

Certificate of Analysis

Protein A Agarose, Fast Flow

(10ml packed beads)

Catalog # 16-156

Lot # 22918

Product Description: Recombinant Protein A covalently coupled to highly cross-linked 6% agarose beads. Suitable for medium and low-pressure chromatography. Stable in all aqueous buffers used in Protein A chromatography. Recommended for flow rates from 30 to 400cm/hr.

Storage and Stability: Stable for 1 year at 4°C from date of shipment.

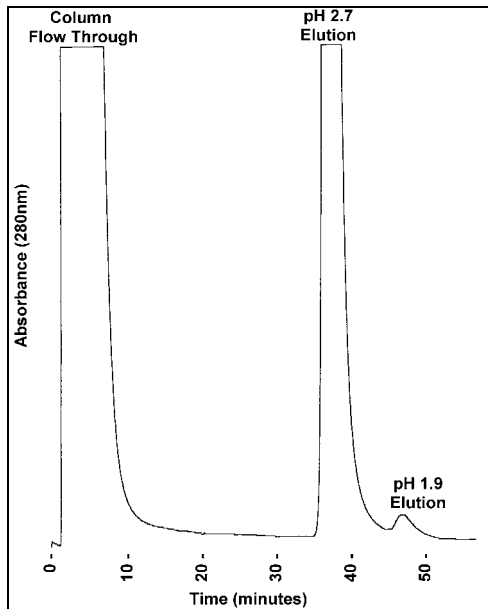
Physical Form: Liquid Suspension. Prior to use, wash the agarose beads with an appropriate buffer to remove the thimerosal.

Quantity and Formulation: 10ml packed beads, containing 3.5mg/ml recombinant Protein A. Suspended as a 50% slurry in phosphate-buffered saline containing 0.01% thimerosal for a final volume of 20ml. Binding capacity of 37mg human IgG/ml agarose.

**FOR RESEARCH USE ONLY
NOT FOR USE IN HUMANS**

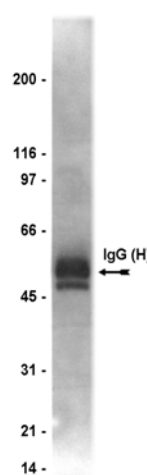
Quality Control Testing

Antibody Purification: Representative elution profile from a previous lot using a 1.7ml column of recombinant protein A agarose, fast flow, and the IgG from a 1.5ml sample of rabbit serum. The IgG was purified using a Waters™ 650E Advanced Protein Purification System.



Additional Research Applications

Immunoprecipitation: Use 100µl (50µl packed beads) to capture the immunoprecipitation immunocomplex.



Elution Profile and Analysis:

1.5ml of rabbit antiserum was purified using Recombinant Protein A, Fast Flow. The column eluent was monitored with an UV detector and recorded at 280nm. A 0.5µl sample of the pooled purified IgG was separated by SDS-Page on a 4-20% gradient gel and transferred to nitrocellulose. Proteins were visualized using a goat anti-rabbit secondary antibody conjugated to HRP and a chemiluminescence detection system. The arrow indicates the IgG heavy chain. Similar results were seen with Coomassie Stain.

Immunoprecipitation Protocol

1. Dilute the cell lysate before beginning the immunoprecipitation to roughly $1\mu\text{g}/\mu\text{l}$ total cell protein in a microcentrifuge tube with PBS.
2. Add antibody of choice to $500\mu\text{g}$ - 1mg cell lysate.
3. Gently rock the reaction mixture at 4°C overnight.
4. Capture the immunocomplex by adding $100\mu\text{l}$ of washed **recombinant protein A agarose** bead slurry ($50\mu\text{l}$ packed beads).
5. Gently rock the reaction mixture at 4°C for 2 hours.
6. Collect the agarose beads by pulsing (5 seconds in the microcentrifuge at $14,000 \times g$), and drain off the supernatant. Wash the beads 3 times with either ice-cold cell lysis buffer or PBS.
7. Resuspend the agarose beads in $50\mu\text{l}$ 2X Laemmli sample buffer.
8. The agarose beads can either be frozen for later use or suspended in Laemmli sample buffer and boiled for 5 minutes. Collect the beads by a microcentrifuge pulse. SDS-PAGE and subsequent immunoblot analysis can be performed on a sample of the supernatant.

Antibody Purification Protocol

1. Use a 0.45μ filter to filter all buffers.
2. Degas all buffers prior to starting purification.
3. Pack **recombinant protein A agarose** into the column of choice, following the column manufacturer's instructions.
4. Wash and equilibrate packed protein A agarose with 10-20 column volumes of Tris buffered saline, pH 7.4 (TBS) at $1\text{ml}/\text{minute}$ flow rate.
5. Load sample containing IgG of interest onto column.
6. Wash column with 10-20 column volumes of TBS to remove unbound and non-specifically bound proteins. This can be determined by measuring the absorbance at 280nm with an inline UV detector. Alternatively, a post column sample can be collected and checked for protein.
7. Elute the bound IgG with 10ml of 50mM glycine pH 2.7, collecting 1ml fractions in tubes containing an antibody neutralization buffer (1M Tris, pH 8.0, 1.5M NaCl, 1mM EDTA). Eluted IgG can be determined by monitoring the absorbance at 280nm . **NOTE:** Some antibodies bind with high affinity to Protein A and will not elute at pH 2.7, in these cases, 50mM Glycine pH 1.9 may be used.
8. Wash the column with 10-20 volumes of TBS to restore the agarose column to neutral pH.
9. Store the column in TBS containing either 0.02% sodium azide or 0.01% thimerosal.