

Sartoclear Dynamics® Lab V

For simultaneous clarification and sterile filtration of >15 mL to 1 L mammalian cell cultures in one step



Benefits

- Clarify high-density mammalian cell culture in minutes
- Out-of-the-box solution
- Fast and effortless
- No need for centrifugation

Product Information

Sartoclear Dynamics® Lab V kits are designed for simultaneous clarification and sterile filtration of 50 mL to 1 L of mammalian cell culture broth to prepare samples for subsequent downstream processing steps, such as protein purification and concentration. The convenient kits combine pouches of filter aid for clarification and vacuum filtration units for sterile filtration.

High Filtration Performance

Sartoclear Dynamics® Lab V kits have been designed for cell harvesting of mammalian cell cultures, such as CHO, HEK, hybridomas and many others, with high cell densities.

Clarification Using Body Feed Filtration

Inspired by the plasma industry, Sartoclear Dynamics® Lab is based on the principle of body feed filtration using diatomaceous earth (DE) as a filter aid. DE is a highly porous, insoluble material used as a spacer between solid particles. While these particulate solids are entrapped in a cake that builds up on the filter, liquid along with the dissolved target substances can easily flow through this filter cake by passing through the porous structure of the DE particles.

Filtration with the Membrane of Choice: Polyethersulfone

Sartoclear Dynamics® Lab products are available either with a 0.22 or 0.45 µm polyethersulfone which have been developed and manufactured by Sartorius at its own facilities.

Both membranes provide fastest flow rates due to their asymmetric structure and ensure lowest protein binding as well as extractable. Therefore, they are the membranes of choice for cell culture harvesting applications.

14 Kits to Cover a Range of Volumes and Cell Densities

Fourteen kits are available to meet all your needs based on your filtration volume and the cell density of your mammalian cell cultures.

Technical Specifications

Typical Results

Cell Type	Cell Density	Viability	Monoclonal Antibody (mAb) Concentration Before Filtration	Monoclonal Antibody (mAb) Concentration After Filtration	Recovery Rate	Turbidity
CHO	14.46 × 10 ⁶ cells/mL	85.2%	5.2 g/L	5.15 g/L	99%	18 NTU
HEK	8 × 10 ⁶ cells/mL	70%	0.035 g/L	0.034 g/L	97%	8 NTU

Clarification

Pouches of filter aid

Diatomaceous Earth (DE)	1 g, 5 g or 10 g highly pure diatomaceous earth, (Celpure® C300 – pharmaceutical grade)*, mixed with water in a ratio of 1 DE : 1.25 ultrapure water Dust-free, gamma irradiated
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* Celpure® is a trademark of Advanced Minerals

Filtration

Vacuum filtration units with receiver flasks (Sartolab® RF)

Funnel, dust cover, receiver bottles	Heavy metal-free polystyrene
Funnel adapter, tubing connector, cap	Heavy metal-free polyethylene
Filter material	0.22 µm polyethersulfone
Packaging	Single-packaged, sterile

Vacuum filtration units with conical tube (Sartolab® RF 50)

Funnel, dust cover	Styrene-acrylonitrile (SAN)
Funnel adapter, tubing connector, cap	Heavy metal-free polyethylene
Conical tube	Polypropylene
Filter material	0.22 µm polyethersulfone (order no. 180E01) 0.45 µm polyethersulfone (order no. 180F01)
Packaging	Single-packaged, sterile

Each Sartoclear Dynamics® Lab V kit is comprised of pouches of filter aid and vacuum filtration units (Sartolab® RF) that match your needs. Find the right kit in just two easy steps:

1. Determine the volume range of your sample to be filtered.
2. Then reference it to the cell density of your cell culture.

Volume*	Cell Density** < 5 million cells/mL	Cell Density** 5 – 10 million cells/mL	Cell Density** 10 – 20 million cells/mL
≤ 50 mL	SDLV-0050-01E0-2		SDLV-0050-02E0-2
≥ 50 – 150 mL	SDLV-0150-02C-E		SDLV-0150-05C-2
150 – 250 mL	SDLV-0250-05C-2		SDLV-0250-10C-2
250 – 500 mL	SDLV-0500-05C-2	SDLV-0500-10C-2	SDLV-0500-20C-E
500 – 1000 mL	SDLV-1000-10C-2	SDLV-1000-20C-E	SDLV-1000-40C-E

Two Sartoclear Dynamics® Lab V50 kits are available for the filtration with a 0.45 µm PES membrane:

Volume	Cell Density** < 5 million cells/mL	Cell Density** > 5 million cells/mL
≤ 50 mL	SDLV-0050-01F0-2	SDLV-0050-02F0-2

* Especially for cultures with a volume > 50 mL and with high cell densities (>10 million cells/mL), we recommend that you use a Sartolab® RF unit nominally rated for the next higher volume of the solution to be filtered as it will accelerate your filtration run (larger membrane surface area | higher quantity of DE).

** Tested with CHO cell lines with a cell viability of approx. 85%

Ordering Information

Sartoclear Dynamics® Lab V50 Kits – 0.22 µm PES

Order Number	Description	Quantity
SDLV-0050-01E0-2	Sartoclear Dynamics Lab V, 50 mL, 1 g Filtration of up to 50 mL with 1 g of DE per unit Contents: 1 × 180E01—2 (24 × Sartolab® RF 50, 0.22 µm PES) 1 × SDLKG-01.0—2 (24 × pouches of filter aid, 1 g)	24
SDLV-0050-02E0-2	Sartoclear Dynamics Lab V, 50 mL, 2 g Filtration of up to 50 mL with 2 g of DE per unit Contents: 1 × 180E01—2 (24 × Sartolab® RF 50, 0.22 µm PES) 2 × SDLKG-01.0—2 (48 × pouches of filter aid, 1 g)	24

Sartoclear Dynamics® Lab V50 Kits – 0.45 µm PES

Order Number	Description	Quantity
SDLV-0050-01F0-2	Sartoclear Dynamics Lab V, 50 mL, 1 g Filtration of up to 50 mL with 1 g of DE per unit Contents: 1 × 180F01—2 (24 × Sartolab® RF 50, 0.45 µm PES) 1 × SDLKG-01.0—2 (24 × pouches of filter aid, 1 g)	24
SDLV-0050-02F0-2	Sartoclear Dynamics Lab V, 50 mL, 1 g, Filtration of up to 50 mL with 2 g of DE per unit Contents: 1 × 180F01—2 (24 × Sartolab® RF 50, 0.45 µm PES) 2 × SDLKG-01.0—2 (48 × pouches of filter aid, 1 g)	24

Sartoclear Dynamics® Lab V150 Kits

Order Number	Description	Quantity
SDLV-0150-02C-E	Sartoclear Dynamics® Lab V, 150 mL, 2 g Filtration of up to 150 mL with 2 g of DE per unit Contents: 1 × 180C1-----E (12 × Sartolab® RF 150, 0.22 µm PES) 1 × SDLKG-01.0---2 (24 × pouches of filter aid, 1 g)	12
SDLV-0150-05C-2	Sartoclear Dynamics® Lab V, 150 mL, 5 g Filtration of up to 150 mL with 5 g DE per unit Contents: 2 × 180C1-----E (24 × Sartolab® RF 150, 0.22 µm PES) 1 × SDLKG-05.0---2 (24 × pouches of filter aid, 5 g)	24

Sartoclear Dynamics® Lab V500 Kits

Order Number	Description	Quantity
SDLV-0500-05C-2	Sartoclear Dynamics® Lab V, 500 mL, 5 g Filtration of up to 500 mL with 5 g DE per unit Contents: 2 × 180C2-----E (24 × Sartolab® RF 500, 0.22 µm PES) 1 × SDLKG-05.0---2 (24 × pouches of filter aid, 5 g)	24
SDLV-0500-10C-2	Sartoclear Dynamics® Lab V, 500 mL, 10 g Filtration of up to 500 mL with 10 g DE per unit Contents: 2 × 180C2-----E (24 × Sartolab® RF 500, 0.22 µm PES) 1 × SDLKG-10.0---2 (24 × pouches of filter aid, 10 g)	24
SDLV-0500-20C-E	Sartoclear Dynamics® Lab V, 500 mL, 20 g Filtration of up to 500 mL with 20 g of DE per unit Contents: 1 × 180C2-----E (12 × Sartolab® RF 500, 0.22 µm PES) 1 × SDLKG-10.0---2 (24 × pouches of filter aid, 10 g)	12

Sartoclear Dynamics® Lab V250 Kits

Order Number	Description	Quantity
SDLV-0250-05C-2	Sartoclear Dynamics® Lab V, 250 mL, 5 g Filtration of up to 250 mL with 5 g of DE per unit Contents: 2 × 180C7-----E (24 × Sartolab® RF 250, 0.22 µm PES) 1 × SDLKG-05.0---2 (24 × pouches of filter aid, 5 g)	24
SDLV-0250-10C-2	Sartoclear Dynamics® Lab V, 250 mL, 10 g Filtration of up to 250 mL with 10 g of DE per unit Contents: 2 × 180C7-----E (24 × Sartolab® RF 250, 0.22 µm PES) 1 × SDLKG-10.0---2 (24 × pouches of filter aid, 10 g)	24

Sartoclear Dynamics® Lab V1000 Kits


Order Number	Description	Quantity
SDLV-1000-10C-2	Sartoclear Dynamics® Lab V, 1,000 mL, 10 g Filtration of up to 1 L with 10 g of DE per unit Contents: 2 × 180C3-----E (24 × Sartolab® RF 1000, 0.22 µm PES) 1 × SDLKG-10.0---2 (24 × pouches of filter aid, 10 g)	24
SDLV-1000-20C-E	Sartoclear Dynamics® Lab V, 1,000 mL, 20 g Filtration of up to 1 L with 20 g of DE per unit Contents: 1 × 180C3-----E, (12 × Sartolab® RF 1000, 0.22 µm PES) 1 × SDLKG-10.0---2 (24 × pouches of filter aid, 10 g)	12
SDLV-1000-40C-E	Sartoclear Dynamics® Lab V, 1,000 mL, 40 g Filtration of up to 1 L with 40 g of DE per unit Contents: 1 × 180C3-----E (12 × Sartolab® RF 1000, 0.22 µm PES) 2 × SDLKG-10.0---2 (48 × pouches of filter aid, 10 g)	12

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