

User Guide

Millicell[®] Hanging Cell Culture Inserts

Introduction

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

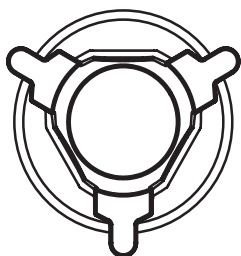
In plastic tissue culture plates, cells can access media only from their apical sides, but in Millicell[®] tissue culture inserts, cells can access media from both their apical and basolateral sides. As a result, cell growth, structure, and function more closely mimic what occurs in vivo.

The insert's flanged design suspends it within the culture plate well and makes it possible to access both sides of the cell monolayer. Pipetting is facilitated by three flat faces that create a larger space between the outside of the insert and the culture plate well.

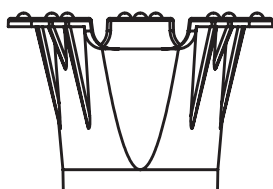
Millicell[®] inserts are available to fit 6-, 12- and 24-well culture plates.

Diagram of Millicell[®] Hanging Cell Culture Insert

top view



side view



Usage Guidelines

- For research use only.
- Do not use if packaging is damaged.
- Before use, inspect inserts for membrane damage such as cracks or holes.
- Perform the following procedure in a laminar flow hood or equivalent controlled environment.
- Do not use at temperatures above 50 °C.
- Do not reuse inserts.
- Use culture plates with well heights > 15 mm.
- Do not use with strong acids, strong bases, or organic solvents.

Procedure

1. Prepare enough wells for experiments and controls.
2. Peel cover sheet from blister package containing the Millicell[®] insert.
3. Use sterile forceps to remove the insert from the package and place it into a culture plate well. Do not touch the membrane. Repeat until desired number of wells have inserts.
4. Add tissue culture media to basolateral side of each well, based on the table below.
5. Allow several minutes for the membrane in each insert to become moistened with the tissue culture media.
6. Seed 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 careful not to puncture the membrane or disturb cultured cells during media addition or removal.

Media Volumes for Standard Plastic Culture Plates*

Insert	24-Well	12-Well	6-Well
Well diameter (mm)	6.5	12	24
Membrane surface area (cm ²)	0.3	1.1	4.5
Apical volume (μL)	100	200	1000
	200	400	2000
	300	600	3000
	400	800	4000
Basolateral volume (μL) for EMD Millipore Corporation plates	600	900	2000
	900	1200	2750
	1200	1500	3500
	1500	1800	4300
Basolateral volume (μL) for Corning [®] plates	1000	1650	3500
	1300	1950	4200
	1600	2250	4900
	1900	2500	5600

* Highlighted volumes are recommended.

Specifications

Insert Dimensions	24-well	12-well	6-well
Height	16 mm	16 mm	16 mm
Outer diameter	9 mm	15 mm	27 mm
Inner diameter	6.5 mm	12 mm	24 mm
Membrane area (effective)	0.3 cm ²	1.1 cm ²	4.5 cm ²

Membrane Specifications

Pore Size (μm)	Pore Density (pores/cm ²)	Thickness (μm)	Optical Property
0.4	1 × 10 ⁸	12	Translucent
1.0	2 × 10 ⁶	11	Transparent
3.0	2 × 10 ⁶	9	Translucent
5.0	6 × 10 ⁵	10	Translucent
8.0	2 × 10 ⁵	11	Translucent

Materials of Construction

Membrane: Polyethylene terephthalate (PET)

Plastic Holder: Polystyrene

Receiver Plate: Polystyrene

Solvent Compatibility

Incompatible with strong acids, strong bases, and organic solvents.

Properties

The devices are tissue culture treated and gamma irradiated, and ready for use as received. Extracellular matrix coating (ECM) is not required.

Notice

The information in this document is subject to change without notice and should not be construed as a commitment by EMD Millipore Corporation ("Millipore") or an affiliate. Neither EMD Millipore Corporation nor any of its affiliates assumes responsibility for any errors that may appear in this document.

Technical Assistance

For more information, contact the office nearest you. In the U.S., call 1-800-221-1975. Outside the U.S., go to our web site at www.millipore.com/offices for up-to-date worldwide contact information. You can also visit the tech service page on our web site at www.millipore.com/techservice.

Standard Warranty

The applicable warranty for the products listed in this publication may be found at www.millipore.com/terms ("Conditions of Sale").

Product Ordering Information

Millicell® inserts are individually blister packed.

Millicell® 24-well Inserts

Pore Size	Cat. No.	Qty/pk
0.4 μm	MCHT24H48	48
1.0 μm	MCRP24H48	48
3.0 μm	MCSP24H48	48
5.0 μm	MCMP24H48	48
8.0 μm	MCEP24H48	48

Millicell® 12-well Inserts

Pore Size	Cat. No.	Qty/pk
0.4 μm	MCHT12H48	48
1.0 μm	MCRP12H48	48
3.0 μm	MCSP12H48	48
5.0 μm	MCMP12H48	48
8.0 μm	MCEP12H48	48

Millicell® 6-well Inserts

Pore Size	Cat. No.	Qty/pk
0.4 μm	MCHT06H48	48
1.0 μm	MCRP06H48	48
3.0 μm	MCSP06H48	48
5.0 μm	MCMP06H48	48
8.0 μm	MCEP06H48	48

Cell Culture Plates	Cat. No.	Qty/pk
6-well Cell Culture Receiver Plate, tissue culture treated, sterile	PIMWS0650	50
12-well Cell Culture Receiver Plate, tissue culture treated, sterile	PIMWS1250	50
24-well Cell Culture Receiver Plate, tissue culture treated, sterile	PIMWS2450	50

Related Products

Millicell®-ERS Electrical Resistance System (measures membrane potential and resistance of epithelial cells in culture)	MERS00002	1
Stericup®-GP Filter Unit, PES membrane	SCGPU05RE	12
Sterile Millex®-GP Filter Unit, PES membrane	SLGP033RS	50
Steriflip®-GP Filter Unit, PES membrane	SCGP00525	25

The M logo, Millipore, Millex, Millicell, Stericup, and Steriflip are registered trademarks of Merck KGaA.

All trademarks of third parties are the property of their respective owners.

© 2014 EMD Millipore Corporation. Billerica, MA, U.S.A. All rights reserved.

00120354, Rev. A, 11/14

