Product number: K8-1663  
Product name: Seta-633-NHS

General Data

Molecular Mass: 1012.11 (protonated form)

Solubility: Water, Alcohol, DMF, DMSO

Insoluble: Acetone, Chloroform, Toluene

Storage: Store in absence of light, desiccate and refrigerate

Description

• Highly hydrophilic, amine-reactive label containing one NHS-ester group. Brighter (ε = 250,000 M⁻¹ cm⁻¹, QY = 26% (IgG, D/P =1)) and more photostable replacement for Alexa 633.

Applications

• Covalent labeling of proteins, amino-modified DNA and amino-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 594, 633 or 635 nm diode lasers
• Sensitive; high extinction coefficients and quantum yields highly increase after covalent attachment to biomolecules
• 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, Cy5™ or Alexa Fluor™ 647
• Low molecular weight — Seta dyes do not add substantial mass to the conjugates
• Ideal for non-radioactive labeling of proteins, amino-modified oligonucleotides and amino-modified lipids

Spectral Data

Solvent System: phosphate buffer pH 7.4

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Free dye</td>
<td>—</td>
<td>633</td>
<td>250,000</td>
<td>644</td>
<td>7</td>
</tr>
<tr>
<td>BSA conjugate 1</td>
<td>1.0</td>
<td>646</td>
<td>656</td>
<td>656</td>
<td>51</td>
</tr>
<tr>
<td>BSA conjugate 2</td>
<td>2.0</td>
<td>647</td>
<td>656</td>
<td>656</td>
<td>43</td>
</tr>
<tr>
<td>BSA conjugate 3</td>
<td>3.0</td>
<td>647</td>
<td>656</td>
<td>656</td>
<td>37</td>
</tr>
<tr>
<td>BSA conjugate 4</td>
<td>4.0</td>
<td>647</td>
<td>656</td>
<td>656</td>
<td>32</td>
</tr>
<tr>
<td>IgG conjugate 1</td>
<td>1.0</td>
<td>637</td>
<td>647</td>
<td>647</td>
<td>26</td>
</tr>
<tr>
<td>IgG conjugate 2</td>
<td>2.0</td>
<td>637</td>
<td>647</td>
<td>647</td>
<td>23</td>
</tr>
<tr>
<td>IgG conjugate 3</td>
<td>3.0</td>
<td>637</td>
<td>647</td>
<td>647</td>
<td>20</td>
</tr>
<tr>
<td>IgG conjugate 4</td>
<td>7.0</td>
<td>637</td>
<td>647</td>
<td>647</td>
<td>15</td>
</tr>
</tbody>
</table>

¹ Excitation at 600 nm
**Product number:** K8-1663  
**Product name:** Seta-633-NHS

Absorption and emission spectrum of **Seta-633 (K8-1663)** in phosphate buffer (pH 7.4)

Absorption and emission spectrum of a **Seta-633 — IgG conjugate** in phosphate buffer (pH 7.4, Dye-to-protein ratio 0.8)

Absorption and emission spectrum of a **Seta-633 — BSA conjugate** in phosphate buffer (pH 7.4, Dye-to-protein ratio 1.7)

Quantum yield vs. dye-to-protein ratio of **Seta-633 — BSA conjugates** in phosphate buffer (pH 7.4)

Quantum yield vs. dye-to-protein ratio of **Seta-633 — IgG conjugates** in phosphate buffer (pH 7.4)
**Product number:** K8-1663  
**Product name:** Seta-633-NHS

---

Relative fluorescence (Q.Y x D/P ratio) of **Seta-633 — BSA conjugates** in phosphate buffer (pH 7.4) as compared to Alexa 647 and Cy5 conjugates.

Relative fluorescence (Q.Y x D/P ratio) of **Seta-633 — IgG conjugates** in phosphate buffer (pH 7.4) as compared to Cy5 conjugates.

---

**Photostability**

When exposed to light from a halogen lamp (150 W)

**Solvent System:** phosphate buffer pH 7.4

---

Relative decrease of the absorption maximum of **Seta-633** as compared to **Cy5** and **Alexa Fluor 647**

Decrease of the fluorescence intensity of **Seta-633** as compared to **Cy5** and **Alexa Fluor 647**