



## Collagen I-Cell Culture Surface Coating Kit (CCCSCK)

Catalog #8188

### Product Description

Type I collagen, a fibrous protein abundant in connective tissues such as the tendon, ligament, dermis and blood vessels, is the major component and the primary determinant of tensile strength of the extracellular matrix (ECM). It is widely used as a thin layer on tissue-culture surfaces to enhance the attachment and proliferation of a variety of cells including endothelial cells, fibroblasts, hepatocytes, and epithelial cells. In addition, collagen I can self-assemble into a 3-D supramolecular gel *in vitro*, making it an ideal biological scaffold to promote more *in vivo*-like cellular morphology and function.

The ScienCell™ collagen I-Cell Culture Surface Coating Kit includes collagen I purified from rat tail tendon by modification of the Bell Method and supplied as a sterile liquid in 1/1000 acetic acid [1]. The kit also includes a 100× collagen I solvent, which can be used to dilute collagen I to the appropriate concentration for the coating of cell culture vessels.

### Kit Components

Cat. #	# of vials	Reagent	Quantity	Storage
8188a	1	Collagen I from rat tail, 1 mg/ml	10 ml	2-8°C
8188b	1	Collagen I Solvent, 100×	2 ml	2-8°C

### Quality Control

CCCSCK is tested for the adherence of cells to the culture dish and promotion of cell growth (Figure 1). CCCSCK is negative for bacterial and fungal contamination.

### Product Use

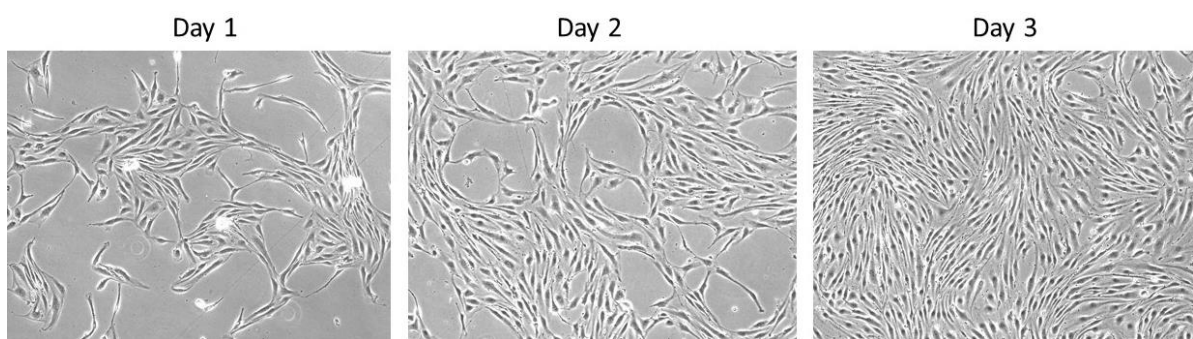
CCCSCK is used to coat cell culture vessels *in vitro*. CCCSCK is for research use only. It is not approved for human or animal use, or application in clinical or *in vitro* diagnostic procedures.

### Shipping

All components are shipped on gel ice.

### Procedure

1. Dilute 100× Collagen I Solvent 1:100 with sterile DI H<sub>2</sub>O (to make a 1× solution) and store at 2-8°C.
2. Dilute the collagen I (1mg/ml) with 1× Collagen I Solvent to give a final concentration of 50 µg/ml.
3. Coat the culture surface at a concentration of 5µg/cm<sup>2</sup> (e.g. 125 µg, or 2.5 ml of 50 µg/ml collagen I is needed for coating a T-25 flask, which has a surface area of 25 cm<sup>2</sup>). Further dilution to as low as 0.5 µg/cm<sup>2</sup> may be required depending on the cell type and application.
4. Incubate for at least 1 hour at 37°C.
5. Aspirate the collagen I solution and rinse three times with sterile 1x PBS or media.
6. The collagen I coated culture vessel can be used immediately. For future use, collagen I coated vessel can be air dried in a laminar flow hood and stored at 4°C.



**Figure 1.** Adhesion and growth of rat brain microvascular endothelial cells (Cat. #R1000) on rat tail collagen I coated flasks at Day 1, Day 2, and Day 3 after seeding.

## References

- [1] Bell E, Ivarsson B, Merrill C. (1979) "Production of a tissue-like structure by contraction of collagen lattices by human fibroblasts of different proliferative potential in vitro." *Proc Natl Acad Sci USA*, 76(3): 1274-1278.