

Sterile Filtration



The Life Science business of Merck operates as MilliporeSigma in the U.S. and Canada.

# Millipore<sub>®</sub>

Preparation, Separation, Filtration & Monitoring Products

# Millipore® – the name you trust for sterile filtration

Millipore® is the brand of choice for sterile filters—for everything from media preparation for your cell culture, to sterilization of critical drug compounds:

#### **Selection**

From 1 mL to 20 L, we offer an array of both vacuumand pressure-driven devices that incorporate our longtrusted membrane technology.

#### **Expertise**

With over 50 years of expertise in the sterile filtration business, we set the industry standard for high performance membrane technology and application in sterile filtration.

#### **Innovation**

As protocols requiring sterile filtration evolve, we continually qualify our filter systems to provide application-specific data.

#### **Improving on Sustainability**

We are proud to introduce Stericup® E and Steritop® E sterile filtration devices, designed to ensure trouble-free cell culture, while diminishing environmental impact. Groundbreaking device design maintains exceptional Stericup® filtration while dramatically reducing the use of disposable plastic and packaging materials. (see p. 8)

#### **Membrane Technology**

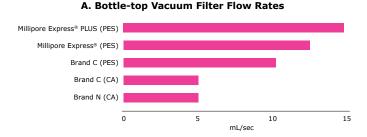
Sterile filtration performance depends on the quality of the membranes used. Our Millipore Express® PLUS, Durapore®, MF-Millipore $^{TM}$  and Fluoropore $^{TM}$  brand membranes set the industry standard for their application-specific properties (see below).

To learn more, please visit: SigmaAldrich.com/membrane-center

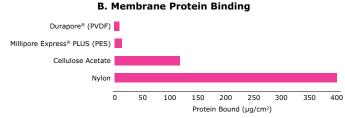
#### **Fit-for-Application Membrane Chemistries**

- Fastest flow, low protein-binding of aqueous solutions with Millipore Express<sup>®</sup> and Express<sup>®</sup> PLUS polyethersulfone (PES) membrane devices
- Fast flow and low protein-binding Mixed Cellulose Esters (MCE)
- Broad chemical compatibility and very low proteinbinding polyvinylidene fluoride (PVDF)

To learn more, visit: SigmaAldrich.com/SterileFiltration



# **Figure 1. A. Faster flow with Millipore Express® PLUS membrane.**500 mL of DMEM with 10% FBS was filtered through various vacuum-driven cup devices. CA, cellulose acetate. PES, polyethersulfone.



B. Lowest protein binding with Durapore® PVDF membrane. Membrane disks with a 0.22  $\mu m$  pore size were offered a 1 mg/mL solution of  $^{125}l$  labeled lgG. The chart shows protein binding after incubation (normalized to membrane surface area).

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### What people are saying...

"For over 40 years we've trusted MilliporeSigma to provide the quality filtration tools we need."

James T. Voss, NRRPT, CHP Fellow, Health Physics Society, President of Voss Associates.

"Trusted partners like MilliporeSigma are rare but central to our success."

Dr. Michael West, CEO, BioTime, Inc., Renowned thought leader in stem cell therapeutics

# **Summary of Sterile Filtration Products**

#### Vacuum filtration devices for cell culture media preparation

Descrip	tion	Pore Size (µm)	Membrane	Maximum Process Volume	
Stericup Release	<sup>®</sup> Quick Filtration	0.1 0.22 0.45	Millipore Express® PLUS (PES), Durapore® (PVDF)	150 mL 250 mL 500 mL 1000 mL	
Steritop Release Filtration	Bottle-Top	0.1 0.22	Millipore Express® PLUS (PES), Durapore (PVDF)	150 mL 250 mL 500 mL 1000 mL	
Stericup Eco-Frie Filtration	ndly	0.22	Millipore Express® PLUS (PES)	500 mL 1000 mL	
	® E ndly Bottle- ation Units	0.22	Millipore Express® PLUS (PES)	All Volumes	
Steriflip <sup>©</sup> Units	<sup>®</sup> Filtration	0.22 0.45	Millipore Express® PLUS (PES), Durapore® (PVDF), Nylon Net	50 mL	
	al Receiver and Caps			100 mL 250 mL 500 mL	

#### Sterile syringe filters for cell culture media preparation and small volume filtration

Description	Pore Size (µm)	Membrane	Maximum Process Volume
Millex® Syringe Filters (4, 13, 25 mm)	0.2 0.22 0.45 0.5	Millipore Express® (PES), Durapore® (PVDF), MCE	1 – 100 mL
Millex® Syringe Filters (33 mm)	0.1 0.22 0.45 0.8	Millipore Express® PLUS (PES), Durapore® (PVDF), MCE	10 - 200 mL

#### **Large-scale sterile filtration devices**

Description	Pore Size (µm)	Membrane	Maximum Process Volu	me
Stericap™ PLUS Vacuum-driven Filters	0.22	Millipore Express® PLUS (PES)	2 - 10 L	
Sterivex® Pressure- driven Filters	0.22 0.45	Millipore Express® PLUS (PES), Durapore® (PVDF)	Up to 2 L	
Millex®-GP 50 mm Pressure-driven Filters	0.22	Millipore Express® (PES)	Up to 4 L	
Steripak™ Pressure- driven Filters	0.22	Millipore Express® (PES)	10 L 20 L	

#### **Hydrophobic filters for gas filtration**

Description	Pore Size (µm)	Inlet-Outlet Fittings	Membrane	
Millex®-FG 25 mm Syringe Filters	0.22	FLL-MLS, FLL-MLL, FLS-MLS, FLL-Spike	Hydrophobic PTFE, Hydrophobic PVDF	++++
Millex®-FG 50 mm for gas filtration and protection of vacuum pumps	0.2 0.45 1.0	Stepped Hose Barb with FLS – 1/8 in. NPTM	Hydrophobic PTFE	0

FLL = Female Luer-Lok®

FLS = Female Luer slip

MLL = Male Luer-Lok®

MLS = Male Luer slip



### **Bench-scale Filters**

#### Stericup® & Steritop® Filter Units

Stericup® and Steritop® sterile filtration devices combine superior flow rates and throughput with low non-specific binding and a stable, no-tip design.

#### Fast flow, low-binding membranes

Membranes with low protein binding ensure that key growth factors and proteins won't be absorbed onto the filter. Millipore Express® PLUS membranes feature low protein binding and faster flow than other membranes. For applications that require ultra-low protein binding, use a device with a Durapore® PVDF membrane.

# Stericup® Quick Release Filtration Systems

#### Work With Ease. Filter With Confidence.

Stericup® Quick Release Filtration Systems streamline your workflow with ergonomic design updates and safeguard your results with the proven performance of Millipore membranes.

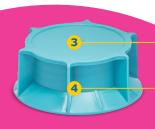
- 1 Quarter-Turn Quick Release Funnel Removal
- Prosted Writing Surface
- 3 Lighter Color for Legibility
- 4 Click-Seal Confidence Cap

#### **Additional Features:**

- Cap Rests on the Side to Avoid Risk of Contamination
- Stackable Bottles to Save Space

Learn more about Stericup® Quick Release Filtration Systems at:

SigmaAldrich.com/StericupQuickRelease





#### Stericup® & Steritop® Quick Release Filter Units 🛜



#### **Stericup® Filter Units**

Stericup® Filtration Systems combine a filter unit with a receiver flask and cap for processing and storage.

Description	Membrane/Application	Pore Size (µm)	Funnel Capacity (mL)	Receiver Bottle (mL)	Qty/Pk	Cat No.
Stericup®-GP	Millipore Express® PLUS	0.22	150	150	12	S2GPU01RE
Quick Release Filter Units <sup>†</sup>	(PES)/fast filtration of tissue culture media and buffers		250	250	12	S2GPU02RE
			500	500	12	S2GPU05RE
			500	1000	12	S2GPU10RE
			1000	1000	12	S2GPU11RE
Stericup®-HV	Durapore®(PVDF)/filtration	0.45	150	150	12	S2HVU01RE
Quick Release Filter Units	of high value biomolecules, lowest protein binding		250	250	12	S2HVU02RE
	.oest p. ete Sag		500	500	12	S2HVU05RE
			1000	1000	12	S2HVU11RE
Stericup®-VP Quick Release	Millipore Express® (PES) / removal of mycoplasma*	0.1	250	250	12	S2VPU02RE
Filter Units	removal of mycopiasma		1000	1000	12	S2VPU11RE
Stericup®-GV	Durapore® (PVDF) /	0.22	150	150	12	S2GVU01RE
Quick Release Filter Units	filtration of high value biomolecules, lowest		250	250	12	S2GVU02RE
	protein binding		500	500	12	S2GVU05RE
			500	1000	12	S2GVU10RE
			1000	1000	12	S2GVU11RE

#### Steritop® Filter Units

Steritop® bottle-top filter units can be used on bottles with 33 mm or 45 mm thread.

Description	Membrane/Application	Pore Size (µm)	Funnel Capacity (mL)	Thread Size (mm)	Qty/Pk	Cat No.
Steritop® QR	Millipore Express® PLUS	0.22	150	45	12	S2GPT01RE
Quick Release Filter Units <sup>†</sup>	(PES)/fast filtration of tissue culture media and buffers		250	45	12	S2GPT02RE
			500	45	12	S2GPT05RE
			1000	45	12	S2GPT10RE
Steritop®-GP	Millipore Express® PLUS	0.22	150	33	12	SCGPS01RE
Quick Release Filter Units	(PES) / filtration of high value biomolecules, lowest protein		250	33	12	SCGPS02RE
	binding		500	33	12	SCGPS05RE
Steritop®-GV Quick Release Filter Units	Durapore® (PVDF) / filtration of high value biomolecules, lowest protein binding	0.22	500	45	12	S2GVT05RE
Steritop®-VP Quick Release Filter Units	Millipore Express® (PES)/ removal or mycoplasma*	0.1	1000	45	12	S2VPT10RE
Click Seal Receiver			250	45	12	S200B02RE
Bottles and Caps			500	45	12	S200B05RE
			1000	45	12	S200B10RE

<sup>\* 0.10</sup> µm pore size is designed to enhance maximum filtration of tissue culture media but it is not a guarantee of complete mycoplasma removal.

<sup>†</sup> Selected stem cell research publications citing Stericup® or Steritop® device for sterile filtration of medium:

Feeder independent culture of human embryonic stem cells. Teneille E. Ludwig et al. Nature Methods Vol. 3 No. 8 August 2006 637-646.

<sup>2.</sup> Roelandt P et al. Differentiation of rat multipotent adult progenitor cells to functional hepatocyte-like cells by mimicking embryonic liver development. Nat Protoc. 2010 Jul;5(7):1324-36.

<sup>3.</sup> Hu BY et al. Differentiation of human oligodendrocytes from pluripotent stem cells. Nat Protoc. 2009;4(11):1614-22. Epub 2009 Oct 15.

<sup>4.</sup> Hu BY, Zhang SC. Differentiation of spinal motor neurons from pluripotent human stem cells. Nat Protoc. 2009;4(9):1295-304.

<sup>5.</sup> Bigdeli N et al. Adaptation of human embryonic stem cells to feeder-free and matrix-free culture conditions directly on plastic surfaces. J Biotechnol. 2008 Jan 1;133(1):146-53.

<sup>6.</sup> Dravid G et al. Culture of human embryonic stem cells on human and mouse feeder cells. Methods Mol Biol. 2006;331:91-104.

#### Stericup® E and Steritop® E Eco-Friendly Filter Units 🛜

Description	Membrane/Application	Pore Size (µm)	Receiver Bottle (mL)	Thread Size (mm)	Qty/Pk	Cat No.
Stericup® E-GP	Millipore Express® PLUS	0.22	500	38	12	SEGPU0538
Sterile Vacuum Filtration System	(PES)/fast filtration of tissue culture media and buffers		500	45	12	SEGPU0545
,			1000	38	12	SEGPU1138
			1000	45	12	SEGPU1145
Steritop® E-GP Sterile Vacuum	Millipore Express® PLUS (PES)/fast filtration of tissue	0.22	All Volumes	38	12	SEGPT0038
Filtration System	, ,,		All volutiles	45	12	SEGPT0045



#### Stericup<sup>®</sup> E & Steritop<sup>®</sup> E Filter Systems

The new 'E' (eco-friendly) additions to the Stericup® family eliminate the plastic filter funnel entirely by threading directly onto the media bottle. Stericup® E and Steritop® E filter devices reduce environmental impact by cutting down on:

- Disposable plastic
- Hazardous waste
- Lab storage space requirements

#### **Usage Guidelines**

- Choose a collar thread (38 mm or 45 mm) that is compatible with your glass or plastic media/ buffer bottle.
- The 38 mm thread is recommended for our media bottles and majority of other standard commercial media bottles.
- The 45 mm thread is recommended for wider neck media bottles (such as Gibco®) or 45mm thread glass bottles.
- Use only glass or plastic bottles designed for vacuum applications. For the Steritop® E filter, use a 45 mm threaded glass or plastic receiver bottle no larger than 2 liters.

#### Your eco-impact, by the numbers:

	Plastics*	Packaging*
Stericup® E Sterile filter Eliminates disposable filler funnel	Up to 26%	Up to 20%
Steritop® E Sterile filter Eliminates disposable filler funnel & receiver bottle	Up to 48%	Up to 69%



Both Stericup® E and Steritop® E sterile filters thread directly onto virtually any commercial media bottle or glass bottle



Stericup® E products use significantly less packaging made from materials that reduce environmental impact



Learn more about the Stericup® E and the Steritop® E at: SigmaAldrich.com/Stericup-E

Learn more about our commitment to responsible life science tools at SigmaAldrich.com/green

#### Stericup® E and Steritop® E Filter Units Sustainability Checklist



Stericup® E and Steritop® E filters thread directly onto any commercial media bottle or glass bottle:

- Reduces plastic and hazardous waste.
- Frees-up storage in smaller tissue culture rooms, where space is at a premium.
- Enhances laboratory compliance with institutional sustainability requirements—or a means for achieving individual environmental responsibility goals.

Stericup® E and Steritop® E filters have the Accountability, Consistency, and Transparency (ACT) Environmental Impact Factor Label, published by My Green Lab®, providing a score based around manufacturing, energy and water use, packaging and end-of-life. The ACT labelled products help labs choose greener life science products. The ACT labels can be viewed on the product pages of each Stericup® E and Steritop® E filter catalogue number; please visit **SigmaAldrich.com.** 

Stericup® E and Steritop® E filters are packaged in individual, recyclable pouches for sterility.

Stericup  $E^{\otimes}$  and Steritop $^{\otimes}$  E user guides are accessible via **SigmaAldrich.com** or by scanning the QR code on the product label or box, to reduce paper waste.

The Stericup® E and Steritop® E corrugated boxes and dividers have sustainable forestry certification.

#### Difference between Stericup® Quick Release and Stericup® E Filter Units

	Product	Funnel	Filter Collar	Receiver Bottle
	Stericup® Quick Release Filtration			
	Steritop® Quick Release Bottle-Top Filtration Units			
	Stericup® E Eco-Friendly Filtration and Storage Units Greener Solution			<b>(</b>
M	Steritop® E Eco-Friendly Bottle-Top Filtration Units Greener Solution			

#### Steriflip® Filter Units 🛜



For filtering 10 mL to 50 mL volumes without sample transfer steps.

#### Filter up to 50 mL directly into a centrifuge tube

- Attach the device to a standard 50 mL centrifuge tube containing your sample, flip it over and apply vacuum
- Filtrate collects in the attached 50 mL tube
- Available with optional funnel accessory

Description	Membrane	Pore Size (µm)	Qty/Pk	Cat No.
Steriflip®-GP Filter Unit	Millipore Express® PLUS (PES)	0.22	25	SCGP00525
Steriflip®-GV Filter Unit	Durapore® (PVDF)	0.22	25	SE1M179M6
Steriflip®-HV Filter Unit	Durapore® (PVDF)	0.45	25	SE1M003M00
Steriflip® Steri-Strainer	Nylon Net	100	25	SCNY00100
		60	25	SCNY00060
		40	25	SCNY00040
		20	25	SCNY00020
Accessory				
Steriflip® Funnel Attachment			25	SC50FL025





#### **Sterile Millex® Syringe Filters**

Millex® syringe filters provide convenient sterilization of small volumes and are ideal for solutions such as antibiotics and tissue culture additives. Their unsurpassed quality and consistency of results has led to the development of many sample preparation methods that specify Millex® filters.

#### **Manufactured for reliable performance**

Manufacturing occurs in a controlled environment using an automated process. Sterile devices are provided with a certificate of quality.

#### **Faster flow rate**

33 mm Millex® filters have 20% more filter surface than 25 mm filters for significantly higher flow rate and throughput. The 33 mm Millex has the same hold-up volume as the 25mm Millex.

#### **Higher operating pressure**

With a maximum housing pressure of 150 psig (10 bar), solutions can be filtered faster.

#### Low extractables, low binding

A variety of membranes and housings ensure chemical compatibility with a range of samples and solvents

#### Research use only Millex® (RUO Millex®) Syringe Filters

RUO Millex® filters are for research use only and are NOT registered medical devices.

These sterile Millex® syringe filters are suitable for use in laboratory research.

#### Typical research laboratory applications include the sterile filtration of:

- · Protein solutions
- Tissue culture media
- · Additives, buffers, and water

The production of RUO Millex® use the same raw materials and manufacturing process as the medical device. There will be no change to device performance. The only differences are that the RUO Millex® filters are less expensive and are not registered medical devices.



### RUO Millex® Syringe Filters — Sterilized and individually packaged.

Description	Pore Size (µm)	Туре	Process Volume (mL)	Hold-up Volume (after air purge, µL)	Sterilization Method	Qty/Pk	Cat No.
4 mm Diameter							
Durapore® (PVDF) Membrane	0.22	GV	1	< 10	EO	100	SLGV004SL
	0.45	HV	1	< 10	EO	100	SLHV004SL
13 mm Diameter							
Hydrophilic PTFE Membrane	0.2	LG	10	< 25	EO	100	SLLG013SL
Durapore® (PVDF) Membrane	0.22	GV	10	< 25	EO	100	SLGVR13SI
	0.45	HV	10	< 25	EO	100	SLHVR13SI
33 mm Diameter							
Millipore Express® PLUS (PES) Membrane Fast flow and low binding for cell culture media preparation	0.22	GP	200	< 100	RS	50	SLGPR33R9
						250	SLHPR33RI
	0.45	GP	200	< 100	RS	50	SLHPR33R
						250	SLHPR33RE
Durapore® (PVDF) Membrane	0.1	VV	100	< 100	RS	50	SLVVR33RS
Lowest binding membrane for protein rich solutions	0.22	GV	100	< 100	RS	50	SLGVR33R9
for protein rich solutions						250	SLGVR33RE
	0.45	HV	100	< 100	RS	50	SLHVR33R9
						250	SLHVR33RI
Mixed Cellulose Esters (MCE) Membrane	0.22	GS	100	< 100	EO	50	SLGSR33S
Most referenced general purpose membrane						250	SLGSR33SE
parpose membrane	0.45	НА	100	< 100	EO	50	SLHAR33SS
						250	SLHAR33SI
	0.8	AA	100	< 100	EO	50	SLAAR33SS
						250	SLAAR33SI

†EO = ethylene oxide; RS = radiosterilized



## Large-scale Sterile Filtration Devices

#### Sterivex® Filters



#### Pressure-driven devices for filtering up to 2 L

Sterivex® filter units work with syringes, peristaltic pumps, or pressure vessels, and are designed to dispense into any storage container.



Description	Process Volume (mL)	Membrane	Pore Size (µm)	Fitting Outlet	Qty/Pk	Cat No.
Sterivex®-GP Filter Units						
Sterivex®-GP Filter Unit	2000	Millipore Express®	0.22	Filling Bell	10	SVGPB1010
		PLUS (PES)		Male Luer-Lok®	15	SVGPL10RC
				Male Nipple	15	SVGP01015
					50	SVGP01050
Sterivex®-GV Filter Units						
Sterivex®-GV Filter Unit	1000	Durapore® (PVDF)	0.22	Filling Bell	10	SVGVB1010
				Male Luer-Lok®	15	SVGVL10RC
				Male Nipple	15	SVGV01015
					50	SVGV010RS
Sterivex®-HV Filter Units						
Sterivex®-HV Filter Unit	1000	Durapore® (PVDF)	0.45	Filling Bell	10	SVHVB1010
				Male Luer-Lok®	15	SVHVL10RC
				Male Nipple	15	SVHV01015
					50	SVHV010RS

#### 



#### Universal bottle-top devices for filtering 2 to 10 L

- Fits on any vacuum-rated bottle, 20 to 67 mm in diameter
- Vented to help prevent filter air lock
- Features fast-flowing, low protein binding Millipore Express® PLUS membrane
- Ideal for fast sterilization of tissue culture media, serum, buffers, or other biological solutions

Description	Membrane	Pore Size (µm)	Qty/Pk	Cat No.
Stericap™ PLUS Filter	Millipore Express® PLUS (PES)	0.22	10	SCGPCAPRE



#### Millex®-GP 50 mm Pump-Driven Filters

#### Sterilized and individually packed

Description 50 mm Diameter	Pore Size (µm)	Туре	Process Volume (mL)	Hold-up Volume (after air purge, mL)	Sterilization Method	Qty/Pk	Cat No.
Millipore Express®	0.22	GP50	4000	< 1	RS	10	SLGP05010
(PES) Membrane		GP50 with filling bell	_			10	SLGPB5010
Glass Filter for Prefiltration	NA	AP	4000	<1	Autoclavable	10	SLAP05010

<sup>†</sup>EO = ethylene oxide

#### Steripak™ Filters 🛜



#### Pump-driven filters for volumes up to 20 L

Steripak™ filters are designed for larger scale pressure-driven filtration of tissue culture media, with or without serum. The units are single-use and come in two volume sizes. They are supplied sterile and ready to connect to a pump or pressure vessel.

Description	Membrane	Pore Size (µm)	Filter area, cm²	Qty/Pk	Cat No.
Steripak™-GP10 Filter	Millipore Express® (PES)	0.22	100	3	SPGPM10RJ
Steripak™-GP20 Filter	Millipore Express® (PES)	0.22	200	3	SPGPM20RJ



#### **Hydrophobic Filters for Gas Filtration**

Description	Application	Pore Size (µm)	Sterility	Inlet-Outlet Fitting	Qty/Pk	Cat No.
25 mm Diameter Filt	ers					
Hydrophobic PTFE	Vacuum line protection and	0.2	Ethylene	FLL-MLS	50	SLFG025LS
	gas filtration		oxide	FLL-MLL	50	SLFGL25BS
			Non-Sterile	FLL-MLS	50	SLFG02550
Hydrophobic PVDF	Transducer protector	0.22	Ethylene oxide	FLL-MLS	50	SLGVS25PS
				FLL-MLL	50	SLGVS25US
				FLL-MLL	50	SLGVS25XS
				FLL-Spike	50	SLGVS25LS
Pump-driven Millex®-	-FG50 50 mm Diameter Filters					
Hydrophobic PTFE	Vacuum line protection and gas filtration	0.2	Non-Sterile	Stepped Hose Barb with FLS	10	SLFG05010
					100	SLFG05000
				Stepped Hose Barb with FLS – 1/8 in. NPTM	10	SLFG55010
					100	SLFG65000
				1/8 in. NPTM	10	SLFG75010
					100	SLFG75000
		0.45	Non-Sterile	Stepped Hose Barb	10	SLFH05010
				with FLS	100	SLFH05000
		1.0	Non-Sterile	Stepped Hose Barb with FLS	100	SLFA05000

FLL = Female Luer-Lok® FLS = Female Luer slip MLL = Male Luer-Lok® MLS = Male Luer slip

## Accessories for Stericup® and Steritop® Systems

For pressure-driven filtration (such as Steripak® and Sterivex®), pressure vessels and pressure peristaltic pumps are available. Please contact Technical Service for further information.

Description	Size	Qty/Pk	Cat No.
Glass fiber prefilters	75 mm	100/pk	AP2007500
Silicone rubber tubing, 3/16 in. (4.8 mm) ID, with adapter	4.5 ft (1.4 m)	1/pk	XX7100004
Vacuum/Pressure Pump 115 V, 60 Hz	N/A	1/pk	WP6111560
Vacuum/Pressure Pump 100 V, 50/60 Hz	N/A	1/pk	WP6110060
Vacuum/Pressure Pump 220 V, 50 Hz	N/A	1/pk	WP6122050
Millivac-Maxi Vacuum Pump, 230 V	N/A	1/pk	SD1P014M04
Millivac-Mini Vacuum Pump, 230 V	N/A	1/pk	XF5423050
Millivac Mini Vacuum Pump, 115 V	N/A	1/pk	XX5411560

## **Related Products: Multiwell Plates**

#### MultiScreen®<sub>HTS</sub> Filter Plates



Automation-compatible MultiScreen® filter plates that contain a microporous membrane are ideal for clarifying samples or separating suspensions in diverse workflows, including sample clean-up prior to instrument analysis, removal of cellular debris, extraction of natural products and bead washing for immunoassay procedures.

Membrane	Pore Size	Туре	Well Number	Plate Color	Plate Material	Qty/Pk	Cat. No.
Hydrophilic	0.22 μm	GV	96	Clear	Acrylic	10	MSGVS2210
Durapore® PVDF	0.45 μm	HV	96	Clear	Styrene	10	MSHVS4510
	1.2 μm	BV	96	Clear	Styrene	10	MSBVS1210
Hydrophobic	0.45 µm	IP	96	Clear	Acrylic	10	MSIPS4510
Immobilon®-P PVDF	0.45 μm	IP	96	White	Acrylic	10	MSIPS4W10
Hydrophilic MCE	0.45 μm	MCE	96	Clear	Styrene	10	MSHAS4510
	0.45 μm	MCE	96	White	Barex®/TiO2	10	MSHAS4B10

#### Millicell<sup>®</sup> Microporous Membrane-Based Cell Culture Plates



Millicell® plates feature membranes that allow easy access to both the apical and basolateral sides of cells. This encourages three-dimensional growth and provides a more accurate in vitro model than traditional plastic plates. Both the 24-well and 96-well cell culture plates incorporate patented design features simplifying media exchange for high performance cell-based assays. The plates simplify handling of multiple samples simultaneously, maintain assay integrity, and prevent monolayer disruption during analysis. The assemblies include a choice of a multi-well or single-well feeder tray.

Membrane	Pore Size	Plate Material	Qty/Pk	Cat. No.
Millicell®-24 cell culture plate	24-well cell culture plate,	PCF (3.0 μm)	5	PSST010R5
	24-well receiver tray and lid	PCF (5.0 μm)	5	PSMT010R5
		PCF (8.0 μm)	5	PSET010R5
	24-well cell culture plate,	PCF (0.4 μm)	5	PSHT010R5
	single-well feeder tray and lid	PET (1.0 μm)	5	PSRP010R5
Millicell®-96 cell culture plate	96-well cell culture plate, 96-well receiver tray and lid	PCF (0.4 μm)	5	PSHT004S5
	96-well cell culture plate,	PCF (0.4 μm)	5	PSHT004R5
	single-well feeder tray and lid	PET (1.0 μm)	5	PSRP004R5



# Millipore®

Preparation, Separation, Filtration & Monitoring Products

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