**Fibrinogen Conjugates**

**Quick Facts**

**Storage upon receipt:**
- \( \leq -20^\circ\text{C} \)
- Desiccate
- Protect from light

**Abs/Em:** See Table 1

**Introduction**

Fibrinogen is a key component in the blood clotting process and can support both platelet–platelet and platelet–surface interactions by binding to the glycoprotein IIb-IIIa (GPIIb-IIIa) receptor.\(^1\) Activation of the GPIIb-IIIa complex is necessary before soluble fibrinogen can bind, although the events that lead to this activation are not well understood.\(^2\) Fluorescently labeled fibrinogen has proven to be a valuable tool for investigating platelet activation and subsequent fibrinogen binding. For instance, fluorescein-labeled fibrinogen has been used to detect fibrinogen bound to activated platelets by flow cytometry.\(^3\)

Molecular Probes offers five human fibrinogen conjugates in four fluorescent colors. The Alexa Fluor\(^®\) 488 human fibrinogen conjugate (F-13191), along with Oregon Green\(^®\) 488 human fibrinogen conjugate (F-7496), have spectral characteristics similar to fluorescein conjugates. However, the fluorescence of Oregon Green 488 and Alexa Fluor 488 protein conjugates are more photostable and less pH-dependent than that of fluorescein–protein conjugates. The red-orange–fluorescent Alexa Fluor 546 human fibrinogen conjugate (F-13192) is brighter and more photostable than tetramethylrhodamine conjugates of fibrinogen, while possessing similar spectral characteristics. Similarly, the red-fluorescent Alexa Fluor 594 human fibrinogen conjugate (F-13193) is brighter than Texas Red\(^®\) conjugates of fibrinogen, yet has similar excitation and emission maxima. The Alexa Fluor 647 fibrinogen conjugate (F-35200) yields bright, far-red fluorescence similar to that of Cy5\(^™\) dye and is useful for multicolor applications.

**Materials**

**Contents**

Each conjugate of fibrinogen is supplied lyophilized in a unit size of 5 mg.

**Storage and Handling**

Upon receipt, the lyophilized product should be stored desiccated at \( \leq -20^\circ\text{C} \). A 1.5 mg/mL stock solution can be prepared by reconstituting the conjugate in 3.33 mL of 0.1 M sodium bicarbonate (pH 8.3) at room temperature. Complete solubilization may take an hour or more with occasional gentle mixing. Stock solutions can be stored at 4°C with the addition of sodium azide at a final concentration of 2 mM. For long-term storage, divide the solution into aliquots and freeze at \( \leq -20^\circ\text{C} \). When properly stored, these products are stable for several months. PROTECT FROM LIGHT. AVOID REPEATED FREEZING AND THAWING.

Caution: The fibrinogen in this conjugate is isolated from human serum. Although the serum has been tested and shown to be negative for HIV and hepatitis B, the conjugate should be treated as potentially infectious.

**Properties**

The conjugate is prepared by attachment of approximately 15 dye molecules per fibrinogen molecule and subsequent purification to remove unreacted dye. Fibrinogen has a molecular weight of approximately 340,000 daltons. The absorption and fluorescence emission maxima of the conjugates are listed in Table 1.

**Table 1.** Spectral characteristics of human fibrinogen conjugates.

<table>
<thead>
<tr>
<th>Cat #</th>
<th>Label</th>
<th>Abs *</th>
<th>Em *</th>
</tr>
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<tbody>
<tr>
<td>F-7496</td>
<td>Oregon Green 488</td>
<td>496</td>
<td>524</td>
</tr>
<tr>
<td>F-13191</td>
<td>Alexa Fluor 488</td>
<td>496</td>
<td>520</td>
</tr>
<tr>
<td>F-13192</td>
<td>Alexa Fluor 546</td>
<td>558</td>
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<tr>
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<td>Alexa Fluor 594</td>
<td>592</td>
<td>618</td>
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<tr>
<td>F-35200</td>
<td>Alexa Fluor 647</td>
<td>650</td>
<td>668</td>
</tr>
</tbody>
</table>

* Absorption (Abs) and fluorescence emission (Em) maxima, in nm.

**References**

1. J Biol Chem 270, 28812 (1995);
2. Biochem Pharmacol 36, 4035 (1987);
Fibrinogen Conjugates

**Product List**  Current prices may be obtained from our Web site or from our Customer Service Department.

<table>
<thead>
<tr>
<th>Cat #</th>
<th>Product Name</th>
<th>Unit Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-13191</td>
<td>fibrinogen from human plasma, Alexa Fluor® 488 conjugate.</td>
<td>5 mg</td>
</tr>
<tr>
<td>F-13192</td>
<td>fibrinogen from human plasma, Alexa Fluor® 546 conjugate.</td>
<td>5 mg</td>
</tr>
<tr>
<td>F-13193</td>
<td>fibrinogen from human plasma, Alexa Fluor® 594 conjugate.</td>
<td>5 mg</td>
</tr>
<tr>
<td>F-7496</td>
<td>fibrinogen from human plasma, Oregon Green® 488 conjugate.</td>
<td>5 mg</td>
</tr>
<tr>
<td>F-35200</td>
<td>fibrinogen from human plasma, Alexa Fluor® 647 conjugate.</td>
<td>5 mg</td>
</tr>
</tbody>
</table>

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**Molecular Probes, Inc.**  
29851 Willow Creek Road, Eugene, OR 97402  
Phone: (541) 465-8300 • Fax: (541) 344-6504

**Customer Service:** 6:00 am to 4:30 pm (Pacific Time)  
Phone: (541) 465-8338 • Fax: (541) 344-6504 • order@probes.com

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**Technical Assistance:** 8:00 am to 4:00 pm (Pacific Time)  
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**Molecular Probes Europe BV**  
Poortgebouw, Rijnburgerweg 10  
2333 AA Leiden, The Netherlands  
Phone: +31-71-5233378 • Fax: +31-71-5233419

**Customer Service:** 9:00 to 16:30 (Central European Time)  
Phone: +31-71-5236850 • Fax: +31-71-5233419  
euroorder@probes.nl

**Technical Assistance:** 9:00 to 16:30 (Central European Time)  
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