

Gelatin and Collagen Conjugates

G-13187 gelatin from pig skin, fluorescein conjugate

G-13186 gelatin from pig skin, Oregon Green® 488 conjugate

C-13185 collagen, type IV from human placenta, Oregon Green® 488 conjugate

Quick Facts

Storage upon receipt:

- -20°C
- Desiccate
- Protect from light

Abs/Em of conjugate: 499/519 nm

Note: Avoid freeze-thaw cycles after reconstituting

conjugated to Oregon Green 488 dye (C-13185). These highly fluorescent gelatin and collagen IV conjugates are potentially useful for:

- localizing surface fibronectin on cultured cells³
- studying fibronectin–gelatin interactions in solution using fluorescence polarization^{2,4}
- following integrin-mediated phagocytosis⁵
- visualizing gelatinase activity by *in situ* gel zymography⁶

Introduction

Collagen is a major component of the extracellular matrix and, in vertebrates, constitutes approximately 25% of total protein. This important protein not only serves a structural role, but is also important in cell adhesion and migration. Specific collagen receptors, fibronectin and a number of other proteins involved in cell–cell and cell–surface adhesion have been demonstrated to bind collagen and gelatin (denatured collagen).^{1,2} Molecular Probes offers fluorescent conjugates of gelatin and collagen IV, the principal collagen of basement membranes. These reagents are designed for researchers studying not only collagen-binding proteins and collagen metabolism, but also for the study of gelatinases and collagenases (metalloproteins that digest collagen and gelatin). We offer two fluorescent conjugates of gelatin — one in which gelatin is coupled to fluorescein (G-13187) and the other in which gelatin is coupled to our Oregon Green® 488 dye (G-13186). The Oregon Green 488 conjugate has similar spectral characteristics to the fluorescein conjugate, yet its fluorescence is more photostable and less pH dependent than the fluorescein conjugate. For researchers needing a more specific substrate, we also offer human collagen IV

Contents and Storage

Gelatin conjugates (G-13187, G-13186) are supplied in 5 mg unit sizes, lyophilized from 5 mL phosphate-buffered saline, pH 7.2 (PBS). The collagen IV conjugate (C-13185) is supplied in a 1 mg unit size, lyophilized from 1 mL PBS. When stored desiccated at -20°C, these products are stable for at least one year. Solutions can be made by dissolving the lyophilized gelatin conjugates in 5 mL, distilled water (dH₂O), or the collagen IV conjugate in 1 mL dH₂O, to give 1 mg/mL solutions in PBS. The gelatin substrates may require sonication and heating to 50°C to aid dissolution. Store solutions at 4°C with the addition of sodium azide at a final concentration of 2 mM. For long-term storage, divide solutions into aliquots and freeze at -20°C. PROTECT FROM LIGHT. AVOID REPEATED FREEZING AND THAWING.

Properties

The degree of labeling (moles dye per mole protein) for each conjugate is indicated on the product label; for this calculation, an approximate molecular weight of 100,000 for the gelatin conjugates or 125,000 for the collagen IV conjugate was used. All three conjugates have absorption maxima at 499 nm and fluorescence emission maxima at 519 nm.

References

1. J Cell Sci 101, 873 (1992); 2. Arch Biochem Biophys 227, 358 (1983); 3. J Cell Biol 87, 14 (1980); 4. Biochemistry 32, 8168 (1993); 5. Mol Biol Cell 7, 1789 (1996); 6. FASEB J 9, 974 (1995).

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

| Cat # | Product Name | Unit Size |
|--------------|--|------------------|
| C-13185 | collagen, type IV from human placenta, Oregon Green® 488 conjugate | 1 mg |
| G-13187 | gelatin from pig skin, fluorescein conjugate | 5 mg |
| G-13186 | gelatin from pig skin, Oregon Green® 488 conjugate | 5 mg |

Contact Information

Further information on Molecular Probes' products, including product bibliographies, is available from your local distributor or directly from Molecular Probes. Customers in Europe, Africa and the Middle East should contact our office in Leiden, the Netherlands. All others should contact our Technical Assistance Department in Eugene, Oregon.

Please visit our Web site — www.probes.com — for the most up-to-date information

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