

Product Information

Collagen Type IV from human cell culture

Catalog Number **C6745**
Storage Temperature -20°C

CAS RN 9007-34-5
EC 232-697-4

Product Description

Collagen can be divided into several families according to the types of structure formed. Collagen Type IV is one of the most abundant proteins in the extracellular matrix (ECM) and a major component of the basement membrane, the thin, specialized ECM that surrounds most tissues. It is a heterotrimeric molecule containing two $\alpha 1$ -like and one $\alpha 2$ -like chains. Vertebrates have three $\alpha 1$ and three $\alpha 2$ -like genes. It is considered essential for completion of embryogenesis and is necessary for proper tissue organization and structural integrity. It is used *in vitro* as a substrate to enhance adherence and proliferation of many cell types.

This Collagen Type IV product is generated by human fibroblasts and epithelial cells in a co-culture system, which produces an ECM *in vitro*. The Collagen Type IV is then purified biochemically. It is sterilized by dialysis in an acetic acid and 0.5% chloroform solution, and is supplied sterile at a concentration of ~ 0.3 mg/ml in 25% acetic acid.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

Thaw the collagen slowly at $2-8^{\circ}\text{C}$. The solution should be clear. The presence of a precipitate indicates the collagen has come out of solution. Minor amounts of precipitate can be removed by centrifugation, which should leave sufficient collagen in solution.

Storage/Stability

The product is shipped on dry ice and storage at -20°C is recommended. Under these conditions the product is stable for least 2 years.

Procedure

Coating Procedure

Optimal conditions for attachment must be determined for each cell line and application.

1. Slowly thaw the collagen Type IV solution at $2-8^{\circ}\text{C}$.
2. Dilute in sterile Hank's Balanced Salt Solution (HBSS). Coat the plates with a minimal volume. See Table 1 for suggested volumes; however, each application may vary.

Table 1.

Suggested Volumes of Collagen Solution per Well

Plate Size	Volume of Collagen Solution
96-well plate	75 μl per well
24-well plate	500 μl per well
6-well plate	2.4 ml per well

3. Incubate at 37°C for 1–2 hours.
4. Wash 3 times with sterile HBSS and plate the cells.

Collagen Type IV coated culture plasticware and cover slips may be stored for ~ 1 month at $2-8^{\circ}\text{C}$.

Reference

1. Kleinman, H.K., Preparation of basement membrane components from EHS tumors. *Curr Protoc Cell Biol.*, Chapter 10, Unit 10.2 (2001).

JF,MAM 04/09-1

Sigma brand products are sold through Sigma-Aldrich, Inc.

Sigma-Aldrich, Inc. warrants that its products conform to the information contained in this and other Sigma-Aldrich publications. Purchaser must determine the suitability of the product(s) for their particular use. Additional terms and conditions may apply. Please see reverse side of the invoice or packing slip.