

GenScript

MagBeads

Advance Your Proteomics Research

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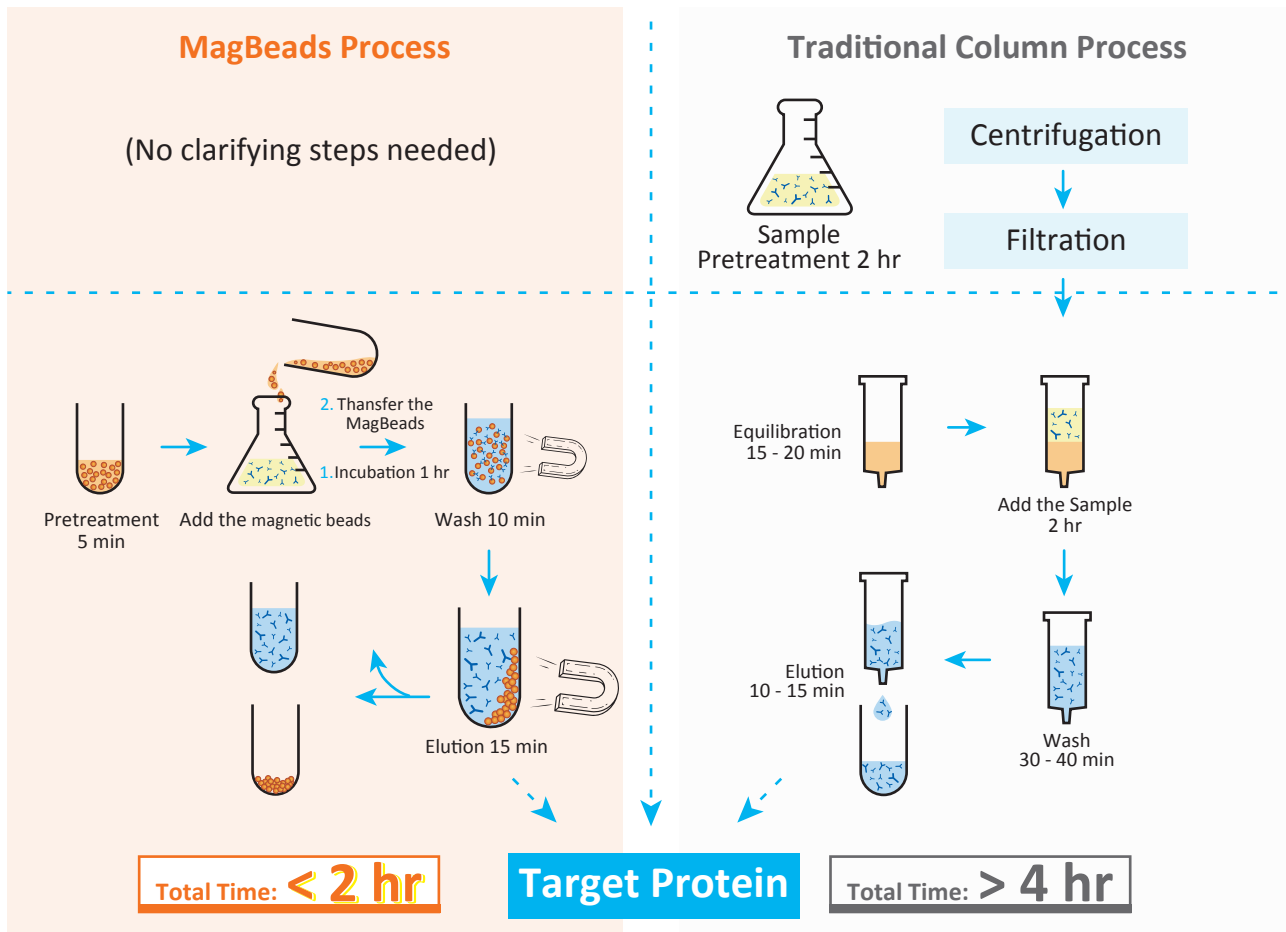
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experts in life science products

 **GenScript**
Make Research Easy

AmMag™ protein A magnetic beads are super paramagnetic beads covalently coated with Alkaline tolerance Protein A. These innovative beads can withstand 0.1 M NaOH for 60 hrs, which enables rapid and convenient antibody purification directly from cell culture and high-throughput antibody screening.

1 L Cell Culture



● AmMag™ protein A magnetic beads properties

Identical buffer compatibility to resin

Binding capacity: 40 mg per ml settled beads*

Regeneration: 0.1 M NaOH -0.5 M NaOH

Can be reused > 30 cycles**

*Binding Capacity: 100 µL settled AmMag protein A magnetic beads were incubated with 5 mg of human IgG for 1 hr at room temperature with end-over-end mixing. Following IgG binding, the beads were captured using a magnetic stand and washed three times with 1 mL of bind/wash buffer (PBS). Bound IgGs were eluted twice with 500 µL (2 × 500 µL for a total of 1 mL) of elution buffer [100 mM glycine (pH3.0)] with mixing and neutralized with 50 µL (2 × 50 µL for a total of 100 µL) of 1 M Tris (pH8.5) and quantified by spectrophotometry. The binding capacity was found to be 40 mg of human IgG per ml settled beads.

**CIP was performed after each cycle, by incubating with 5 CV 0.1 M NaOH for 1 hr. Then magnetic beads were rinsed with excessive dd water and re-equilibrated with binding buffer before next purification cycle.

● For Expression screening

MagBeads advantages :

- Simplified handling of samples without the need for a chromatographic system
- Ability to analyze several samples simultaneously thus reducing the total time required for analysis
- Minimum sample loss and higher recovery than protein A resin

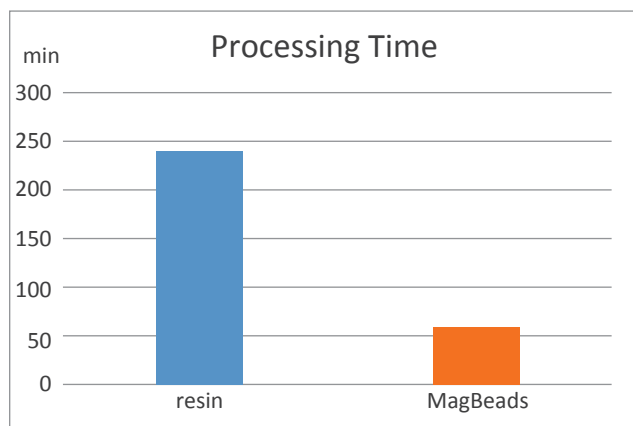
Case study 1: For 5 mL volume, AmMag protein A magnetic beads compared with prepacked resin column

MagBeads: 500 μ L AmMag protein A magnetic beads

Prepacked column: 1 mL prepacked Monofinity A resin (combined with AKTA)

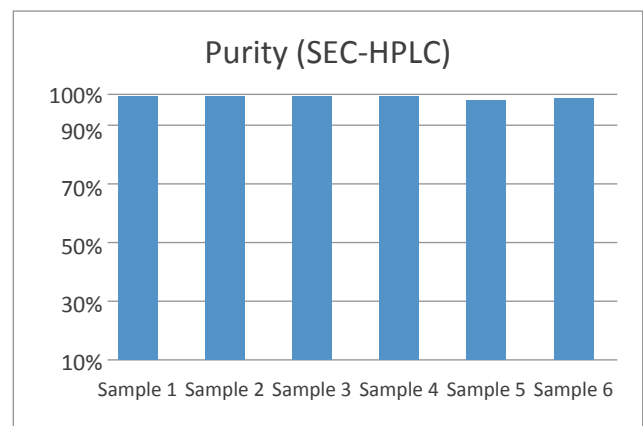
Samples containing human IgG1 produced in CHO cells which were continuously taken from a bioreactor during a two-week cell culture period.

Time



Using MagBeads, 5 samples were purified in 60 minutes. Using column method, 5 samples were purified in 4 hours. MagBeads method saves 75% time.

Purity



Samples 1-5 were purified with MagBeads, sample 6 was purified by column purification.

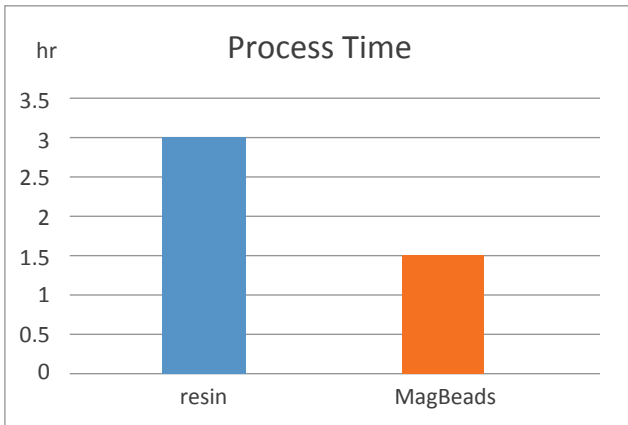
Case2: For 50 mL volume, AmMag protein A magnetic beads compared with pre-packed resin column

MagBeads: 500 µL AmMag protein A magnetic beads

Prepacked column: 0.6 mL Robocolumn A Resin (combined with Tecan)

Samples containing human IgG1 produced in CHO cells which were continuously taken out from day 14 cell culture period.

Time

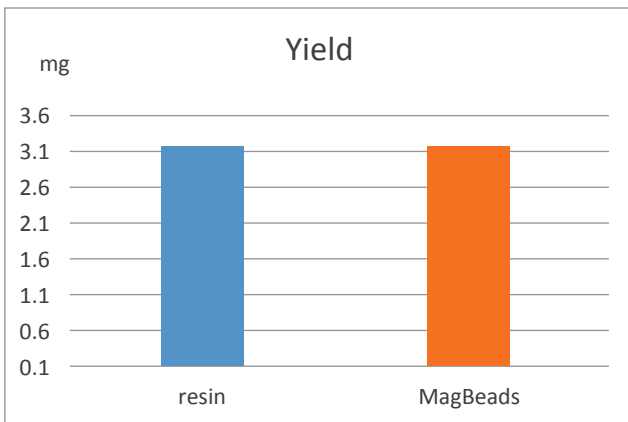


Using MagBeads method, 1 sample was purified in 1.5 hours.

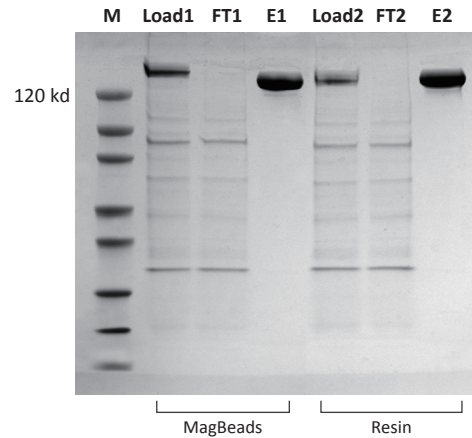
Using column method, 1 sample was purified in 3 hours.

MagBeads method saves 50% of time.

Yield



SDS-PAGE



M: Marker (M00516)

Load1: 20 µL AmMag prA MagBeads

FT1: 20 µL AmMag prA MagBeads

E1: 5 µL AmMag prA MagBeads

Load2: 20 µL Robocolumn A Resin

FT2: 20 µL Robocolumn A Resin

E2: 5 µL Robocolumn A Resin

Endotoxin level

	MagBeads	Resin
Endotoxin level	0.2 EU/mg	0.2 EU/mg

● For large scale protein purification

AmMag protein A magnetic beads characteristics:

- Simplified handling of samples without the need for a chromatographic system
- No clarifying steps needed
- Scalability: Simple capture of antibodies from large sample volumes (microliter to liter scale)

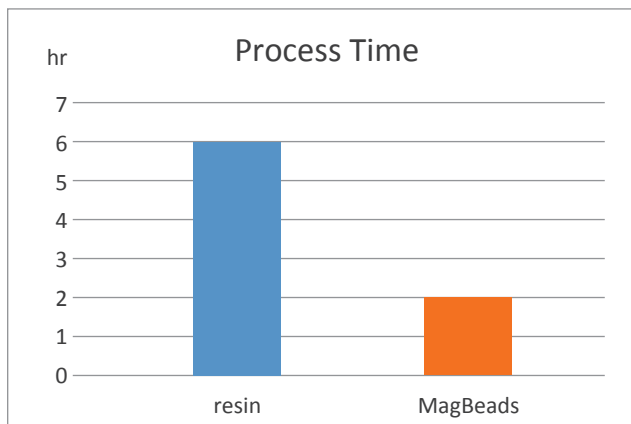
Case study 3: 1 L antibody expression cell culture media (100 mg antibodies per L)

MagBeads: 5 mL AmMag protein A magnetic beads

Prepacked column: 5 mL Monofnity A Resin (combined with AKTA)

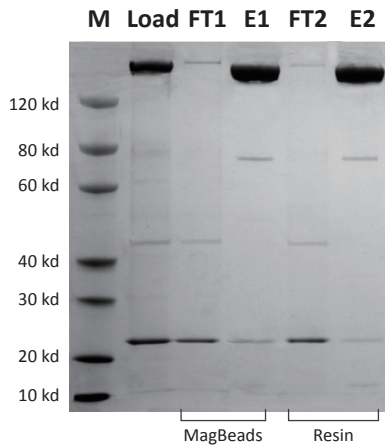
Samples containing human IgG1 produced in CHO cells which were continuously taken out from day 14 cell culture period

Time



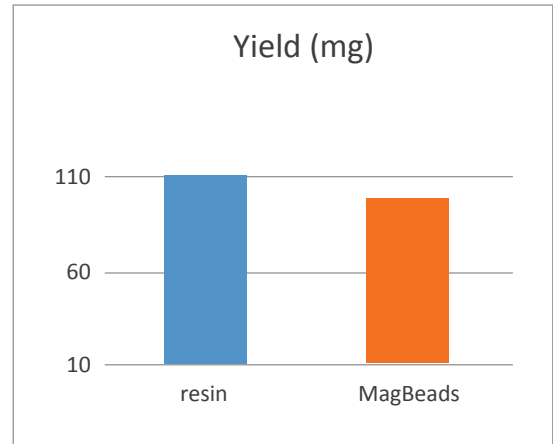
Using MagBeads method, 1 sample was purified in 2 hours.
Using column method, 1 sample was purified in 6 hours.
MagBeads save 66% of the time.

SDS-PAGE

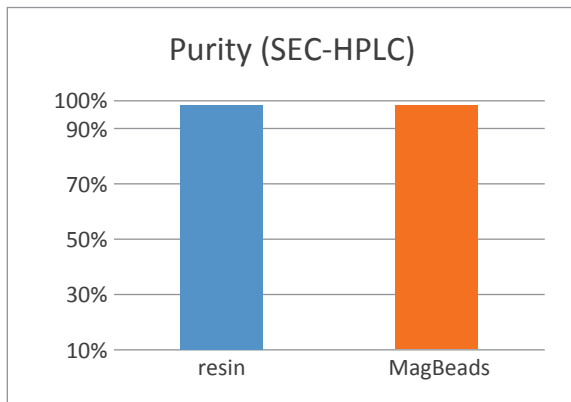


Load: clarified media
FT1: 20 μ L AmMag prA MagBeads
E1: 10 μ L AmMag prA MagBeads
FT2: 20 μ L E2:Monofintiy A Resin
E2: 10 μ g E2:Monofintiy A Resin

Yield



Purity



Endotoxin level

	MagBeads	Resin
Endotoxin level	2.5-5 EU/mg	< 2.5 EU/mg

Product Overview

Cat. No.	Product Name	Binding Capacity
L00273	Protein A MagBeads	30 mg hlgG/ml
L00672-4	Protein A MagBeads MX	40 mg hlgG/ml
L00274	Protein G MagBeads	> 10 mg Goat IgG/ml
L00673-4	Protein G MagBeads MX	30 mg hlgG/ml
L00277	Protein A/G MagBeads	> 10 mg Goat IgG/ml
L00295	Ni-charged MagBeads	5-20 mg his-tag Protein/ml
L00424	Streptavidin MagBeads	> 60 nmol free biotin /ml
L00327	Glutathione MagBeads	20-30 mgGST/ml
L00695	AmMag Protein A Magnetic Beads (alkaline stable)	40 mg hlgG/ml