

Product number: K9-4149

Product name: SeTau-647-mono-NHS

General Data

Molecular Mass: 1846.36

Solubility (moderate): 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

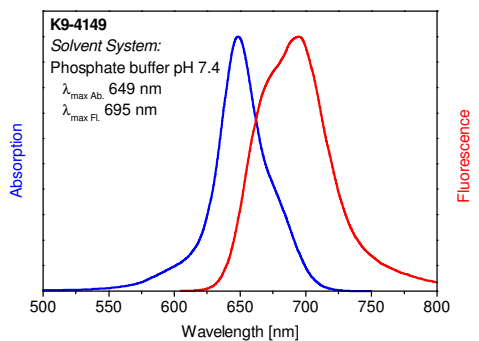
- Perfectly suited for excitation with 635, 647, and 650-nm lasers
- **Low quenching tendency at high dye-to-protein ratios compared to other labels e.g. Cy5™**
- **Large Stokes' shift** of ~46 nm (about twice that of Cy5 or Alexa 647).
- **Considerably higher photostability** compared to fluorescein 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 ($\tau \sim 1$ 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

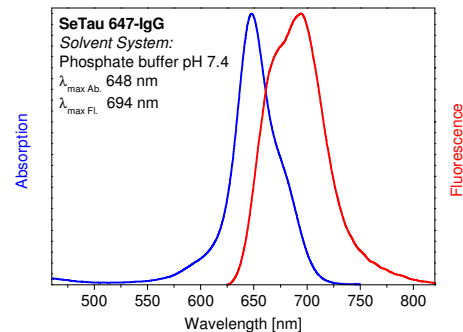
Solvent System: phosphate buffer pH 7.4

Sample	Dye-to-protein Ratio	Absorption max. [nm]	Extinction Coefficient [$M^{-1}\cdot cm^{-1}$]	Emission* max. [nm]	Quantum Yield [%]	Fluorescence Lifetime [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

* Excitation at 620 nm



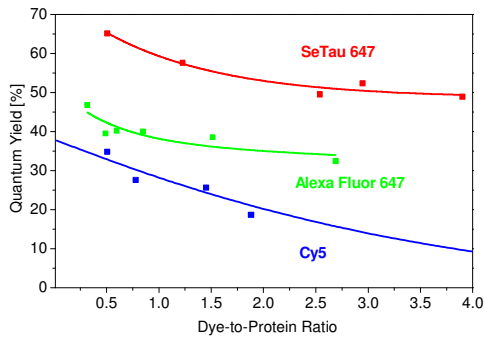
Absorption and emission spectrum of **SeTau 647-mono-NHS** in phosphate buffer (pH 7.4)



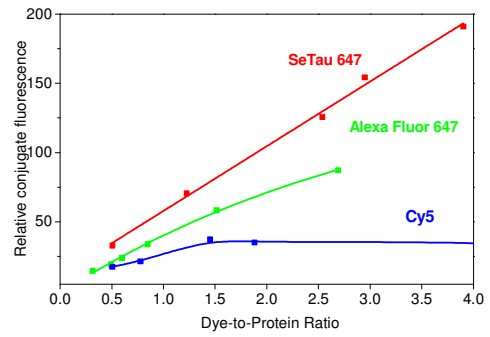
Absorption and emission spectrum of a **SeTau 647 — IgG conjugate** in phosphate buffer (pH 7.4, Dye-to-protein ratio 1.0)

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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