cobetter filtration

Pultrix™ XQ Membrane Adsorber (Chromatography)

Pultrix™ XQ membrane adsorber is an innovative strong anion exchange ligand based on membrane technology. It utilizes a cross-linked polymer coating functionalized with high-density quaternary ammonium (Q) groups to facilitate the capture and purification of negatively charged biomolecules.

Pultrix™ XQ membrane adsorber features a highly interconnected membrane structure (2 µm nominal pore size) and a high density of quaternary ammonium ligands, delivering a large surface area and excellent accessibility for the capture of DNA, proteins, and other large biomolecules. Its open-channel design enables convective flow, ensuring rapid and efficient binding of target molecules. Compared to traditional chromatography resins, XQ membranes support significantly higher flow rate and offer superior dynamic binding capacity for large entities such as host cell DNA, plasmid DNA, host cell proteins, and enveloped viruses — reducing process time and achieve cost reduction effect.

Typical Application

- Plasmid capture from lysate (integrated lysate concentration/buffer exchange, size exclusion, and anion exchange – as in traditional plasmid purification)
- Purification of biological fluids through the removal of host-derived DNA, viruses, host cell proteins (HCPs), and endotoxins
- Designed for the capture large biomolecular targets such as recombinant proteins, plasmids, viral vectors, and plasma constituents

Features and Advantages

High Binding Efficiency

Membrane adsorber possess sufficiently large pore channels, enabling high binding capacity and high flow rates even at low pressure drop.
Based on convective mass transfer transport, membrane chromatography allows charged biomolecules to bind as they pass through the membrane in a single pass, eliminating retention time.

Effective Production

The recommended operating flow rate for membrane adsorber within the pressure limit is 10 MV/min (for a 2.5 mL membrane, a flow rate of 25 mL/min is recommended). Compared to traditional chromatography columns, membrane adsorber can increase production efficiency by 30 to 50 times.

Scalability and Flexibility

The full range of membrane adsorber is designed to meet diverse volume and performance requirements across the biopharmaceutical industry from process development to commercial manufacturing. Membrane adsorber can be used as single-use components or reused after validated cleaning procedures.

High Reproducibility

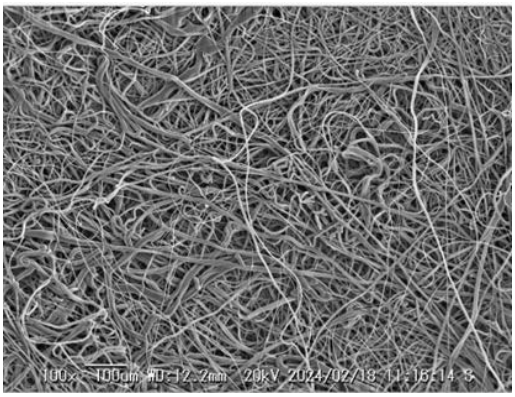
The entire range of membrane adsorber is manufactured in strict accordance with ISO 9001:2015 standards to ensure process reproducibility, consistency with product specifications, and stable performance.

Cost-saving Solution

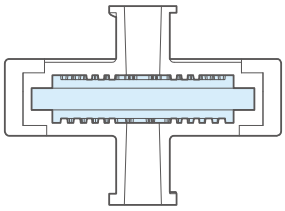
Compared to traditional columns that require efficient packing and cleaning protocols, membrane adsorber offer lower operational costs (e.g., reduced buffer consumption, less time investment) and lower capital investment (e.g., no need for additional hardware).

Ready to use

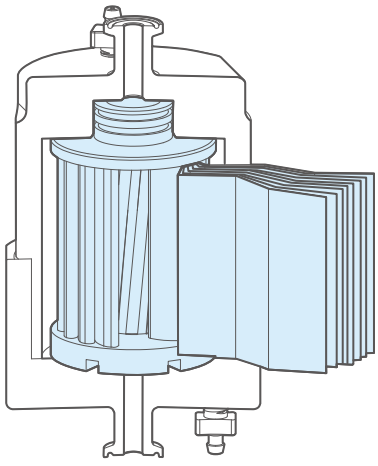
The user-friendly filter format requires only simple connections, enabling plug-and-play operation without the need for column packing. For single-use products, there is no need for cleaning validation, cleaning efficiency assessment, or concerns about cross-contamination.



Pultrix™ XQ membrane chromatography products use a market-proven hydrophilic polypropylene (PP) membrane, offering strong chemical compatibility and exceptionally low non-specific adsorption.



Structure of Lab-Scale Membrane Module



Structure of Pilot-scale and Commercial Manufacturing Membrane Module

Product Details

Product Series	**Pultrix™ XQ**
Membrane Material	Polypropylene (PP)
Functional Group	Quaternary Ammonium (Q)
Operating Flow Rate	1 ~ 25 MV/min
Nominal Pore Size	2 μm
BSA Binding Capacity	> 70 mg/ml
Chemical Compatibility	Compatible with most commonly used buffers and solvents in biomolecule purification processes. (For complete and detailed information, please refer to the validation guide.)
Storage Conditions	Room temperature (Before Use)
Storage Solution	0.1M NaOH (After Use)

Product Specification

Specification	CXD32	
Lab Scale		
Volume	0.2 mL	0.3 mL
Minimum Standard BSA Binding Capacity	70 mg/ml	70 mg/ml
Membrane Configuration	Flat sheet	Flat sheet
Layer	2	3
Connection Form	Female Luer;	Female Luer;
Structural Material	Upper : PP Lower : PP	Upper : PP Lower : PP
Recommended Flow Rate Range*	0.2-5 mL/min	0.3-7.5 mL/min
Max. Operating Pressure	4.0 bar	4.0 bar
Typical Application	Process development experiments; Scaled down laboratory tests	

Specification	CX02.5	CX0004	CX0025	CX0030
Lab Scale				
Volume	2.5 mL	4.0 mL	25.0 mL	30.0 mL
Minimum Standard BSA binding Capacity	70 mg/ml	70 mg/ml	70 mg/ml	70 mg/ml
Membrane Configuration	Capsule-type radial flow			
Layer	2	3	2	3
Connection Form	M6 Tapered Thread Port	M6 Tapered Thread Port	TC25	TC25
Structural Material	Membrane Support Layer / Drainage Structure: PP Core / Support / End Cap: PP Membrane Shell: PP Seal Ring: Red Silicon Valve: PP			
Recommended Flow Rate Range*	2.5-62.5 mL/min	4-100 mL/min	25-625 mL/min	30-750 mL/min
Max. Operating Pressure	3.0 bar	3.0 bar	3.0 bar	3.0 bar
Typical Application	Process development experiments; Scaled-down experiment			

Product Specification

Specification	CX0080	CX0095	CX0250	CX0280
Pilot & Production Specification				
Volume	80 mL	95 mL	250 mL	280 mL
Minimum Standard BSA binding Capacity	70 mg/ml	70 mg/ml	70 mg/ml	70 mg/ml
Membrane Configuration	Capsule-type radial flow			
Layer	2	3	2	3
Connection Form	TC25	TC25	TC25	TC25
Structural Material	Membrane Support Layer /Drainage Structure: PP Core / Support / End Cap: PP		Membrane Shell: PP Seal Ring: Red Silicon	Valve: PP
Recommended Flow Rate Range*	0.08-2 L/min	0.095-2.375 L/min	0.25-6.25 L/min	0.28-7 L/min
Max. Operating Pressure	3.0 bar			

Specification	CX1400	CX1500	CX2000	
Pilot & Production Specification				
Volume	1400 mL	1500 mL	2000 mL	
Minimum Standard BSA binding Capacity	70 mg/ml	70 mg/ml	70 mg/ml	
Membrane Configuration	Capsule-type radial flow			
Layer	2	3	4	
Connection Form	TC50	TC50	TC50	
Structural Material	Membrane Support Layer /Drainage Structure: PP Core / Support / End Cap: PP		Membrane Shell: PP Seal Ring: Red Silicon	Valve: PP
Recommended Flow Rate Range*	1.4-35 L/min	1.5-37.5 L/min	2-50 L/min	
Max. Operating Pressure	3.0 bar			

* Recommended flow rates are based on 1-25 film volumes/min. Actual process flow rates will be determined based on process requirements, maximum back pressure, and process time.

Ordering Information

Products No.	Description	Membrane volume	Packaging
CXD32PXQ02CC1P	Purcise™ Q Membrane Chromatography Syringe filter	0.2 mL	1 EA/PK
CXD32PXQ02CC4P		0.2 mL	4 EA/PK
CXD32PXQ03CC1P		0.3 mL	1 EA/PK
CXD32PXQ03CC4P		0.3 mL	4 EA/PK
CX02.5PXQ02MM1P	Purcise™ Q Membrane Chromatography Capsule Filter	2.5 mL	1 EA/PK
CX0004PXQ03MM1P		4 mL	1 EA/PK
CX0025PXQ02KK1P		25 mL	1 EA/PK
CX0030PXQ03KK1P		30 mL	1 EA/PK
CX0080PXQ02KK1P		80 mL	1 EA/PK
CX0095PXQ03KK1P		95 mL	1 EA/PK
CX0250PXQ02KK1P		250 mL	1 EA/PK
CX0280PXQ02KK1P		280 mL	1 EA/PK
CX1400PXQ02SS1P		1400 mL	1 EA/PK
CX1500PXQ03SS1P		1500 mL	1 EA/PK
CX2000PXQ04SS1P		2000 mL	1 EA/PK

cobetter® filtration

Tel +86-571-87704266
Fax +86-571-87704256
www.cobetter.com

Please contact us for more information.

Hangzhou Cobetter Filtration Equipment Co.,Ltd.

Sales Add. : 16 F, Building 1, Zicheng International Innovation Center, No.39 Jincheng Road, Xiaoshan District, Hangzhou 311215, China

Factory Add. : Cobetter Park, Heshang New Material Industrial Park, Xiaoshan District, Hangzhou 311265, China

Ver. 01b

* Specifications subject to change without notice.