

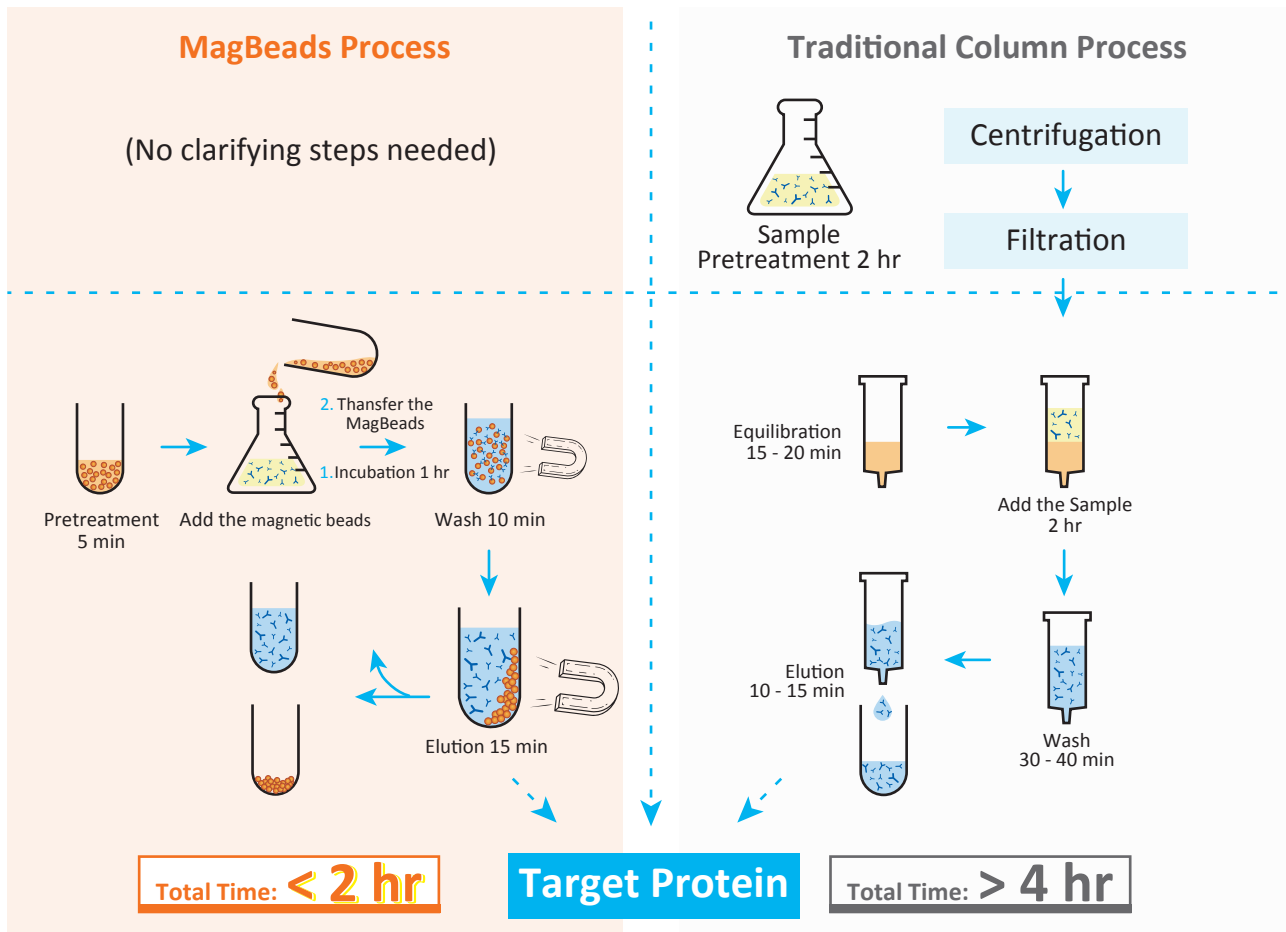
# GenScript

MagBeads

Advance Your Proteomics Research

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

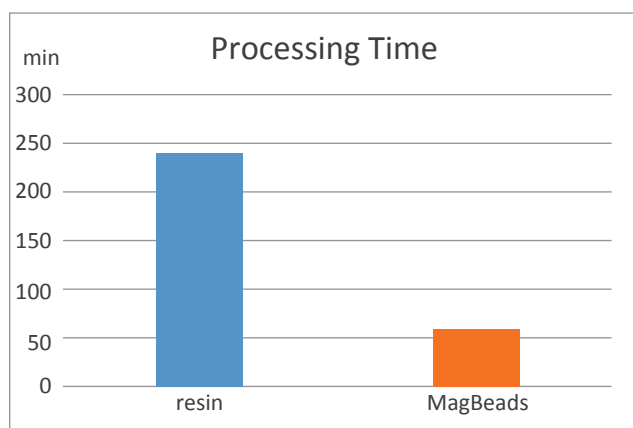
### Case study 1: For 5 mL volume, AmMag protein A magnetic beads compared with prepacked resin column

**MagBeads:** 500  $\mu$ L AmMag protein A magnetic beads

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

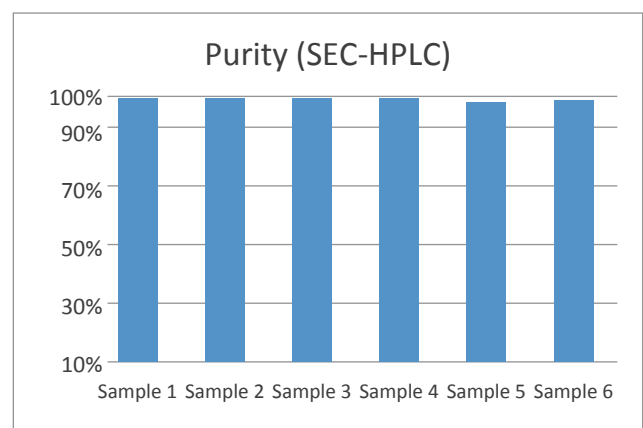
Samples containing human IgG1 produced in CHO cells which were continuously taken from a bioreactor during a two-week cell culture period.

## 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.

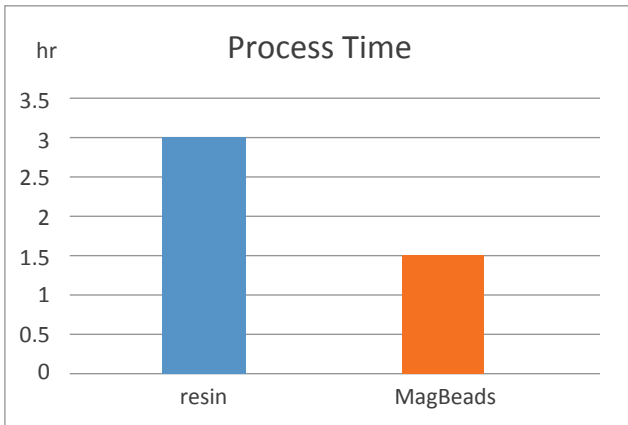
## Case2: For 50 mL volume, AmMag protein A magnetic beads compared with pre-packed resin column

**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

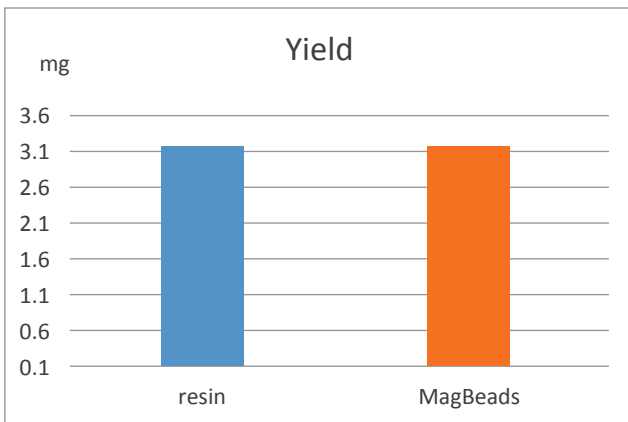


Using MagBeads method, 1 sample was purified in 1.5 hours.

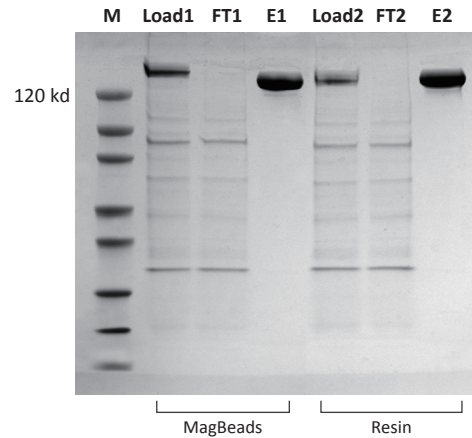
Using column method, 1 sample was purified in 3 hours.

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)

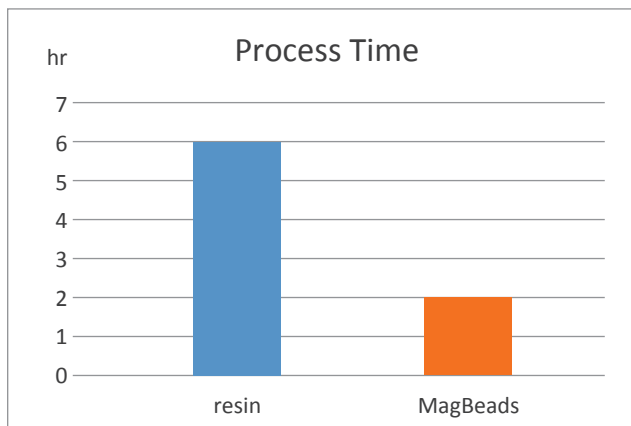
## Case study 3: 1 L antibody expression cell culture media (100 mg antibodies per L)

**MagBeads:** 5 mL AmMag protein A magnetic beads

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

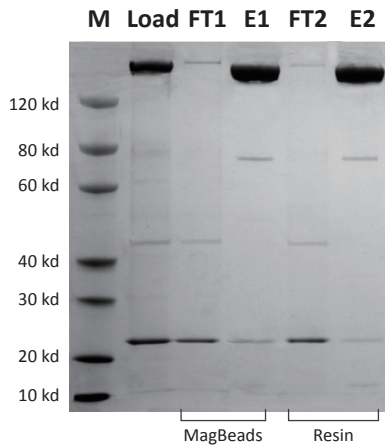
Samples containing human IgG1 produced in CHO cells which were continuously taken out from day 14 cell culture period

### Time



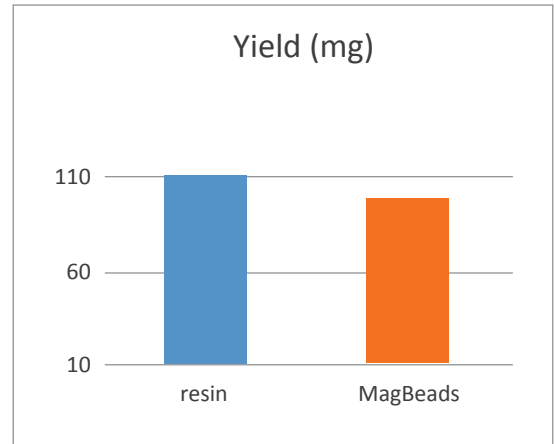
Using MagBeads method, 1 sample was purified in 2 hours.  
Using column method, 1 sample was purified in 6 hours.  
MagBeads save 66% of the time.

## SDS-PAGE

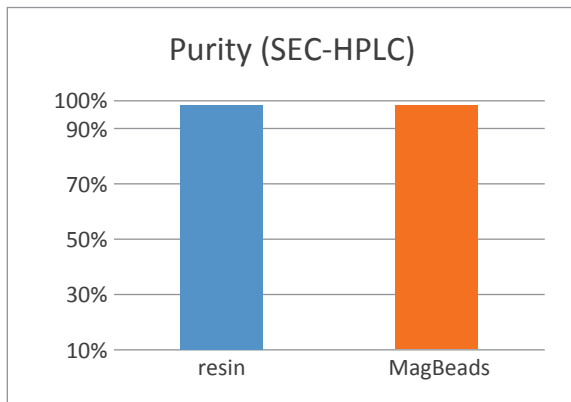


**Load:** clarified media  
**FT1:** 20  $\mu$ L AmMag prA MagBeads  
**E1:** 10  $\mu$ L AmMag prA MagBeads  
**FT2:** 20  $\mu$ L E2: Monofintiy A Resin  
**E2:** 10  $\mu$ g E2: Monofintiy A Resin

## 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