

CellAdhere™ Type IV Collagen, Human, Lyophilized

Purified human collagen IV, lyophilized, for tissue engineering research, cell culture, and biochemistry

Catalog # 07002

5 mg



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Product Description

Type IV Collagen is found mainly in the basal lamina, a layer of extracellular matrix upon which the epithelium resides (Bornstein et al.). All collagens are characterized by a secondary protein structure consisting of three polypeptide chains wrapped around one another in a triple helical arrangement (Tanzer). The different types of collagen vary in the primary amino acid sequence of their polypeptide chains, with type IV collagen being comprised of two identical $\alpha 1(\text{IV})$ chains and one $\alpha 2(\text{IV})$ chain that spontaneously form the triple helix in solution (Heino).

CellAdhere™ Type IV Collagen, Human, Lyophilized is isolated from human placenta and purified using a multi-step process. This product is ideal for coating surfaces with a thin layer of protein to support cell attachment. This product is compatible with a wide variety of cell types, including, but not limited to, epithelial, endothelial, muscle, and nerve cells. The optimal protein concentration may vary depending on the cell type being used, and therefore must be titrated for best results.

Properties

Storage: Store at -20°C.

Shelf Life: Stable for 6 months from date of receipt.

This product contains material derived from human tissue. Donors have been tested and found negative for HIV-1 and -2, hepatitis B, and hepatitis C prior to donation. However, this product should be considered potentially infectious and treated in accordance with universal handling precautions.

Handling / Directions For Use

PREPARING COLLAGEN-COATED TISSUE CULTUREWARE

1. Reconstitute CellAdhere™ Type IV Collagen, Human, Lyophilized (5 mg) with 5 mL of cold, sterile 0.25% acetic acid and mix by pipetting up and down several times. Allow to incubate at 2 - 8°C, swirling periodically for > 1 hour.
NOTE: The resulting solution will be slightly opaque. If there is some insoluble material present that you wish to remove, aseptically centrifuge the solution at 750 x g for 2 minutes. If not used immediately, store at 2 - 8°C for up to 3 months.
2. Dilute reconstituted Type IV Collagen solution with sterile 0.25% acetic acid to reach desired concentration.
NOTE: Different dilutions will need to be tested to determine the optimal concentration required for each culture system. Typical coating concentrations range between 10 - 100 µg/mL.
3. Add desired amount of diluted Type IV Collagen solution on the surface of the cultureware to be coated. For example, use 1 mL to coat a 35 mm Culture Dish (Catalog #27100).
4. Cover coated cultureware to protect from contamination.
5. Incubate at room temperature (15 - 25°C) for 1 - 2 hours.
6. Aspirate excess solution. Avoid scratching the coated surface.
7. Rinse coated cultureware with sterile D-PBS Without Ca++ and Mg++ (Catalog #37350).
8. Use coated cultureware immediately. Alternatively, keep sterile and store at 2 - 8°C damp or air dried.

References

- Bornstein P & Sage H. (1980) Structurally distinct collagen types. *Annu Rev Biochem* 49: 957-1003.
Heino J. (2007) The collagen family members as cell adhesion proteins. *Bioessays* 29(10): 1001-10.
Tanzer ML. (1973) Cross-linking of collagen. *Science* 180(4086): 561-6.

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