SETA BioMedicals
Fluorescent Tools for BioMedical Applications
http://www.setabiomedicals.com
e-mail: info@setabiomedicals.com

Product number: K9-4149
Product name: SeTau-647-NHS

General Data

Molecular Mass:	1848.38
	1460.65 (protonated form)
Solubility:	Water, Alcohol, DMF, DMSO
Insoluble:	Chloroform
Storage:	Store in absence of light, desiccate and refrigerate

Description

- Extremely bright, water-soluble, amine-reactive label containing one NHS-ester group. The ideal label for proteins and other amino-modified biomolecules including oligonucleotides.

Advantages

- Perfectly suited for excitation with 635, 640, and 650-nm diode lasers
- Low quenching tendency at high dye-to-protein ratios compared to other labels e.g. **Cy5™**
- Large Stokes'shift of ~46 nm (about twice that of **Cy5** or **Alexa 647**).
- Considerably higher photostability compared to fluorescein or other cyanine dyes (**Cy5** or **Alexa** dyes)
- High chemical stability against oxidation with peroxides or other oxygen species
- Several times longer fluorescence lifetime compared to **Cy5** or **Alexa 647** (τ ~ 1 ns)
- Extremely bright label: most sensitive organic fluorescent label for proteins currently on the market for the 647-nm Kr-ion laser line

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] [%]	Fluorescence Lifetime at 25 °C [ns]
Free dye	—	649	200,000	695	61	3.2
IgG conjugate 1	0.5	648		694	65	3.3
IgG conjugate 2	1.0	648		694	59	3.3
IgG conjugate 3	2.0	648		694	53	3.1
IgG conjugate 4	3.0	648		694	50	3.1
IgG conjugate 5	4.0	648		694	49	3.1

[1] Excitation at 620 nm

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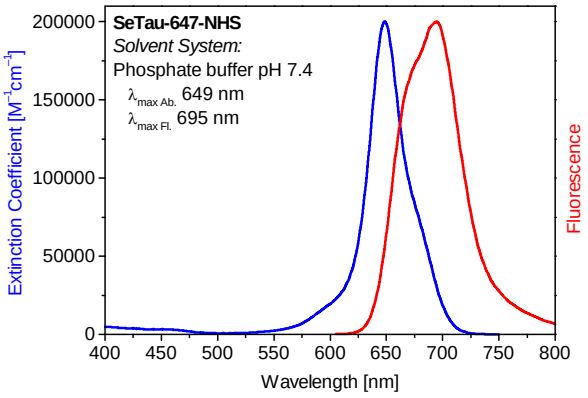
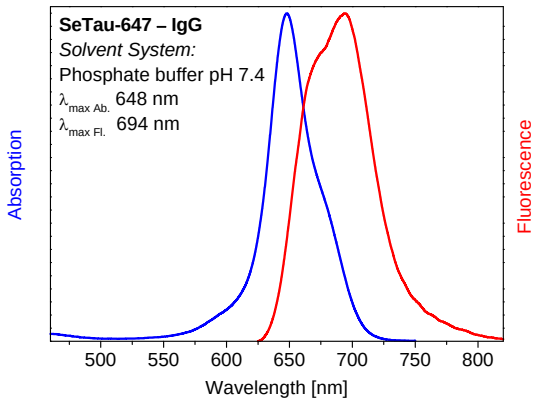
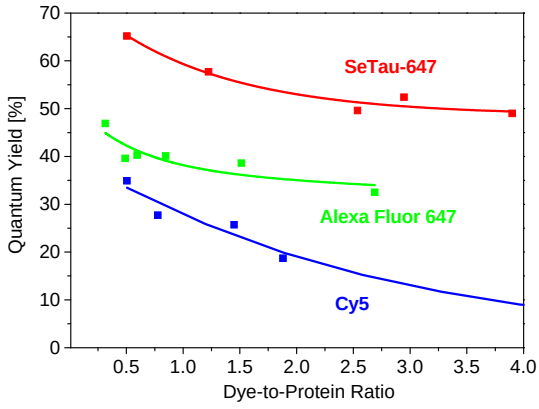


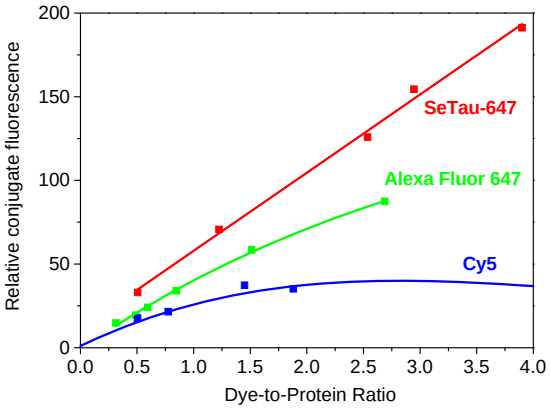
Absorption and emission spectrum of **SeTau-647-NHS** in phosphate buffer (pH 7.4)



Absorption and emission spectrum of a **SeTau-647 — IgG conjugate** in phosphate buffer (pH 7.4, Dye-to-protein ratio 1.0)



Quantum yield *vs.* dye-to-protein ratio of **SeTau-647 — IgG conjugates** in phosphate buffer (pH 7.4)



Relative fluorescence (Q.Y. x D/P ratio) of **SeTau-647 — IgG conjugates** in phosphate buffer (pH 7.4) as compared to **Cy5** and **Alexa Fluor 647** conjugates