CellAdhere™ Type I Collagen, Aligned-Braided Slides

Type I collagen 3D-oriented collagen fibril matrix, printed onto glass chips

Catalog # 07006 6 Slides

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Product Description

CellAdhere™ Type I Collagen, Aligned-Braided Slides is an engineered scaffold consisting of Type I Collagen deposited on the surface in a specific manner using a highly controlled process (Vrana et al.; Besseau et al.); the purified collagen is printed onto borosilicate glass chips using Fibralign™ Nanoweave™ technology at a thickness of about 1 µm while aligning the collagen fibrils in an exact orientation. As the aligned fibrils are applied to a glass slide, the process is controlled for parameters such as fibril positioning, mechanical strength, structural uniformity, average fibril sizes, and optical characteristics. The braided configuration is intended to closely mimic the organization of collagen fibrils in corneal stroma and some other connective tissues (Vrana et al.).

CellAdhere™ Type I Collagen, Aligned-Braided is provided on 8 x 15 mm glass slides. The label "UP" on the slide indicates the side on which the aligned collagen matrix is provided. This product is recommended for cell culture applications requiring highly reproducible cell orientation, cell migration studies, and cell-extracellular matrix interaction studies.

Properties

Storage: Store at 15 - 25°C.
Shelf Life: Stable for 12 months from date of receipt.

Handling / Directions For Use

PREPARING SLIDES FOR CELL CULTURE

1. Remove CellAdhere™ Type I Collagen, Aligned-Braided Slide from container using sterile forceps. Do not disrupt the matrix on the slide.
   NOTE: Use the "UP" label on the slide to identify the side on which the matrix is deposited.
2. Place slide in sterile D-PBS Without Ca++ and Mg++ (Catalog #37350) for 5 minutes.
3. Remove and rinse slide in deionized water for 5 - 10 seconds.
4. Remove slide and place in sterile 70% ethanol for at least 1 hour. This step will sterilize the slide.
5. Remove slide and allow it to air dry.
   NOTE: Placing the slide at an angle allows ethanol to evaporate faster.
6. Place slide in cultureware so that the "UP" label can be read.
7. Add DMEM with 1000 mg/L D-Glucose (Catalog #36253) or other serum-free culture medium to cultureware to cover the slide. For example, add 3 mL of DMEM in a 35 mm Culture Dish (Catalog #27100).
8. Incubate at 37°C for 45 minutes.
9. Aspirate medium.
10. Add cell suspension to cultureware.
    NOTE: Use DMEM with 1000 mg/L D-Glucose (Catalog #36253) or other serum-free basal medium to prepare cell suspension.
11. Incubate at 37°C until cells attach to slide.
12. Aspirate medium and replace with complete culture medium.
    NOTE: Complete culture medium can contain serum.

References

Besseau L et al. (2002) Production of ordered collagen matrices for three-dimensional cell culture. Biomaterials 23(1): 27–36.
Vrana E et al. (2008) Contact guidance enhances the quality of a tissue engineered corneal stroma. J Biomed Mater Res A 84(2): 454–63.