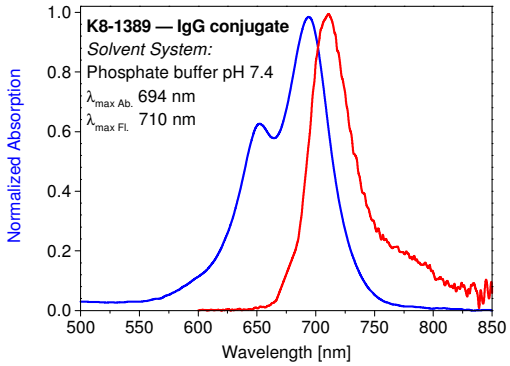
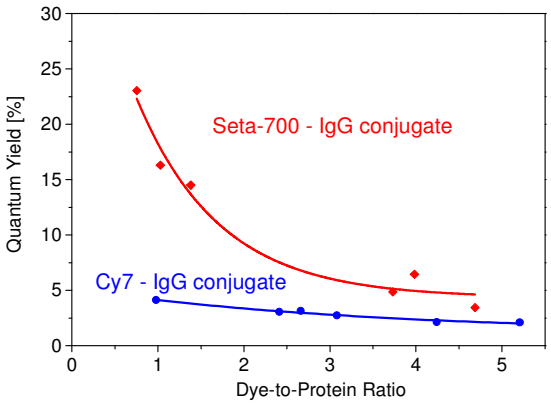


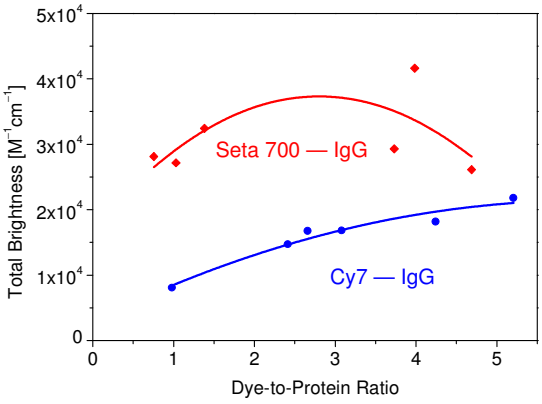
Absorption and emission spectrum of **K8-1389** in phosphate buffer (pH 7.4)



Absorption and emission spectrum of a **K8-1389 — IgG conjugate** in phosphate buffer (pH 7.4, Dye-to-protein ratio 1)



Quantum yield *vs.* dye-to-protein ratio for **Seta-700—IgG conjugates**



Total brightness (QY × ε × D/P) *vs.* dye-to-protein ratio (D/P) of **Seta-700—IgG conjugates** in phosphate buffer (pH 7.4)