USER GUIDE: rProtein A, G, or A/G resin

Introduction:

EBL AM-50 Protein A, G, and A/G are mediums developed with genetically modified proteins with high alkali-tolerance, which capture monoclonal antibodies for large-scale volumes with chromatography. The resins feature a variety that provides the most versatile combination of chromatographic features for rich yields and high-purity purification of whole IgG for mammalian serum samples.

Key Features:

- The ligands with high alkali-tolerant (up to 0.1-0.5 NaOH) allow for cleaning-in-place (CIP).
- Improved product quality and economy with Up to 100 cycles of lifetime.
- High DBC reduces processing period and medium usage, with all the solutions and consumables saved undoubtedly.
- High-flow and high performance allows for rapid processing procedure.
- Suits for the range form small scale to industry-scale production.
- The ligands are recombinantly produced in *Escherichia coli* without animal material used in the whole process.
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- The mono-dispersed polymer matrix with 50 μ m size features this product high flow rate, high performance and high DBC.

Specifications:

Particle Size (µm)	50 ± 5 %
Bead Matrix	Highly cross-linked polyacrylate polymer
Ligand Coupling Method	Epoxy
Ligand	highly Alkali-tolerant IG binding protein in *E. coli.*
Dynamic Binding Capacity (g/ml)	≈30 mg human IgG/ml medium
Max. Linear Flow Rate (cm/h)	700 cm/h
pH Stability	3-12
Pressure (MPa)	10
Cleaning-in-place (CIP) stability	0.1-0.5 M NaOH
Storage buffer	20 % ethanol
Storage temperature	+4-8 °C

Recommended Procedure and Working Conditions:

- Binding and Washing Buffer: 20 mM sodium phosphate, 150 mM NaCl, pH 7.2
- Elution Buffer: 0.1 M sodium citrate, pH 3.0 to 3.6.
- Collection Buffer: 1M Tris-HCl, pH 8.0 to 9.0.

* When purifying mouse IgG1 on protein A media, an increased binding capacity will be achieved by 2.5 M NaCl included in the binding buffer

Procedure：

1. Adjust the composition and pH of the sample(s) to or near Binding Buffer. If needed, a buffer change step should be processed before application of the samples to the column
2. Wash 1 ml of settled resin with at least 5 volumes of Washing Buffer.
3. Apply a sample of antibody to the column.
4. Wash away unbound proteins with 5 column volumes of Washing Buffer.
5. Elute the sample with a linear gradient of 10 column volumes to 100% Elution Buffer.
6. Collect fractions into Collection Buffer. Please note that the Collection Buffer volume equals 5% of the programmed fraction volume.
7. Regenerate the column with 5-10 column volumes of 100% Elution Buffer.
8. Wash the column with 3 column volumes of Washing Buffer.
9. Perform CIP with 5 column volumes of 0.1-0.5 M NaOH.
10. Re-equilibrate the column with Binding Buffer.

About Elution:

When optimizing elution conditions, determine the highest pH that allows efficient desorption of antibody from the column. This will prevent denaturing sensitive antibodies due to exposure to low pH.

※ Note: Step-wise elution is often preferred in large-scale applications since it allows the target monoclonal antibody to be eluted in a more concentrated form, thus decreasing buffer consumption and shortening cycle times. It might be necessary to decrease the flow rate due to the high concentrations of protein in the eluate.

Ordering information:

CAT NO:	Product	Quantity
pct-p500115	packing colume protein A/G resin	1mlx 5
pct-p500111	packing colume protein A/G resin	1mlx 1
pct-p500151	packing colume protein A/G resin	5mlx 1
pct-p500215	packing colume protein A resin	1ml X 5
pct-p500211	packing colume protein A resin	1ml X 1
pct-p500251	packing colume protein A resin	5ml X 1
pct-p500315	packing colume protein G' resin	1ml X 5
pct-p500311	packing colume protein G' resin	1ml X 1
pct-p500351	packing colume protein G' resin	5ml X 1
pam-5001005	AM-50 protein A/G' resin	5ml
pam-5001020	AM-50 protein A/G' resin	20ml
pam-5001100	AM-50 protein A/G' resin	100ml
pam-5002005	AM-50 protein A	5ml
pam-5002020	AM-50 protein A	20ml
pam-5002100	AM-50 protein A	100ml
pam-5003005	AM-50 protein G'	5ml
pam-5003020	AM-50 protein G'	20ml
pam-5003100	AM-50 protein G'	100ml