

## Certificate of Analysis

## CORNING® COLLAGEN IV, HUMAN

*In vivo*, basement membranes are acellular sheets which support cells, separate them from mesenchymal connective tissue, and dynamically regulate cell growth, differentiation and spatial orientation.<sup>1,2</sup> Collagen IV is found in relatively large basement membrane structures and complex organs such as glomerular basement membrane,<sup>3</sup> lens capsule,<sup>4</sup> Descemet's membrane,<sup>5</sup> placenta and EHS tumor - a basement membrane-rich lathyritic mouse tumor.<sup>6,7</sup> Type IV collagen may be used to culture epithelial, endothelial, muscle and nerve cells. Collagen IV and laminin (to which Collagen IV preferentially binds<sup>7</sup>) are the major structural components for these cell types. Collagen IV is typically used as a thin coating on tissue culture surfaces.

CATALOG NUMBER: 354245 LOT NUMBER: 4286001

SOURCE: Human placenta

**NOTE:** Any of the human source material used in the manufacturing of this material was tested and found nonreactive for hepatitis B surface antigen (HBsAg), for antibody to hepatitis C virus (anti-HCV), for antibody to human immunodeficiency virus-1 (anti-HIV-1), for antibody to human immunodeficiency virus-2 (anti-HIV-2), and for antibody to syphilis (RPR). Regardless of the test data this product should be handled observing the same Universal Safety Precautions employed when handling any potentially infectious material.

QUANTITY: 0.25 milligrams, frozen

CONCENTRATION: 0.53 mg/mL (measured by Chemiluminescence)

FORMULATION: 10 mM Acetic acid

RECONSTITUTION & USE: Corning Collagen IV, human, is generally used as a thin coating, but may also be used as a gel. The optimal concentration for cell attachment and culture may differ for various cell types. Some experimentation may be required to determine the optimal conditions for individual cell culture systems. Please see reverse for coating procedures. If the material is not to be used all at once, dispense into appropriate aliquots and store at -70°C. **AVOID MULTIPLE FREEZE THAWS.**

PURITY: ≥90% by SDS-PAGE.

QUALITY CONTROL: Corning Collagen IV, human, has been tested and found negative for the presence of bacteria, fungi and mycoplasma.

STORAGE: Stable when stored at -70°C. Avoid multiple freeze-thaws. Do not store in frost-free freezer. **KEEP FROZEN.**

EXPIRATION DATE: January 19, 2017

REFERENCES:

1. DiMilla, P.A., et.al., *J. Cell Biol.*, **122**:729 (1993).
2. Kleinman, H.K., et.al., *Biochemistry*, **25**:312 (1986).
3. Boutaud, A., et.al., *J. Biol. Chem.*, **275**:30716 (2000).
4. Kelley, P.B., et.al., *Matrix Biol.*, **21**:415 (2002).
5. Yurchenco, P.D., and Ruben, G.C., *Am J Pathol.*, **132**:278 (1988).
6. Eble, J.A., et.al., *J Biol. Chem.*, **271**:30964 (1996).
7. Grinnell, F., *Methods Enzymol.*, **82**:499 (1982).

**Suggested Coating Procedure**

Use this procedure as a guide to determine the optimal coating conditions for your culture system.

Coating Procedure

- 1) Dilute Corning® Collagen IV, human, to desired concentration using 10 mM acetic acid. The final solution should be sufficiently dilute so that volume added will cover the surface evenly.

Example: If the final coating concentration will be  $1.0 \mu\text{g}/\text{cm}^2$ , dilute the material to  $10 \mu\text{g}/\text{mL}$  and add 1 mL/35 mm dish, 3 mL/60 mm dish, etc.

- 2) Add appropriate amount of diluted material to culture surface.
- 3) Incubate at room temperature for 1 hour.

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- 4) Aspirate remaining material.
- 5) Rinse dishes carefully to remove acid.
- 6) Plates are ready for use. They may also be stored at 2-8°C damp or air dried if sterility is maintained.

Gelling Procedure

**NOTE:** Corning Collagen IV, human, will only form a very soft gel.

- 1) Mix Corning Collagen IV, human, 1:2 with a buffer which will bring the solution to neutrality.
- 2) Incubate at 37°C for 15 to 60 minutes.
- 3) Material is ready for use.

**NOTE:** For more details on Corning Collagen products and technical resources please visit support page at [www.corning.com/lifesciences](http://www.corning.com/lifesciences)



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Quality Assurance



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