

Product number: K9-3152
Product name: SeTau-488-NHS

General Data

Molecular Mass: 1642.73
1384.24 (protonated form)
Solubility: Water, Alcohol, DMF, DMSO
Insoluble: Hexane
Storage: Store in absence of light, desiccate and refrigerate

Description

- Bright, water-soluble, amine-reactive label containing one NHS-ester group. The ideal label for proteins and other amino-modified biomolecules including oligonucleotides. Brighter, more photostable replacement for fluorescein-type labels including Alexa-488!

Advantages

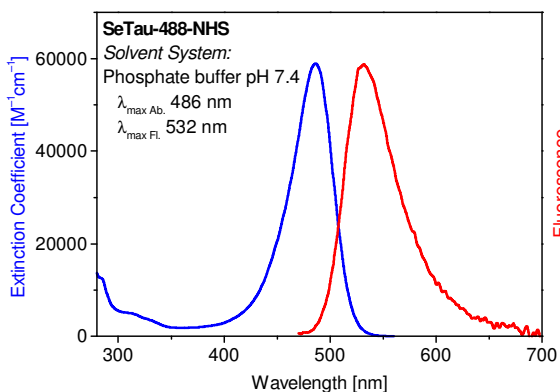
- Perfectly suited for excitation with 440 and 480-nm diode lasers or the 488-nm Ar-ion laser
- Stokes' shift of ~47 nm (larger than for FITC and Alexa Fluor 488)
- Considerably higher photostability compared to fluorescein (see below)
- High chemical stability against oxidation with peroxides or other oxygen species

Spectral Data

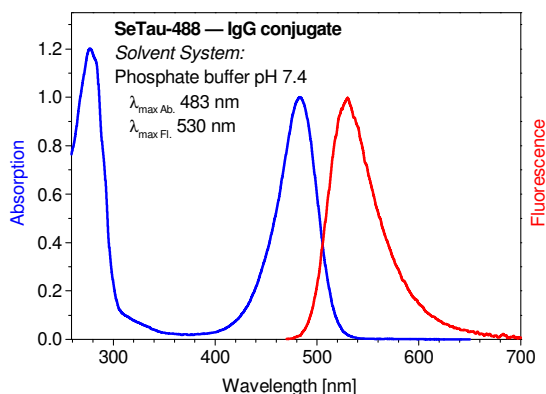
Solvent System: phosphate buffer pH 7.4

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	—	486	59,000	532	27	1.2
IgG conjugate 1	1.0	484		529	66	1.2
IgG conjugate 2	2.0	484		530	61	2.3
IgG conjugate 3	5.0	483		530	52	2.2
IgG conjugate 4	10.0	483		530	46	1.8
BSA conjugate 1	1.0	480		526	45	-
BSA conjugate 2	2.0	481		527	43	-

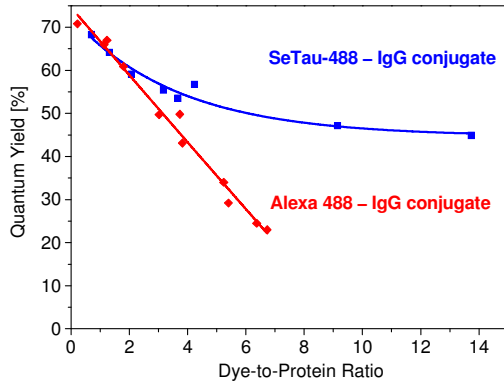
¹ Fluorescein in 0.1N NaOH (QY = 92%) was used as the reference. $\lambda_{Ex.} = 450$ nm.



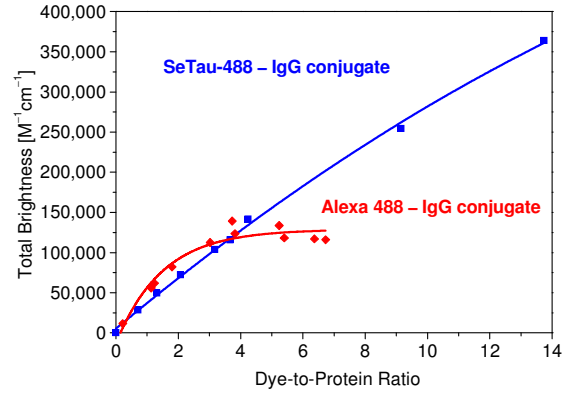
Absorption and emission spectrum of **SeTau-488-NHS** in phosphate buffer (pH 7.4)



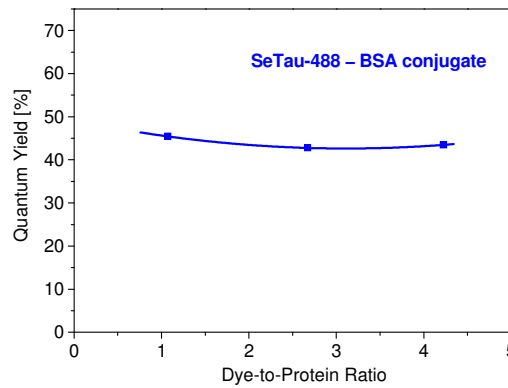
Absorption and emission spectrum of a **SeTau-488 - IgG conjugate** in phosphate buffer (pH 7.4) (Dye-to-protein ratio 3.7)



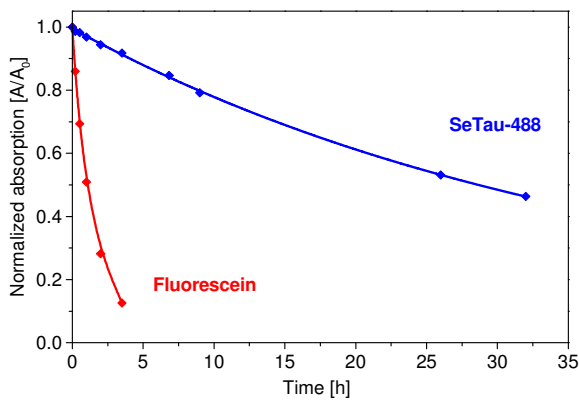
Quantum yield vs. dye-to-protein ratio of **SeTau-488 — IgG conjugates** in phosphate buffer (pH 7.4) as compared to **Alexa 488 — IgG conjugates**



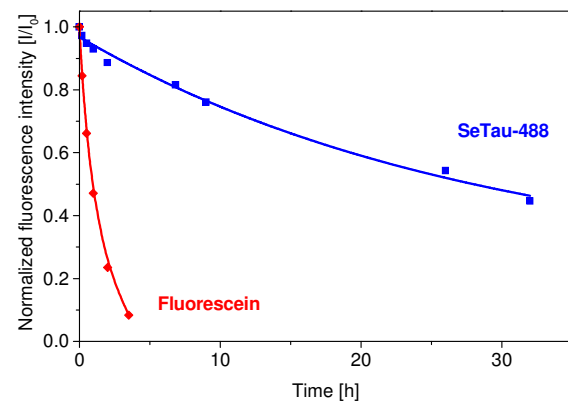
Total brightness ($QY \times \epsilon \times D/P$) vs. dye-to-protein ratio (D/P) of **SeTau-488 — IgG conjugates** in phosphate buffer (pH 7.4) as compared to **Alexa 488 — IgG conjugates**



Quantum yield vs. dye-to-protein ratio of **SeTau-488 — BSA conjugates** in phosphate buffer (pH 7.4)



Decrease of the long-wavelength absorption of **SeTau-488-COOH** compared to **Fluorescein** upon irradiation with a warm light LED (illuminance ~ 4000 Lux)



Decrease of fluorescence intensity of **SeTau-488-COOH** compared to **Fluorescein** upon irradiation with a warm light LED (illuminance ~ 4000 Lux)