Millipore®
Expert Pharm/BioPharm
Products & CTDMO Services

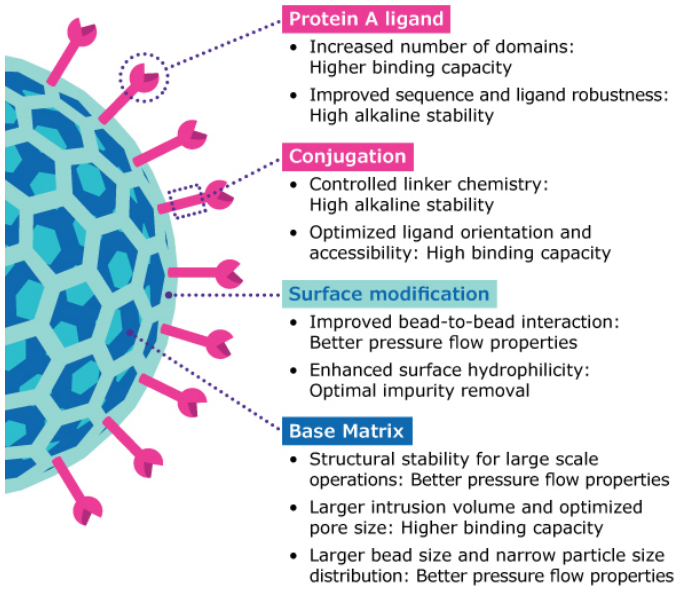
Data Sheet

Amsphere® A+ Chromatography Resin

A next-generation Protein A affinity resin engineered for superior process efficiency

Protein A capture chromatography efficiently purifies antibodies from complex mixtures of host cell proteins, DNA, media components, and other impurities through highly specific affinity binding interactions.

Amsphere® A+ is a next-generation Protein A resin that offers outstanding dynamic binding capacity and the performance characteristics needed for high titer, intensified processes.



Key Benefits

- Outstanding dynamic binding capacity optimized for high-titer and intensified processes
- Excellent durability and caustic stability for enhanced bioburden control
- Superior pressure-flow properties and impurity removal ability

Technical Characteristics

	Amsphere® A+ Resin
Type of Chromatography	Protein A Affinity Chromatography
Base material	Methacrylic copolymer
Average particle size (d50)	~60 µm
Functional group/ Ligand	Recombinant protein A expressed in *Escherichia coli*
Dynamic Binding Capacity (DBC)	≥60 mg/mL at 4 min residence time (RT) and 10% breakthrough (BT)
Recommended bed height range	5–25 cm
Working pH range	1–13
Shipping buffer and recommended storage buffer	50 mM sodium phosphate buffer containing 16% Ethanol, pH 7.5
Storage temperature	+2 °C to +8 °C

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Outstanding Dynamic Binding Capacity

Amsphere® A+ resin achieves outstanding DBC using an optimized base matrix pore size and controlled ligand conformation and orientation. These enhancements enable the resin to effectively handle the requirements of high harvest titers in intensified processes.

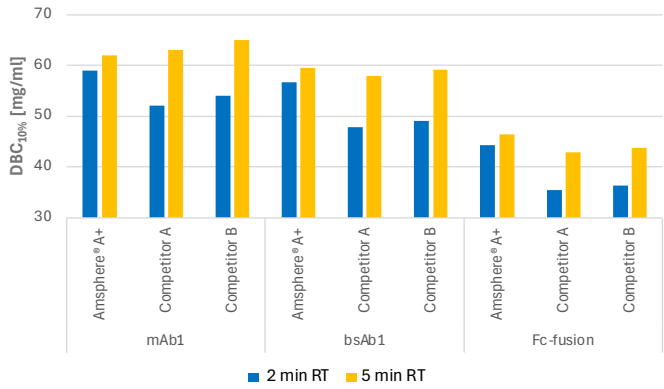

Figure 1. DBC of Amsphere® A+ resin and other commercially available resins with three antibody-like molecules.

Caustic Stability

Improved ligand linking chemistry results in Amsphere® A+ resin having high caustic stability, sustaining over 94% DBC after 24 hours in 1M NaOH. This enables intensified resin cleaning between cycles, enhancing bioburden control.

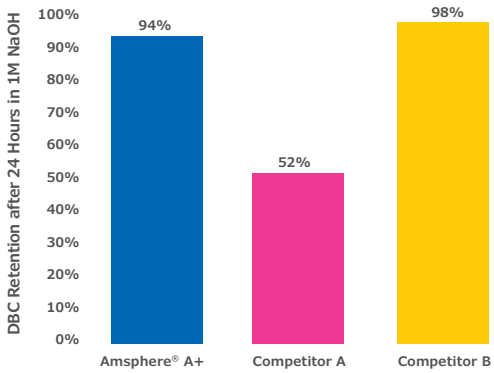

Figure 2. DBC of Amsphere® A+ and other commercially available resins after 24h in 1 M NaOH.

Pressure vs. Flow Properties

60 µm base beads enable scalable flow rates up to 335 cm/h for large columns at 20 cm bed height and 2 bar pressure drop. Higher flow rates means faster loading which improves productivity for intensified processes.

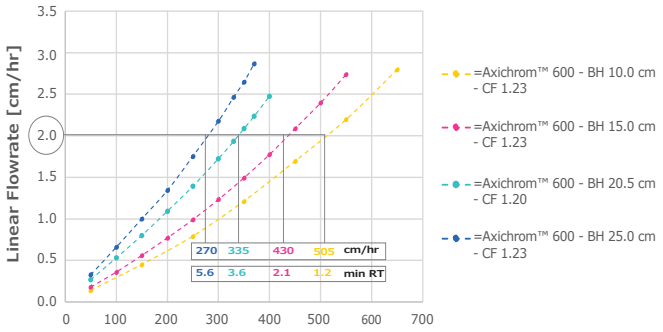

Figure 3. Column pressure against flow rate for different sized columns containing Amsphere® A+ resin.

Ordering information

Description	Cat. No.
Amsphere® Bulk Resin	
Amsphere® A+ 25 mL	**BP-AMS-A+-0025**
Amsphere® A+ 50 mL	**BP-AMS-A+-0050**
Amsphere® A+ 500 mL	**BP-AMS-A+-0500**
Amsphere® A+ 5 L	**BP-AMS-A+-5000**
Amsphere® Prepacked Columns	
Amsphere® A+ in MiniChrom® Column 1 mL	**BP-AMS-A+-CN01**
Amsphere® A+ in MiniChrom® Column 5 mL	**BP-AMS-A+-CN05**
Amsphere® A+ in RoboColumn® 8 x 200 µL	**BP-AMS-A+-CN016**
Amsphere® A+ in RoboColumn® 8 x 600 µL	**BP-AMS-A+-CN048**

For additional information, contact us.

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