

Product number: K8-1671

Product name: Seta-646-Maleimide

General Data

- Molecular Mass:** 1167.29 (protonated)
1555.02
- Solubility:** Water, Alcohol, DMF, DMSO
- Insoluble:** Acetone, Chloroform, Toluene
- Storage:** Store in absence of light, desiccate and refrigerate

Description

Highly hydrophilic, thiol-reactive label containing one maleimide group.

Applications

- Covalent labeling of proteins, thiol-modified DNA and thiol-modified oligonucleotides
- Fluorescence intensity and fluorescence polarization-based applications
- Resonance Energy Transfer (RET)
- Flow Cytometry
- Immunofluorescence
- Gene Expression
- Homogeneous Assays
- Microarrays

Advantages

- Perfectly suited for excitation with the 635 and 647 nm diode laser
- Sensitive; high extinction coefficients and high quantum yields after covalent attachment to biomolecules
- Quantum yield is highly increased after covalent and non-covalent association with proteins
- pH-insensitive between pH 3 and pH 10
- Good aqueous solubility; this label does not alter the solubility of the bioconjugate
- High photostability; e.g. compared to fluorescein or Cy5TM
- Low molecular weight — **Seta** dyes do not add substantial mass to the conjugates
- Ideal for non-radioactive labeling of proteins, thiol-modified oligonucleotides and thiol-modified lipids

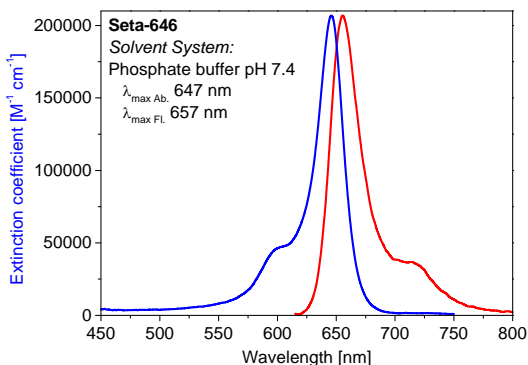
Spectral Data

Solvent System: phosphate buffer pH 7.4

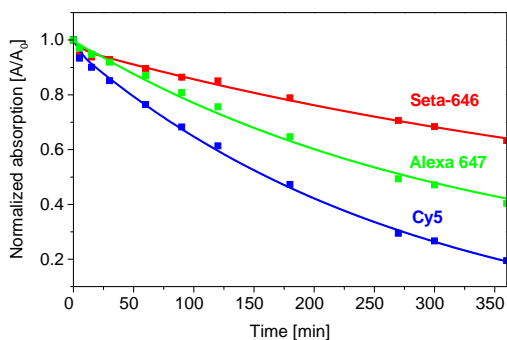
Sample	Dye-to-protein Ratio	Absorption max. [nm]	Extinction Coefficient [$M^{-1}\cdot cm^{-1}$]	Fluorescence* max. [nm]	Quantum Yield [%]
Free dye	—	647	210,000	657	8
IgG conjugate 1	1.0	650		661	31

* Excitation at 620 nm

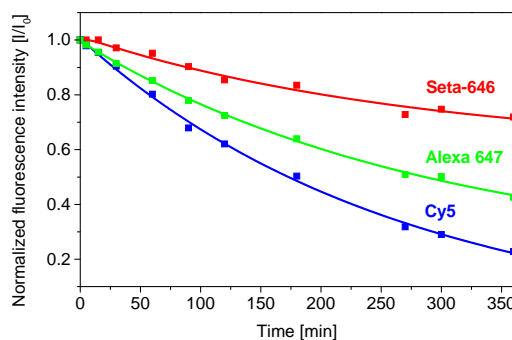
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Absorption and emission spectrum of **Seta-646** in phosphate buffer (pH 7.4)



Relative decrease of the long-wavelength absorption band of **Seta-646** as compared to **Cy5** and **Alexa 647** upon irradiation with a Xenon lamp



Relative decrease of the emission of **Seta-646** as compared to **Cy5** and **Alexa 647** upon irradiation with a Xenon lamp