Order online now!

www.rockland.com
tech@rockland.com
+1 484.791.3823

Datasheet for PA50-00-0002

Sepharose™ Protein A

Overview

Description:	Sepharose™ Protein A - PA50-00-0002
Item No.:	PA50-00-0002
Size:	2 mL
Applications:	ChIP, IP, WB
Origin:	Staphylococcus aureus

Product Details

Background:	Sepharose™ Protein A is a suspension of beads conjugated to native protein A derived from Staphylococcus aureus. When evenly dispersed approximately 2.0 cc of suspension is equal to 1.0 cc of settled beads of Sepharose™ 4 Fast Flow (highly cross linked, 4% agarose derivative). The bead size is approximately 45-165 µm when swollen. Approximately 6.0 mg of Protein A is bound per cc of drained beads. Each cc of drained beads will bind approximately 35 mg Human IgG. The exclusion limit (Mr) of the beads is 3 x 10^7. The maximum linear flow rate is approximately 1300 cm/hr. This product shows long term stability within pH range of 3 to 9 and short term stability within pH range of 2 to 10.
Synonyms:	ProA, Staphylococcus A protein, Sepharose Protein A
Species of Origin:	Staphylococcus aureus
Conjugate:	Sepharose™
Type:	Native Protein

Target Details

Purity/Specificity:	Protein A has a high affinity for the Fc regions of IgG molecules from a variety of species, including human, mouse, rat IgG2c, cow IgG2c, goat IgG2, sheep IgG2, and rabbit. Immobilization of protein A creates an affinity resin that can be used to isolate IgG fractions from crude serum, ascites fluid or hybridoma supernatants/dilute cell cultures. High capacity and high flow rate fractionation is applicable to both laboratory and scale-up processes. Sepharose™ Protein A can be used for immunoprecipitation and purification of monoclonal antibodies.
Relevant Links:	• UniProtKB - P38507

- Sepharose-Protein-A-Protocol-PA50-00-0002
- PA50-00-0002 SDS

Application Details

Suggested Applications:	ChIP, IP, WB (Based on references)
Application Note:	Protein A resin may also be used to pull down antibody:antigen complexes in immunoprecipitation experiments. This product is suitable for use at 20 µL per immunoprecipitation reaction.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
IP:	User Optimized
Other:	Bead size 45-165 µm in size when swollen. ~35 mg Human IgG bound per cc of drained beads.

Formulation

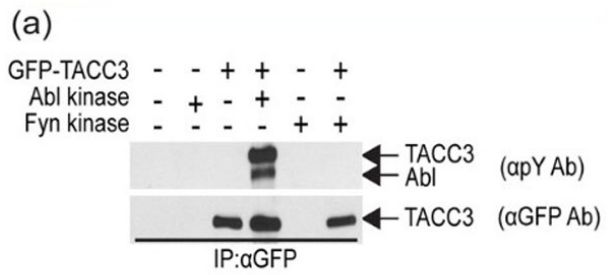
Physical State:	Suspension of agarose beads
Concentration:	6.0 mg/cc drained sepharose gel (~1 cc settled sepharose beads per 2 ml suspension)
Buffer:	20% (v/v) Ethanol
Preservative:	None
Stabilizer:	None

Shipping & Handling

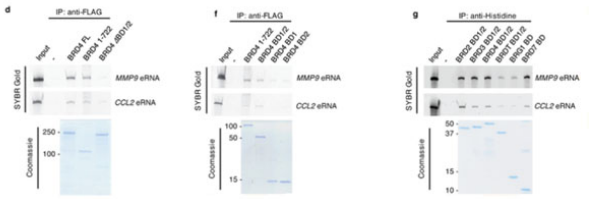
Shipping Condition:	Wet Ice
Storage Condition:	Store SEPHAROSE PROTEIN A at 4° C prior to opening. DO NOT FREEZE.
Expiration:	Expiration date is one (1) year from date of receipt.

Images

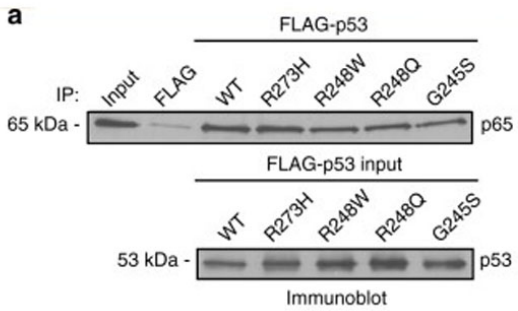
Bottle
SEPHAROSE™ Protein A



Immunoprecipitation
Abelson kinase induces phosphorylation of TACC3 Abelson kinase induces phosphorylation of TACC3. (a) Western blot performed with phospho-tyrosine specific antibody showing Abelson-induced tyrosine phosphorylation of full-length TACC3 (lane 4). Phosphorylation signal is not present when TACC3 is expressed alone (lane 2) or with another tyrosine kinase Fyn (lane 6). Total protein was incubated with α-GFP and 20µL of a 50% slurry of sepharose Protein A (p/n PA50-00-0002) and Protein G resin prewashed with lysis buffer. FIGURE 1. PMID: 32543081.



Immunoprecipitation
BRD4 directly interacts with eRNAs through its tandem bromodomains. d, f, In vitro pull-down of MMP9 and CCL2 eRNAs with the indicated FLAG-tagged BRD4 proteins and g, the His-tagged tandem BDs of BRD2, BRD3, BRD4, and BRDT and the single BDs of BRG1 and BRD7 as revealed by SYBR Gold staining and SDS-PAGE/Coomassie staining analyses of the purified proteins. Cleared lysates were incubated with indicated antibodies followed by an additional incubation with Protein A Sepharose (p/n PA50-00 -0002). Fig 3. PMID: 30076409.



Immunoprecipitation
Mutp53 and NFκB interact and impact each other's binding at enhancers. a Purified wild-type and mutp53 proteins bind directly to purified NFκB/p65 as revealed by immunoblot analysis with an antibody that recognizes p65. Input samples for the p53 proteins were also analyzed by immunoblot analysis with an antibody that recognizes both wild-type and mutp53. Three independent interaction assays were performed. Fig. 3. PMID: 28963538.

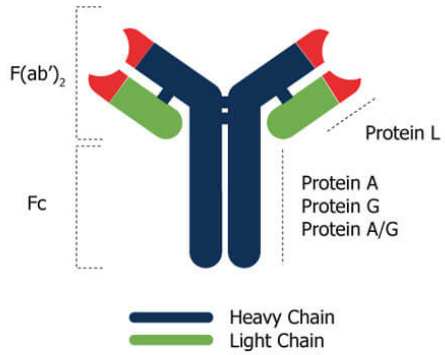


Figure
Antibody-binding protein specificity for Protein A, Protein G, and Protein A/G which demonstrate binding specificity to IgG immunoglobulin through an interaction in the Fc region of the heavy chain domain. Protein A and G each show some preferences to certain types of antibody subclasses, and proper reagent selection may be required, Protein A/G offers the widest range of antibody subclass binding. Another immunoglobulin binding protein is Protein L which binds to the kappa light chain of the F(ab')2 region.

References

- Mady LJ et al. Role of Coactivator Associated Arginine Methyltransferase 1 (CARM1) in the Regulation of the Biological Function of 1,25-Dihydroxyvitamin D3. *Cells.* (2023)
- Noszka M et al. Profiling of the Helicobacter pylori redox switch HP1021 regulon using a multi-omics approach. *Nat Commun.* (2023)
- Erdogan B. et al. Abelson-induced phosphorylation of TACC3 modulates its interaction with microtubules and affects its impact on axon outgrowth and guidance. *bioRxiv* (2020)
- Erdogan B. et al. Investigating the impact of the phosphorylation status of tyrosine residues within the TACC domain of TACC3 on microtubule behavior during axon growth and guidance. *Cytoskeleton (Hoboken).* (2020)
- Rahnamoun, H et al. RNAs interact with BRD4 to promote enhanced chromatin engagement and transcription activation. *Nature Structural & Molecular Biology* (2018)
- Rahnamoun, H et al. Mutant p53 shapes the enhancer landscape of cancer cells in response to chronic immune signaling. *Nature Communications* (2017)
- Choudhary, GS et al. Cyclin E/Cdk2-dependent phosphorylation of Mcl-1 determines its stability and cellular sensitivity to BH3 mimetics. *Oncotarget* (2015)
- Menon, S et al. Rho GTPase-independent regulation of mitotic progression by the RhoGEF Net1. *Molecular Biology of the Cell* (2013)
- Wu et al. CAND1 controls in vivo dynamics of the cullin 1-RING ubiquitin ligase repertoire. *Nat Commun.* (2013)
- Van Oort, RJ. et al. Disrupted junctional membrane complexes and hyperactive ryanodine receptors after acute junctophilin knockdown in mice. *Circulation* (2011)
- Van Oort, RJ et al. Ryanodine receptor phosphorylation by calcium/calmodulin-dependent protein kinase II promotes life-threatening ventricular arrhythmias in mice with heart failure. *Circulation* (2010)
- Bruce SR et al. Respiratory syncytial virus infection alters surfactant protein A expression in human pulmonary epithelial cells by reducing translation efficiency. *Am J Physiol Lung Cell Mol Physiol.* (2009)
- Nakayasu, ES. et al. Phosphoproteomic analysis of the human pathogen Trypanosoma cruzi at the epimastigote stage. *Proteomics* (2009)

Disclaimer