

**Product number: K8-1752**  
**Product name: Square-635-B-di-NHS**

## General Data

**Molecular Mass:** 1089.11 (protonated form)  
**Solubility:** Water, Alcohol, DMF, DMSO  
**Insoluble:** Acetone, Chloroform, Toluene  
**Storage:** Store out of light, desiccated and refrigerate

## Description

Amine-reactive fluorescent label containing two reactive NHS-ester groups.

## Applications

Covalent labeling of proteins, amino-modified DNA and amino-modified oligonucleotides

Fluorescence Lifetime Label — this label exhibits a distinct lifetime change upon binding to a biomolecule

## Advantages

- Perfectly suited for excitation with the 635-nm diode laser, 405, 436, 470-nm diode lasers, and UV light
- Sensitive; high extinction coefficient and high quantum yield up to 30% after covalent attachment to proteins
- When bound to a protein the quantum yield is higher as compared to **Cy5<sup>TM</sup>**
- Low non-specific binding
- 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 — **Square** dyes do not add substantial mass to the conjugates
- Ideal for non-radioactive labeling of proteins, amino-modified DNA probes and amino-modified oligonucleotides

## Spectral Data

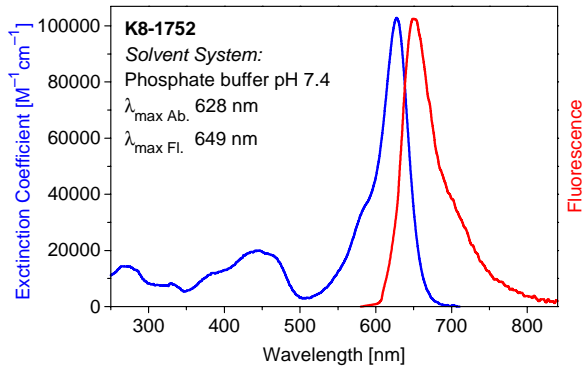
**Solvent system:** phosphate buffer, pH 7.4

Sample	Absorption max. [nm]	Extinction Coefficient [M <sup>-1</sup> .cm <sup>-1</sup> ]	Fluorescence* max. [nm]	Stokes' Shift [cm <sup>-1</sup> ]	Quantum Yield [%]	Dye-to-protein Ratio
Free dye	628	103,000	649	515	5	—
BSA conjugate	645		668	530	34	0.4
BSA conjugate	645		668	530	27	1.0
BSA conjugate	645		668	530	9	4.0

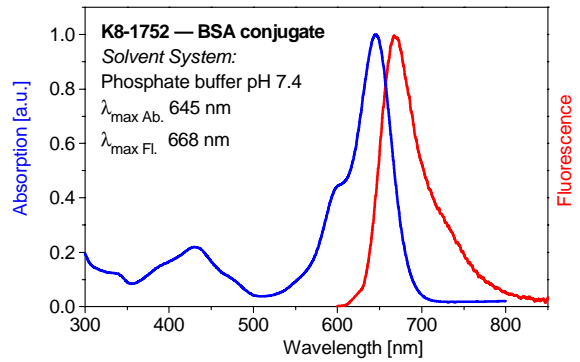
\* Excitation at 620 nm

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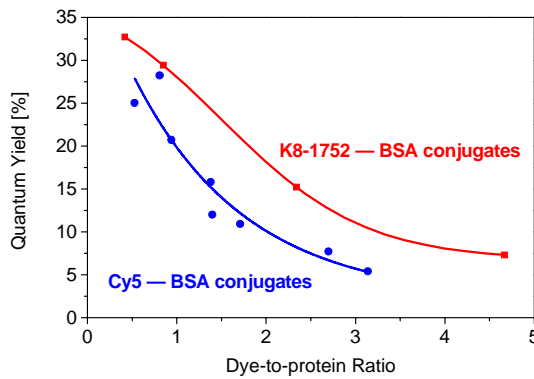
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Absorption and fluorescence spectra of **K8-1752** in phosphate buffer (pH 7.4)



Absorption and fluorescence spectra of **K8-1752 — BSA conjugate** in phosphate buffer (pH 7.4)



Quantum Yield vs Dye-to-protein Ratio of **K8-1752 — BSA conjugates** as compared to **Cy5 — BSA conjugates** in phosphate buffer (pH 7.4)