SARTORIUS

Product Datasheet

Sartobind® Rapid A Lab

To Affinity and Beyond: Fast, Flexible and Future-Proof Antibody Purification

Product Information

Sartobind® Rapid A Lab incorporates the state-of-the-art in membrane affinity chromatography (AC) technology, offering fast, flexible and future-proof antibody purification. It is an ideal solution for antibody research, as well as downstream process development for novel biologics before starting clinical and commercial production.

For research and molecule development, resin and first-generation membrane affinity chromatography require labor-intensive preparation, and the availability and maintenance of specialist equipment. High operating costs, low flow rates and yields, and limited lifespan and scale up options reduce overall efficiency.

Sartobind® Rapid A Lab is ready-for-use in research and development laboratories. Antibodies are transported to the binding sites primarily by convective flow, enabling 2 second residence times. This results in up to 90% time savings with purification cycles under 3 minutes. Furthermore, the blocking-resistant matrix and effective regeneration support delivery of 3-17X more yield over the lifetime of Sartobind® Rapid A Lab, compared to alternative AC consumables.

In addition, adapter-free inline prefiltration and reliable, syringe-driven purifications reduce process time even further, while identical Sartobind® Rapid A technology is available for convenient scale up to GMP production.

Features

The Fastest Matrix
Full speed ahead. High flow rates and reduced residence times take you from equilibration to pure antibody in less than two minutes.

Productivity Boost
Push the limits. Maximum dynamic binding capacity supports the preparation of your antibody sample to the highest possible yield and purity.

Plug and Play
Collapse your workflow. Ready-for-use units avoid the need for column packing and buffer degassing, while enabling convenient in-line prefiltration.

Flexibility Built In
Accept no limitations. Enhanced pressure resistance in a platform that ensures reliable purification with or without a liquid chromatography (LC) system.

Process-Ready Technology
Seamless scalability. Future-proof by design, ensuring ease-of-transfer for your most promising targets to clinical and commercial production.

Applications

Capture Purification
- Antibody drug conjugates (ADCs)
- Fc fusion proteins
- Fc receptor proteins
- Immunoglobulins (IgGs)
- Monoclonal antibodies (mAbs)
- Other Fc containing molecules

Common Sample Types
- Cell culture supernatant
- Serum and plasma
- Ascites fluid

Operating Principle

Affinity chromatography (AC) can be used to purify antibodies or similar molecules, based on the specific interaction between the Fc region and Protein A. When a complex mixture containing the target molecule, such as cell culture supernatant, is applied through Sartobind® Rapid A Lab, convective mass transport leads to efficient antibody capture, while impurities such as host cell proteins (HCPs) and DNA flow through the membrane (Figure 1A). After a washing step to increase purity (Figure 1B), antibodies are eluted under acidic conditions into a neutralizing buffer (Figure 1C).

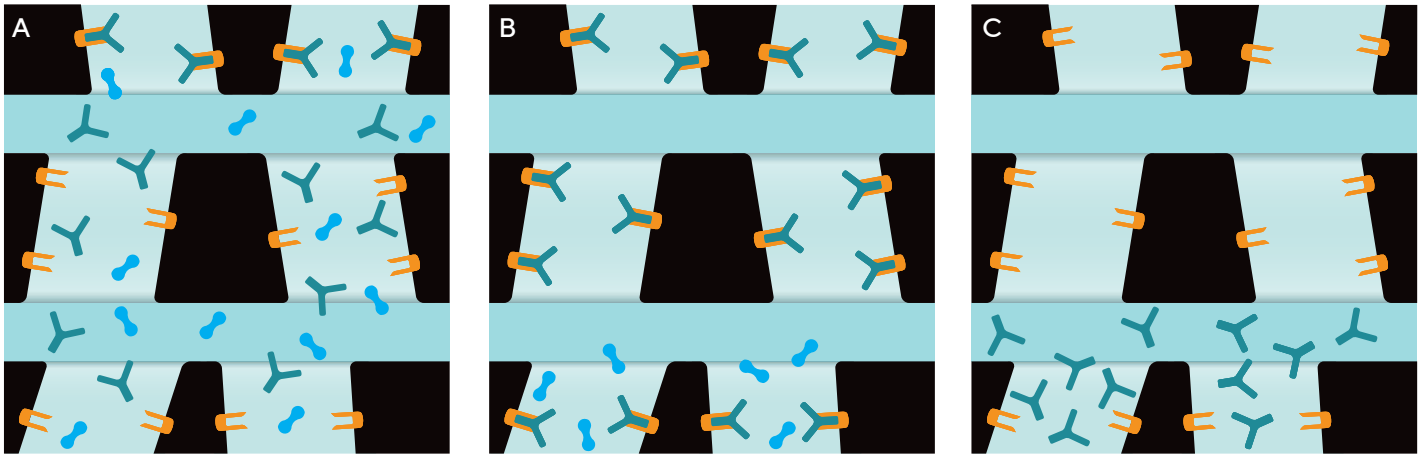
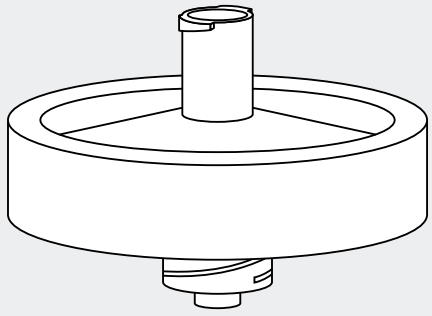


Figure 1: *Operating principle of Sartobind® Rapid A Lab, showing the selective capture of antibodies (teal) by Protein A (orange) and removal of impurities (blue).*

Technical Specifications



36 × 25 mm
Overall dimensions (W × H)

9 g
Approximate weight

0.5 mL
Membrane volume (MV)

Luer lock
Inlet and outlet[1]

≥37.5 mg/mL
Dynamic binding capacity[2]

6 – 10 MV
Elution volume

Materials

Adapters	Polyether ether ketone (PEEK)
Caps	Polycarbonate (PC)
Fittings[3]	Polyamide (PA)
Housing	Polypropylene (PP)
Ligand	Protein A
Membrane	Agarose
Membrane support	Polyethylene terephthalate (PET)
Tubing[3]	Polyvinyl chloride (PVC)
Packaging	Aluminium composite (ALU/OPA/PE), cardboard (PAP)

Equipment Requirements

	Benchtop Purification (Syringe or Pump)		**Rapid Cycling (System)**
Operation	Syringe[4]	Pump drive, pump head, tubing	LC system (e.g. ÄKTA), fraction collector
Prefiltration[5]	Sartolab® RF or Minisart®	Sartolab® RF or Minisart®	Sartolab® RF or Minisart®
Fraction collection	Tubes	Tubes	Tubes or plates

[1] One pair of adapters is included in each pack of Sartobind® Rapid A Lab, for connection to ÄKTA, NGC and other LC systems that utilize male UNF 10-32 fittings.
[2] Equivalent to ≥18.75 mg/unit. Measured at 10% breakthrough for polyclonal IgG in PBS pH 7.4, conductivity 16 mS/cm, flow rate 5 MV/min.
[3] Components of pump tubing (order number VF-ATD0001-1).
[4] With capacity ≥10 mL and male Luer lock connector.

Operating Conditions

5 – 50 MV/min
Flow rate[6]

0.8 MPa
Maximum pressure at 20 °C[7]

4 – 25 °C
Temperature[8]

Aqueous buffer, pH 3 – 9
Chemical compatibility[9]

2.8 min
Cycle time[10]

Ordering Information

Description	Package Contents	Order No.
Sartobind® Rapid A Lab, 0.5 mL MV	1 unit 1 pair UNF adapters 1 quick start guide	SBLRA025EL-1
Sartobind® Rapid A Lab, 0.5 mL MV	4 units 1 pair UNF adapters 1 quick start guide	SBLRA025EL-A
Sartobind® Lab LC system adapter kit	1 pair UNF adapters	SBLAAU01-1
Peristaltic pump	1 unit 1 power cable with region-specific plug	VF-APD0001-1
Peristaltic pump head for 1.6 mm tubing	1 unit 1 quick start guide	VF-APH0001-1
Pump tubing	1 unit	VF-ATD0001-1

[6] Equivalent to 2.5 – 25 mL/min. Lower flow rates during loading may support higher dynamic binding capacities.
[7] When using inline prefiltration, adjust the operating pressure based on the lowest specification given for Minisart® or Sartobind® Lab.
[8] When loading directly from bioreactors, short-term operation up to 37 °C is possible.
[9] Long-term. For elution and regeneration, pH 2 – 14 is possible. Avoid oxidizing agents.
[10] Based on recommended buffer volumes and flow rates, with 10 mL load.

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