Collagen Membrane Film Discs

23 MM DIAMETER

Catalog Number **5315-5EA**

Product Description

Collagen Membrane Film Discs consists of a thin sheet of Type I collagen and minor quantities of Type III collagen. The product is sourced and prepared from Cephalopods. The collagen membrane is highly robust and flexible with unique mechanical properties and strength both dry and hydrated. The membrane structure comprises of natural heterogeneity where the collagen fibers are apparent under microscopy with a mesh-like appearance. The collagen content in this product is >95%. Each package contains 5 collagen membrane film discs each with a diameter of 23 mm and an average thickness ranging from 20 to 60 µm. The discs fit into a 12-well culture plate well. This product is biocompatible and cell friendly but is not sterile.

Characterization

Dimensions: Collagen Membrane Film Discs are approximately 23 mm in diameter and 20 to 60 µm thick.

Purity of Collagen Purity: >95%

Molecular Weight of Collagen: 280-300 kDa

Observed Pore Size: Present but not analyzed.

Sterility: This product is not sterile.

Storage/Stability: Room Temperature - Heating above 40ºC is not recommended. Store in a cool, dry place. A minimum of 6 months from date of receipt. Extended shelf life under evaluation.

Biocompatibility: Yes

Precautions and Disclaimer

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

Preparation and Usage

A. Preparation and Seeding:

1. Remove the collagen membrane discs from the packaging.
2. Carefully place the discs into the wells of a 12 well tissue culture plate or other appropriate cell cultureware. If seeding with cells, it is recommended to use non-treated tissue culture plasticware. Be careful not to damage the discs as they are being transferred.
3. The discs can be sterilized by UV light. Sterilization parameters will vary depending on UV source, distance of discs from the light source, environmental conditions, packaging, etc.
   Note: Tissue culture plasticware may need to be coated with agarose to prevent cell attachment to the plastic instead of the discs.
4. If seeding cells, suspend cells at desired concentration ($1x10^4$ – $1x10^5$ cells/mL) and dispense sufficient volume of cell solution on top of the disc(s) placed in the well.
5. Transfer to a 37ºC incubator for about 1 - 2 hours to allow for initial cell attachment.
6. After 1 - 2 hour, remove the plate from the incubator and check for cell attachment. Additional testing may be required to optimize the time it takes for the cells to attach to the disc surface. Check the morphology of the cells. Cell adherence and spreading will dictate the time for attachment.
7. Once the cells have adequately attached to the discs, increase the final volume in each well to fully cover and provide adequate medium for the culture system.

B. Changing the Media:

1. Change the medium 12 to 24 hours after the initial seeding. The frequency of changes will be determined by cell type, cell attachment efficiency, pH (maintain at pH 7.0 to 7.4) utilization of medium nutrients available to

cultures. Frequency of medium changes should be similar to growing cells in 2D culture systems.

C. Harvesting of Cells:

Note: Protease digestion is the standard method of releasing cells from the sponges. The strength of the attachment of the cells to the collagen discs will vary from cell line to cell line. The enzyme concentration and digestion time will vary depending upon the activity of the enzyme and the confluence of the cells. Collagenase and/or trypsin may be the preferred method.

1. Washing the discs with EDTA-PBS may assist the protease digestion. Add sufficient volume to cover the disc.
2. Aspirate the EDTA-PBS solution from the well.
3. Add sufficient dissociation solution to the well to fully over the disc.
4. Transfer to a 37ºC incubator. Check for cell detachment periodically for cell detachment.
5. Once the cells have fully detached, remove the cells and dispense in a centrifuge tube.
6. Centrifuge the cells as require.

REFERENCES

1. None at present – newly introduced product.