

Product number: K7-547
Product name: TG-404-NHS

General Data

- Molecular Mass:** 548.97
- Solubility:** water, alcohol, DMF, DMSO
- Insoluble:** acetone, chloroform, toluene
- Storage:** Store in absence of light, desiccated and refrigerate

Description

Hydrophilic, amine-reactive, long-lifetime label containing one NHS-ester group.

Applications

- Covalent labeling of proteins, amino-modified DNA, amino-modified oligonucleotides and lipids.
- Fluorescence lifetime assays.
- Fluorescence polarization-based assays of high molecular weight antigens.

Advantages

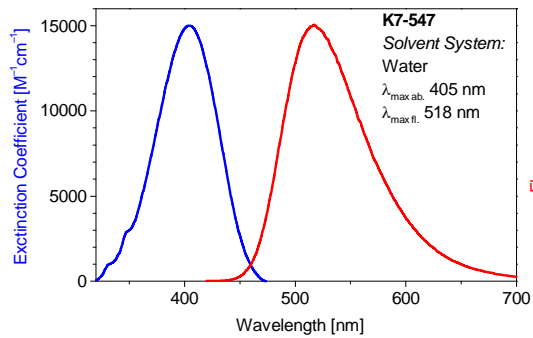
- Highly fluorescent label for proteins and oligos.
- Quantum yield (Q.Y.) ~ 80 % (water)
- Long fluorescence lifetime of 9 ns in water
- Perfectly suited for excitation with the 380-nm and 404-nm diode lasers
- Large Stokes' shift
- High fundamental polarization $R_0 = 475$ mP
- Highly soluble in aqueous buffer (500 mg/L at 20 °C)

Spectral Data

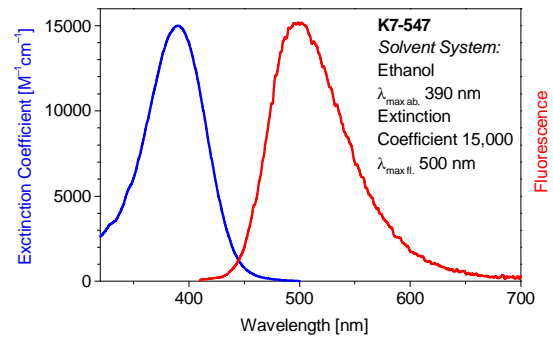
Sample	Dye-to-protein Ratio	Solvent System	Absorption max. [nm]	Extinction Coefficient [$M^{-1}\cdot cm^{-1}$]	Fluorescence ¹ max. [nm]	Q.Y. [%]	Luminescence Lifetime [ns]			Polarization
							τ_1	τ_2	Mean τ	
Free dye	—	water	405	13,800	518	80	—	—	9.3	
Free dye	—	ethanol	391		498	55				
BSA conjugate 1	3	pH 7.4	406		518		2.4 (10%)	8.2 (90%)	7.6	0.27
BSA conjugate 2	8	pH 7.4	406		518					
IgG conjugate 1	0.9		405		518	15			8.9	
IgG conjugate 2	7.8		405		518	19			8.4	

¹Excitation at 400 nm

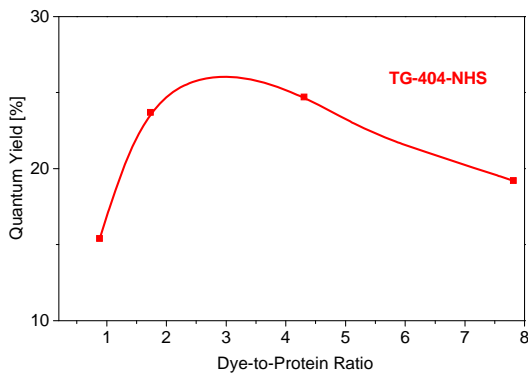
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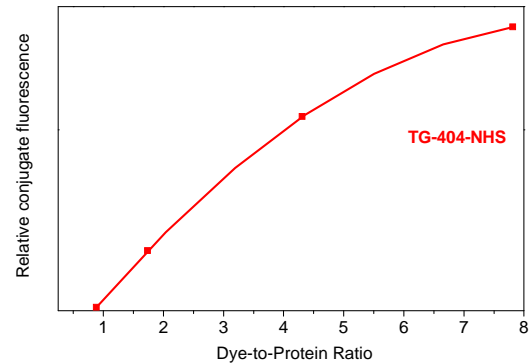
Absorption and emission spectra of **TG-404** in water



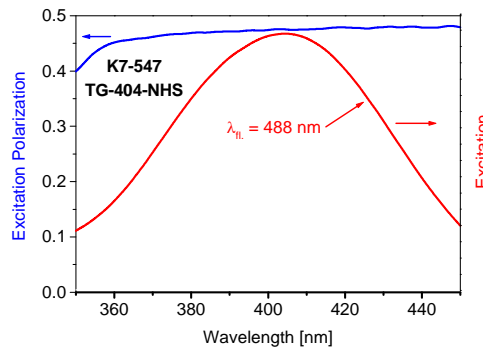
Absorption and emission spectra of **TG-404** in ethanol



Quantum yield vs. dye-to-protein ratio of **TG-404-NHS — IgG conjugates** in phosphate buffer (pH 7.4)



Relative fluorescence (Q.Y. x D/P ratio) of **TG-404-NHS — IgG conjugates** in phosphate buffer (pH 7.4)



Excitation polarization and excitation spectra of **TG-404-NHS** in water. Fundamental polarization $R_0 = 475 \text{ mP}$ when completely immobilized