

Product number: K8-3002

Product name: Seta-470-NHS

General Data

Molecular Mass: 853.08

Solubility: Water, alcohol, DMF, DMSO

Insoluble: Acetone, chloroform, toluene

Storage: Store in absence of light, desiccated and refrigerate

Description

- Highly hydrophilic, viscosity-sensitive, amine-reactive label containing one NHS-ester group

Applications

- Assessment of viscosity of probe environment
- Covalent labeling of proteins, amino-modified DNA and amino-modified oligonucleotides
- Viscosity sensitive fluorescence lifetime label — this label exhibits a distinct lifetime change upon changing the viscosity of the environment

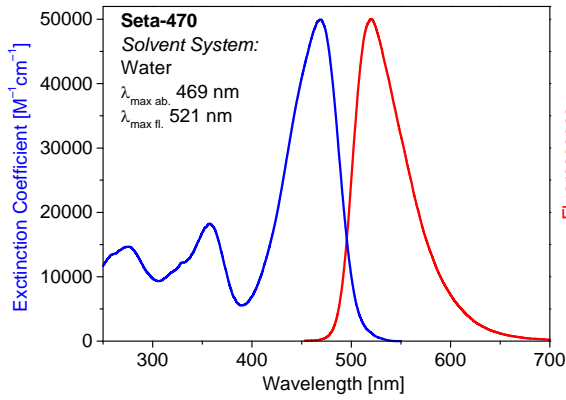
Advantages

- Perfectly suited for excitation with the 330, 436, and 470-nm diode lasers and UV light
- Large Stokes' shift
- pH-insensitive between pH 3 and pH 10
- Good aqueous solubility; this label does not alter the solubility of the dye-conjugate
- High photostability; e.g. compared to fluorescein

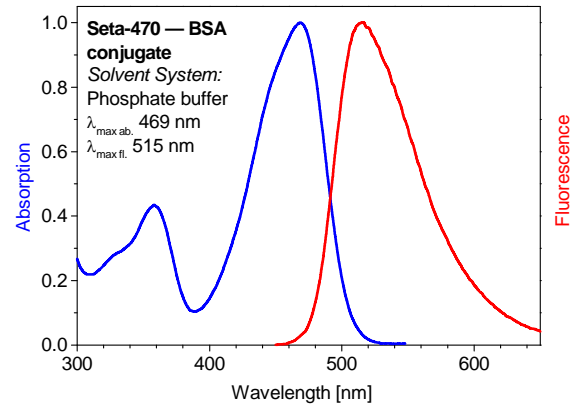
Spectral Data

Sample	Dye-to-protein Ratio	Solvent System	Absorption max. [nm]	Extinction Coefficient [$M^{-1}cm^{-1}$]	Fluorescence max. [nm]	Q.Y. ¹ [%]
Free dye	—	water	469	50,000	521	1.9
Free dye	—	ethanol	462		515	2.2
BSA conjugate 1	0.5	pH 7.4	469		515	38
BSA conjugate 2	1.0	pH 7.4	469		515	28
BSA conjugate 3	2.0	pH 7.4	469		514	17

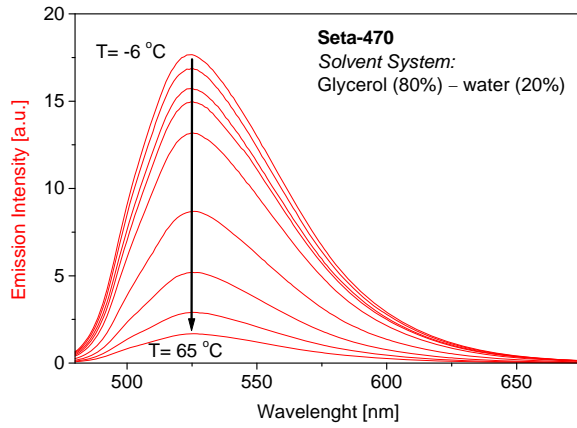
¹Excitation at 400 nm



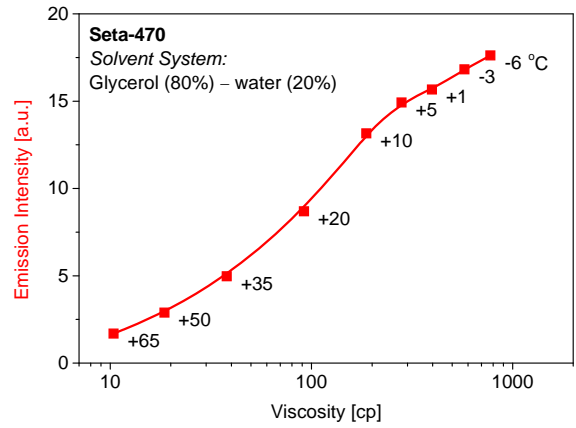
Absorption and emission spectra of **Seta-470** in water



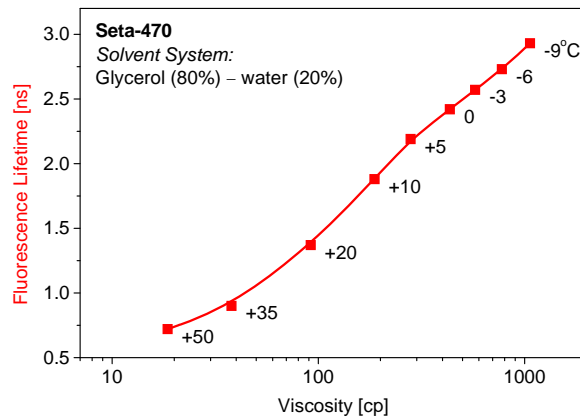
Absorption and emission spectra of **Seta-470 — BSA conjugate** in phosphate buffer (pH 7.4, Dye-to-protein ratio 1.1)



Emission spectrum of **Seta-470** in glycerol containing 20% water vs. viscosity (at different temperature)



Emission intensity of **Seta-470** in glycerol containing 20% water vs. viscosity (at different temperature)



Fluorescence lifetime of **Seta-470** in glycerol containing 20% water vs. viscosity (at different temperature) measured using ISS Chronos FD