

## Protein A Agarose cartridge

Cat.No. AG-A20c5; , 5 ml affinity resin

### Data Sheet

Reconstitution/ Storage	5ml 50% slurry For detailed information, see back of the data sheet.
Storage	Store at 2-8 °C, do not freeze
Applications	<b>IP:</b> yes
Capacity (DBC 10%) (determined with 1 mg/ml hu IgG1 MAB using a 1 ml column).	≥70 mg hu IgG/ml resin at residence time 6 min ≥50 mg hu IgG/ml resin at residence time 2.4 min ≥25 mg hu IgG/ml resin at residence time 1 min
Flow rate	0.16 - 1 mL/min (1 mL cartridge) 0.83 - 5 mL/min (5 mL cartridge)
CIP (0.5 M NaOH 100 Cycles)	No significant change in performance after 100 cycles with 0.5 M NaOH (1 cycle = 15 min contact time) use at room temperature.
Particle size	45 µm
Formulation	50 % slurry in PBS containing 1mM EDTA, 0.01% azide
Shelf life	Stable for 6 months.
Remarks	Since Protein A Agarose cartridges are pressure resistant for up to 3 bar, they can be used with a flow restrictor. Cartridges can be connected in series to enlarge capacity.

**TO BE USED IN VITRO / FOR RESEARCH ONLY**  
**NOT TOXIC, NOT HAZARDOUS, NOT INFECTIOUS, NOT CONTAGIOUS**

Access the online factsheet including applicable protocols at <https://sysy.com/product/AG-A20c5> or scan the QR-code.



## Background

As the developer of high quality antibodies, we have extended our product portfolio by **Protein A Agarose** affinity resins.

Protein A is a cell wall protein from *Staphylococcus aureus* and is commonly used for the affinity purification or pull downs of IgG class antibodies. It binds to immunoglobulins through interaction with the IgG heavy chain within the Fc region. Antibodies from serum (polyclonal antibodies), ascites or cell culture supernatant of hybridoma cell lines (monoclonal antibodies) can thus be easily isolated.

Protein A does not bind to all IgG classes from all species equivalently well.

Species	Subclass	Protein A binding
Human	IgA	variable
	IgD	-
	IgE	-
	IgG1	++++
	IgG2	++++
	IgG3	-
	IgG4	++++
	IgM	variable
Avian egg yolk	IgY	-
	Cow	++
Dog	IgG	++
Goat	IgG	-
Guinea pig	IgG1	++++
	IgG2	++++
Hamster	IgG	+
Horse	IgG	++
Llama	IgG	-
Monkey (rhesus)	IgG	++++
Mouse	IgG1	+
	IgG2a	++++
	IgG2b	+++
	IgG3	++
	IgM	-
Pig	IgG	+++
Rabbit	IgG1	++++
Rat	IgG1	-
	IgG2a	-
	IgG2b	-
	IgG3	+
Sheep	IgG	+/-

## Selected General References

IMMUNOCHEMICAL STUDIES ON ANTIGEN PREPARATIONS FROM STAPHYLOCOCCUS AUREUS. 2. PRECIPITATING AND ERYTHROCYTE-SENSITIZING PROPERTIES OF PROTEIN A (ANTIGEN A) AND RELATED SUBSTANCES. OEDING P, GROV A, MYKLESTAD B

Acta pathologica et microbiologica Scandinavica (1964) 62: 117-27. .

Studies on the interaction between staphylococcal protein a and the fc-region of immunoglobulin G. Grov A

Acta pathologica et microbiologica Scandinavica. Supplement (1973) 236: 77-83. .

# FAQ - How should I store my antibody?

## Shipping Conditions

- All our antibodies and control proteins / peptides are shipped lyophilized (vacuum freeze-dried) and are stable in this form without loss of quality at ambient temperatures for several weeks.

## Storage of Sealed Vials after Delivery

- **Unlabeled** and **biotin-labeled antibodies** and **control proteins** should be stored at 4°C before reconstitution. **They must not be stored in the freezer when still lyophilized!** Temperatures below zero may cause loss of performance.
- **Fluorescence-labeled antibodies** should be reconstituted immediately upon receipt. Long term storage (several months) may lead to aggregation.
- **Control peptides** should be kept at -20°C before reconstitution.

## Long Term Storage after Reconstitution (General Considerations)

- The storage freezer must not be of the frost-free variety ("no-frost freezer"). This cycle between freezing and thawing (to reduce frost-build-up), which is exactly what should be avoided. For the same reason, antibody vials should be placed in an area of the freezer that has minimal temperature fluctuations, for instance towards the back rather than on a door shelf.
- Aliquot the antibody and store frozen (-20°C to -80°C). Avoid very small aliquots (below 20 µl) and use the smallest storage vial or tube possible. The smaller the aliquot, the more the stock concentration is affected by evaporation and adsorption of the antibody to the surface of the storage vial or tube. Adsorption of the antibody to the surface leads to a substantial loss of activity.
- The addition of glycerol to a final concentration of 50% lowers the freezing point of your stock and keeps your antibody at -20°C in liquid state. This efficiently avoids freeze and thaw cycles.

## Product Specific Hints for Storage

### Control proteins / peptides

- Store at -20°C to -80°C.

### Monoclonal Antibodies

- **Ascites** and **hybridoma supernatant** should be stored at -20°C up to -80°C. **Prolonged storage at 4°C is not recommended!** Unlike serum, ascites may contain proteases that will degrade the antibodies.
- **Purified IgG** should be stored at -20°C up to -80°C. Adding a carrier protein like BSA will increase long term stability. Many of our antibodies already contain carrier proteins. Please refer to the data-sheet for detailed information.

### Polyclonal Antibodies

- **Crude antisera:** With anti-microbials added, they may be stored at 4°C. However, frozen storage (-20°C up to -80°C) is preferable.
- **Affinity purified antibodies:** Less robust than antisera. Storage at -20°C up to -80°C is recommended. Adding a carrier protein like BSA will increase long term stability. Most of our antibodies already contain carrier proteins. Please refer to the data-sheet for detailed information.

### Fluorescence-labeled Antibodies

- Store as a liquid with 1 : 1 (v/v) glycerol at -20°C. Protect these antibodies from light exposure.

# Avoid repeated freeze-thaw cycles for all antibodies!

## FAQ - How should I reconstitute my antibody?

### Reconstitution

- All our antibodies are lyophilized from PBS. To reconstitute the antibody in PBS, add the amount of deionized water given in the respective datasheet. If higher volumes are preferred, add water as mentioned above and then the desired amount of PBS and a stabilizing carrier protein (e.g. BSA) to a final concentration of 2%. Some of our antibodies already contain albumin. Take this into account when adding more carrier protein. For complete reconstitution, carefully remove the lid. After adding water, briefly vortex the solution. You can spin down the liquid by placing the vial into a 50 ml centrifugation tube filled with paper.
- If desired, add small amounts of azide or thimerosal to prevent microbial growth. This is especially recommended if you want to keep an aliquot a 4°C.
- After reconstitution of fluorescence-labeled antibodies, add 1 : 1 (v/v) glycerol to a final concentration of 50%. This lowers the freezing point of your stock and keeps your antibody in liquid state at -20°C.
- Glycerol may also be added to unlabeled primary antibodies. It is a suitable way to avoid freeze-thaw cycles.
- Please refer to our **tips and hints for subsequent storage** of reconstituted antibodies and control peptides and proteins.