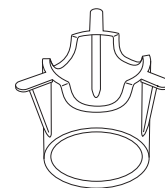




Millicell® Hanging Cell Culture Inserts

Single and Preloaded Inserts



Introduction

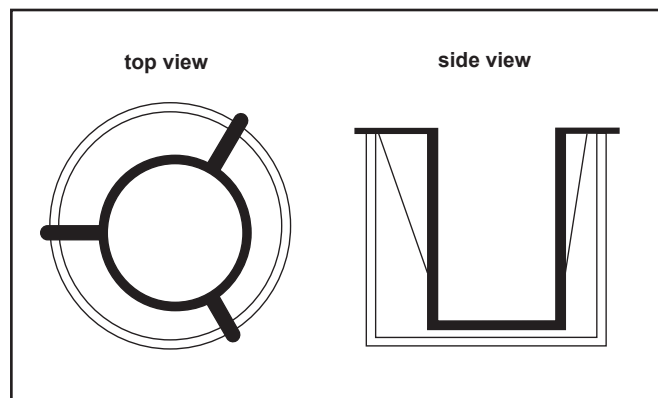
Millicell Hanging Cell Culture Inserts are sterile, general purpose devices for the growth and differentiation of various cell types. Uniquely designed flanges suspend the insert in an off-center position within the culture plate well, facilitating pipetting by creating a larger space to one side.

In plastic tissue culture plates, cells can access media only from their apical sides. 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*. In addition, Millicell inserts make it possible to access both sides of the cell monolayer.

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

Diagram of Millicell Hanging Cell Culture Insert



Usage Guidelines

- For research use only.
- Perform the following steps 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 or bases, or organic solvents incompatible with the membrane, and/or polystyrene.
- Do not use inserts that have membrane damage such as cracks or holes.

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Procedure

1. Prepare enough wells for experiments and controls.
2. **Hanging Millicell inserts:** Peel off cover sheet from blister package containing the Millicell insert. 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.
- Preloaded plates:** Open bag(s) and remove plates with inserts.
3. Add tissue culture medium to basolateral side of each well based on table below.
4. Allow several minutes for the membrane in each insert to become moistened with the tissue culture medium.
5. Seed the cells onto the inside of the insert above the membrane.
6. 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 medium addition or removal.

Volumes for Standard Plastic Culture Plates*

Insert	6-Well	12-Well	24-Well
Well Diameter (mm)	24	12	6.5
Membrane Surface Area (cm ²)	4.5	1.1	0.3
Apical Volume (µL)	1000	200	100
	2000	400	200
	3000	600	300
	4000	800	400
Basolateral Volume (µL) for Millipore plates	2000	900	600
	2750	1200	900
	3500	1500	1200
	4300	1800	1500
Basolateral Volume (µL) for BD™ and Corning® plates	3500	1650	1000
	4200	1950	1300
	4900	2250	1600
	5600	2500	1900

* Highlighted volumes are recommended.

Specifications

	24-well	12-well	6-well
Height of Millicell insert:	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):	33 mm ²	113 mm ²	452 mm ²

Specifications, continued

Solvent Compatibility: Incompatible with strong acids, strong bases, and certain organic solvents. Check compatibility chart at www.millipore.com/chemcompat.

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

Membrane Specifications

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

Materials of Construction

Membrane: Polyethylene Terephthalate (PET)

Plastic Holder: Polystyrene

Receiver Plate: Polystyrene

Product Ordering Information

Millicell inserts are individually blister packed so you can use the exact number of inserts required for your application. Pre-loaded receiver plates are individually bagged.

Millicell Inserts

Millicell Inserts Preloaded in 24-well Receiver Plates

Membrane	Pore Size	Catalogue No. (12 inserts/plate, 4 plates/box)
PET	0.4 µm	PIHT 12L 04
	1.0 µm	PIRP 12L 04
	3.0 µm	PISP 12L 04
	8.0 µm	PIEP 12L 04

Millicell Inserts Preloaded in 12-well Receiver Plates

Membrane	Pore Size	Catalogue No. (12 inserts/plate, 4 plates/box)
PET	0.4 µm	PIHT 15L 04
	1.0 µm	PIRP 15L 04
	3.0 µm	PISP 15L 04

Millicell Inserts Preloaded in 6-well Receiver Plates

Membrane	Pore Size	Catalogue No. (6 inserts/plate, 4 plates/box)
PET	0.4 µm	PIHT 30L 04
	1.0 µm	PIRP 30L 04
	3.0 µm	PISP 30L 04

24-well Millicell Inserts

Membrane	Pore Size	Catalogue No. (48/box)
PET	0.4 µm	PIHT 12R 48
	1.0 µm	PIRP 12R 48
	3.0 µm	PISP 12R 48
	5.0 µm	PIMP 12R 48
	8.0 µm	PIEP 12R 48

12-well Millicell Inserts

Membrane	Pore Size	Catalogue No. (48/box)
PET	0.4 µm	PIHT 15R 48
	1.0 µm	PIRP 15R 48
	3.0 µm	PISP 15R 48
	5.0 µm	PIMP 15R 48
	8.0 µm	PIEP 15R 48

Product Ordering Information, continued

6-well Millicell Inserts

Membrane	Pore Size	Catalogue No. (48/box)
PET	0.4 µm	PIHT 30R 48
	1.0 µm	PIRP 30R 48
	3.0 µm	PISP 30R 48
	5.0 µm	PIMP 30R 48
	8.0 µm	PIEP 30R 48

Cell Culture Plates

6-well Cell Culture Receiver Plate, tissue culture treated, sterile, 50/pk	PIMW S06 50
12-well Cell Culture Receiver Plate, tissue culture treated, sterile, 50/pk	PIMW S12 50
24-well Cell Culture Receiver Plate, tissue culture treated, sterile, 50/pk	PIMW S24 50

Accessories

Millicell-ERS Electrical Resistance System (measures membrane potential and resistance of epithelial cells in culture)	MERS 000 01
Stericup®-GP Filter Unit, PES membrane, 12/pk	SCGP U01 RE
Sterile Millex®-GP Filter Unit, PES membrane, 50/pk	SLGP 033 RS
Steriflip®-GP Filter Unit, PES membrane, 25/pk	SCGP 005 25

Technical Assistance

For more information, contact the Millipore office nearest you. In the U.S., call **1-800-MILLIPORE** (1-800-645-5476). Outside the U.S., see your Millipore catalogue for the phone number of the office nearest you or 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. For the most up-to-date information on Millicell products, see www.millipore.com/millicell.

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