

**Product number: K8-1341**

**Product name: Seta-670-Maleimide**

## General Data

- Molecular Mass:** 1249.61  
991.12 (protonated form)
- Solubility:** Water, Alcohol, DMF, DMSO
- Insoluble:** Acetone, Chloroform, Toluene
- Storage:** Store out of light, desiccated and refrigerate

## Description

- High hydrophilic, thiol-reactive fluorescent label containing one reactive maleimide group.

## Applications

- Covalent labeling of proteins, thiol-modified DNA and thiol-modified oligonucleotides
- Fluorescence Lifetime Label — this label exhibits a distinct lifetime change upon binding to a biomolecule
- Fluorescence Resonance Energy Transfer (FRET) applications
- Single Molecule Applications — **Seta-670** shows extreme low blinking in single molecule measurements
- Flow Cytometry
- Immunofluorescence
- Gene Expression
- Homogeneous Assays
- Assessment of protein structure

## Advantages

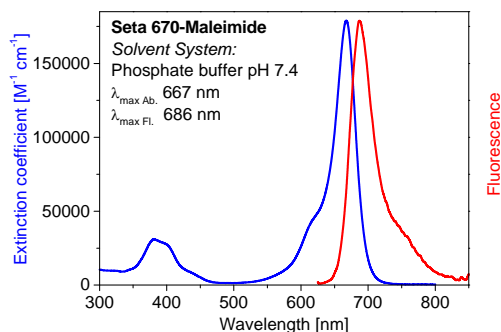
- Perfectly suited for excitation with the 380, 404, 635, 670-nm diode lasers, LEDs, and UV light
- Sensitive; high extinction coefficients and high quantum yields up to 50% after covalent attachment to proteins
- Quantum yield is increased when covalently and non-covalently bound to protein
- pH-insensitive between pH 3 and pH 10
- Good aqueous solubility; this label does not alter the solubility of the protein conjugate
- High photostability; e.g. compared to fluorescein or **Cy5**<sup>TM</sup>
- Low molecular weight — **Seta** dyes do not add substantial mass to the conjugates
- Ideal for non-radioactive labeling of proteins, thiol-modified DNA probes and thiol-modified oligonucleotides

## Spectral Data

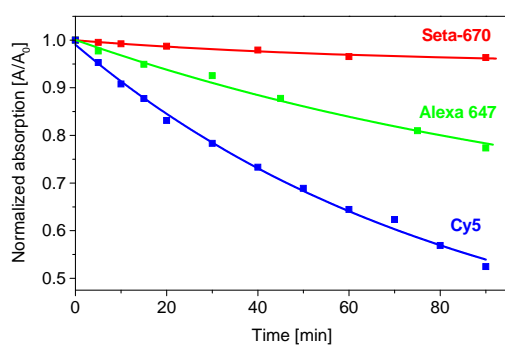
**Solvent System:** phosphate buffer pH 7.4

Sample	Absorption max. [nm]	Extinction Coefficient [M <sup>-1</sup> cm <sup>-1</sup> ]	Fluorescence max. [nm]	Quantum Yield <sup>1</sup> [%]
Free dye	667	180,000	686	7

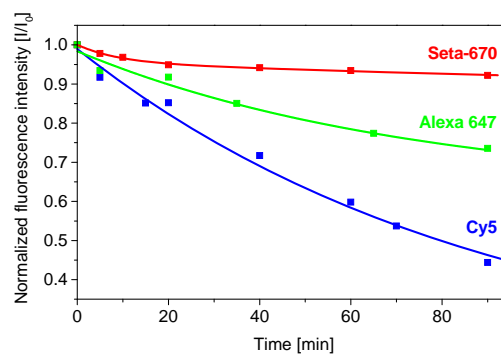
<sup>1</sup> Excitation at 635 nm



Absorption and fluorescence spectra of **Seta-670-Maleimide** in phosphate buffer (pH 7.4)



Relative decrease of the long-wavelength absorption band of **Seta-670-Maleimide** as compared to **Cy5** and **Alexa 647** upon irradiation with a Halogen lamp



Relative decrease of the emission of **Seta-670-Maleimide** as compared to **Cy5** and **Alexa 647** upon irradiation with a Halogen lamp