User Guide

Millicell® Standing Cell Culture Inserts

Millicell® (MCE) Membrane

PIHA01250
PIHA03050

Millicell® (PTFE) Membrane

PICM01250
PICM03050

Millicell® (PC) Membrane

PIHP01250 PIHP03050
PITP01250 PI8P01250
PIXP01250

Introduction

Millicell® Standing Cell Culture Inserts are sterile, general purpose devices for the growth and differentiation of various cell types.

Millicell® Standing Cell Culture Inserts are single-use products consisting of a filter sealed to a cylindrical polystyrene holder. The 12 mm inserts are used in 12 or 24 well culture plates. The 30 mm inserts are used in 6-well culture plates.

Note: When working with Millicell® Inserts, use appropriate tissue culture media, reagents, and growth environments as well as aseptic technique.

For information on ECM coating (required for attachment-dependent cells on the Millicell® Insert with Biopore™ membrane), staining, or other Millicell®-related procedures, contact SigmaAldrich.com/TechService.

Directions

Perform the following steps in a bacteriological LAF (laminar flow) hood or equivalent controlled environment.

CAUTION: Do not use at temperatures above 50 °C to ensure accurate results. Do not reuse inserts.

1. Prepare culture plate wells before opening the Millicell® inserts. Add tissue culture medium to each well as follows:
   - 600 µL for 12 mm inserts, or
   - 1.5 to 2.0 mL for 30 mm inserts

   Prepare enough wells for experiments and controls.

   CAUTION: Do not use with strong acids or bases, or organic solvents incompatible with the membrane, and/or polystyrene.
2. Peel off the cover sheet from the blister package containing the Millicell® insert.

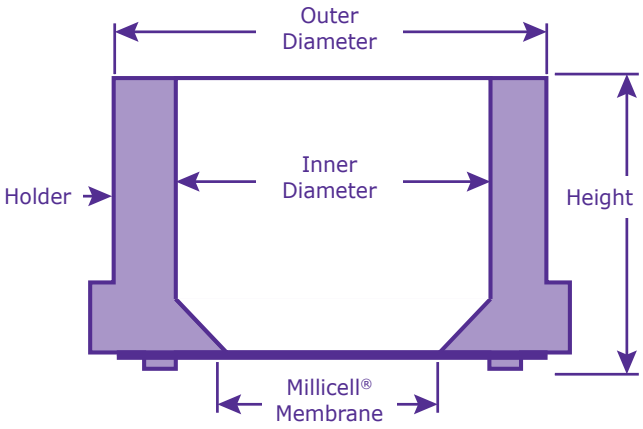
   CAUTION: Do not use inserts that have damaged membrane, such as cracks or holes.
3. Use sterilized forceps to remove the insert from the package. Do not touch the membrane.
4. Repeat steps 2 and 3 until a Millicell® insert is placed into each prepared well. Make sure the inserts are positioned correctly, with the membrane section closest to the well bottom.
5. Allow several minutes for the membrane in each insert to become moistened with the tissue culture medium that was added in step 1. If using:
   - 12 mm inserts, the recommended inside volume is 400 µL and the outside volume is 600 µL.
   - 30 mm inserts, the recommended inside and outside volumes are 1.5 to 2.0 mL each.
6. Inoculate the cells onto the inside of the insert above the membrane.
7. Follow standard tissue culture incubation/feeding procedures for cell growth and monolayer formation.

   NOTE: Be sure not to puncture the membrane or disturb cultured cells during medium addition or removal.

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Specifications

Diagram of Millicell® Standing Cell Culture Insert



Dimensions	12 mm	30 mm
Height (including feet)	1.0 cm	1.3 cm
Height of Feet	1-2 mm	1-2 mm
Outer Diameter	1.2 cm	3.0 cm
Inner Diameter	1.0 cm	2.7 cm
Membrane Area (effective)	0.6 cm^2	4.2 cm^2

Temperature Limit	50 °C
Membrane Pore Sizes	0.4, 0.45, 3.0, 8.0, and 12.0 µm
Solvent Compatibility	Incompatible with strong acids, strong bases, and certain organic solvents.
Sterilization	Inserts are shipped sterile and ready-for-use. If the package is open or damaged before use, sterility cannot be guaranteed.

Materials of Construction

Membrane Types	
MF-Millipore™	Mixed cellulose esters (MCE)
Biopore™	Hydrophilic Polytetrafluoroethylene (PTFE)
Isopore™	Tissue culture–treated, track-etched PVP-free polycarbonate (PC)
Plastic Holder	Polystyrene

Product Ordering

Products can be purchased at SigmaAldrich.com.

Millicell® Membrane	Pore Size	Insert Size	Catalogue Number
MF-Millipore™ (MCE)	0.45 µm	12 mm	PIHA01250
		30 mm	PIHA03050
Biopore™ (PTFE)	0.4 µm	12 mm	PICM01250
		30 mm	PICM03050
Isopore™ (PC)	0.4 µm	12 mm	PIHP01250
		30 mm	PIHP03050
	3.0 µm	12 mm	PITP01250
	8.0 µm	12 mm	PI8P01250
	12.0 µm	12 mm	PIXP01250
Organotype (Low height: 5 mm)			
Biopore™ (PTFE)	0.4 µm	30 mm	PICM0RG50

Related Products

Millicell®-ERS 3.0 Digital Voltohmmeter Electrical Resistance System (measures membrane potential and resistance of epithelial cells in culture)	MERS03000

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