

Sartobind® 96-Well Plates

High Throughput Screening
With IEX and HIC Membrane
Chromatography



Product Information

High throughput screening (HTS) with 96-well plates is commonly used to optimize biopharmaceutical development and reduce process development time lines.

Automated or manual optimization of chromatographic steps should be one of the standard procedures in purification. Membrane adsorbers in 96-well plate format in combination with a vacuum filtration unit or a centrifuge are ideal tools for rapid screening of purification conditions for target molecules.

The 96-well plate features a modular design of individual 8-strip units set into a 96-well holding frame. A silicone gasket seals the plate set-up of 12 individual 8-strip units for vacuum processing. The 96-well plates can be processed with the Vac96 vacuum manifold (VW96VAC01). Operation with a centrifuge does not require a gasket seal.

Sartobind® 96-well plates are available with four different membrane chemistries: Sartobind STIC® PA and Q anion exchangers, S cation exchanger and Sartobind® Phenyl as a hydrophobic interaction chromatography matrix.

Applications

Sartobind® plates are useful to optimize purification conditions of recombinant proteins (Mabs) and vaccines in Design of Experiments (DoE) studies.

Once optimal conditions have been determined, Sartobind® capsules should be used for estimation of binding capacity, the absolute removal of contaminants (virus, endotoxin etc.) or flow rate for further scale up.

Contaminant removal

- Host cell proteins
- DNA
- Endotoxins
- Viruses
- Aggregates

Bind & elute

- Viruses, VLPs
- Proteins
- DNA

Screening parameters in flowthrough and bind & elute modes

- Buffer type
- Buffer composition
- pH
- Conductivity
- Concentration of target molecule
- Additives
- Wash step

Technical Data

Base membrane	Stabilized reinforced cellulose
Nominal pore size	> 3 µm
Bed height	0.8 mm
Bed volume	19 µl well
Adsorption area	0.7 cm ² well

Membrane Types and Ligands

Strong basic anion exchanger	Quaternary ammonium (Q) R-CH ₂ -N ⁺ (CH ₃) ₃
Salt tolerant anion exchanger	Primary amine (PA)
Strong acidic cation exchanger	Sulfonic acid (S) R-CH ₂ -SO ₃ ⁻
Hydrophobic interaction membrane	Phenyl

Binding Capacity* [mg | ml] and [mg | well]

Q	29 0.55
PA	50 0.95
S	25 0.48
Phenyl	14.5 0.28

Materials

8-strip units	Polypropylene
Holding frame	Polystyrene
Collection plate	Polypropylene

Operation

With vacuum manifold or centrifuge

Short term	Q:	2-14
pH compatibility	PA:	2-14
	S:	3-14
	Phenyl:	2-14

Chemical stability	Stable in common chromatography buffers unstable to peroxide and other oxidizing or reactive reagents
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* Reference proteins: Bovine serum albumin for Q and PA, lysozyme for S and bovine IgG for Phenyl. The data is based on the typical dynamic binding capacity at 10% breakthrough measured with MA15 units (bed height 0.8 mm, bed volume 0.41 ml) at 10 ml/min



Ordering Information

Article No.	Description	Quantity
96-well plate		
99IEXQ42GC-----V	Sartobind® Q 96-well plate, 2 units	2 (24×8-strips)
99IEXQ42GC-----D	Sartobind® Q 96-well plate, 10 units	10 (120×8-strips)
99STPA42GC-----V	Sartobind STIC® PA 96-well plate, 2 units	2 (24×8-strips)
99STPA42GC-----D	Sartobind STIC® PA 96-well plate, 10 units	10 (120×8-strips)
99IEXS42GC-----V	Sartobind® S 96-well plate, 2 units	2 (24×8-strips)
99IEXS42GC-----D	Sartobind® S 96-well plate, 10 units	10 (120×8-strips)
99HICP42GC-----V	Sartobind® Phenyl 96-well plate, 2 units	2 (24×8-strips)
99HICP42GC-----D	Sartobind® Phenyl 96-well plate, 10 units	10 (120×8-strips)
Vacuum Manifold and Accessories		
VW96VAC01	Vac96 vacuum manifold	1
VW96VAA02	Vac96 liquid trap and reservoir	1
VW96VAA04	96 deep well collection plate 2 ml (square wells)	25
VW96VAA05	Replacement seal for Vac96 vacuum manifold	1
16612	Vacuum pump, 98%, 220 V, 50 Hz	1
16615	Vacuum pump, 98%, 110 V, 60 Hz	1

Required Equipments for Vacuum Operation

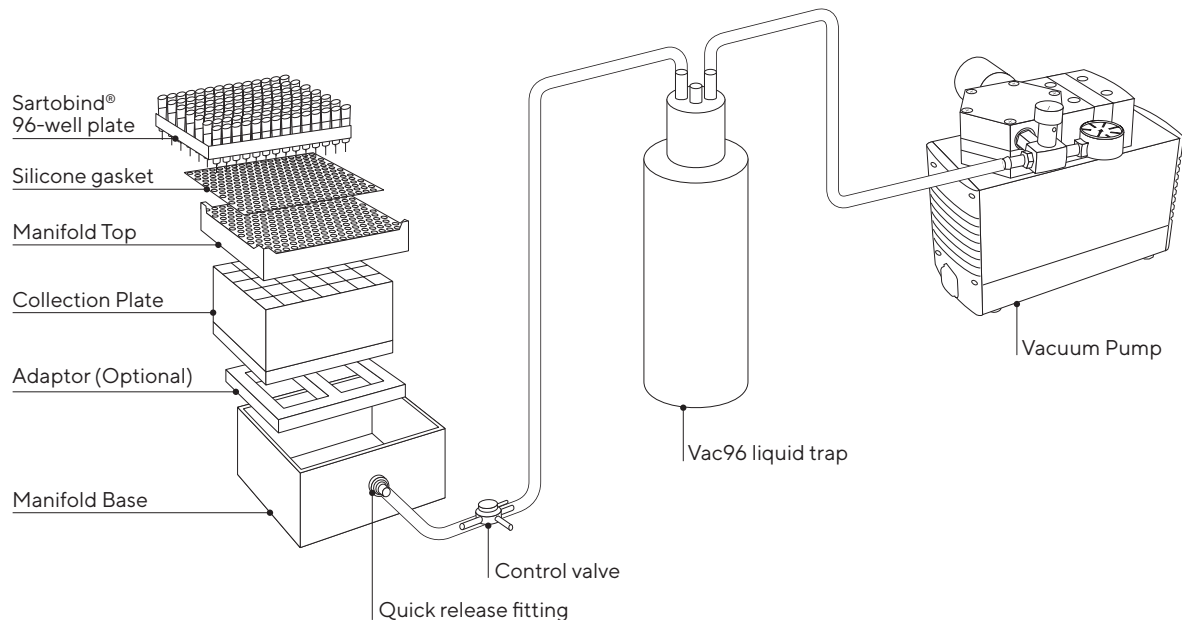
96-well plate*

Vac96 Vacuum manifold**
(VW96VAC01)

96 deep well
collection plate
(VW96VAA04)

Optional: Liquid trap
(VW96VAA02)

Vacuum pump or vacuum
source capable of applying
vacuum at 350 mbar
(35 kPa, 5 psi)



* 96-well plate contains silicon gasket


** Vac96 vacuum manifold contains manifold top, adaptor, manifold base, tube, quick release fitting and control valve

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