

Purify IgG from serum in under 15 minutes with Pearl™ Antibody Purification Resin

G-Biosciences' Pearl™ IgG Purification resin functional groups bind to the majority of proteins present in serum, ascites and tissue culture supernatants, allowing the IgG to rapidly pass through and be collected in the flow-through fraction. The first advantage of Pearl™ IgG Purification resin is that IgG antibodies are not purified by a bind and release mechanism, which is rapid and extremely gently on the IgG molecules. This results in highly pure and active IgG antibody molecules.

A second advantage of G-Biosciences' Pearl™ IgG Purification resin is that it is compatible with a wider variety of different species and subclasses of antibodies, compared to the expensive, bind and release, Protein A and Protein G resins (Table 1).

A third advantage of G-Biosciences' Pearl™ IgG Purification resin is that the antibodies purified from the resin are ready for use in downstream applications, including immunoassays or subsequent conjugation/labeling reactions. The mild elution conditions mean that further purification is not required to neutralize or desalt the sample, a common requirement with bind and release resins, such as Protein A or Protein G.

Species	Pearl™ Resin	Protein A	Protein G
Mouse	++++	++++	++++
Human	++++	++++	++++
Rat	++++	+	++
Hamster	++++	++	++
Guinea Pig	++++	++++	++
Rabbit	++++	++++	+++
Horse	++++	++	++++
Cow	++	++	++++
Pig	++++	+++	++
Sheep	++	+	++
Goat	++++	+	++
Chicken	-	-	-

Table 1: Performance of Pearl™ IgG Purification Resin compared to Protein A and Protein G

PRODUCTS

In addition to Pearl™ IgG Purification Resin, G-Biosciences offers four complete kits that utilize the Pearl™ IgG Purification Resin:

Pearl™ IgG Purification (Spin format):

For the purification of up to 25mg antibody in less than 15 minutes

Pearl™ IgG Purification:

Suitable for the isolation of IgG from about 100mL serum (approximately 200mg IgG)

Pearl™ Monoclonal IgG Purification:

To purify monoclonal IgG from about 1L cell culture supernatant or 200mL ascites fluid

Pearl™ Antibody Clean Up:

For the rapid clean up of commercial antibody solutions using a combination of our Pearl™ IgG Purification Resin to remove the protein stabilizers and our SpinOUT™ desalting columns to ensure the antibody solutions are in an optimal buffer for clean up. The Pearl™ IgG Purification Resin binds the high abundant, non-IgG proteins (i.e. BSA and gelatin) and allows the IgG molecules to pass through in a physiological buffer.

APPLICATION

IgG antibodies were isolated from rabbit serum using the Pearl™ IgG Purification (spin format) kit. 50µl rabbit serum was added to a 15kDa MWCO Tube-O-DIALYZER™ and the patented dialysis cap was applied. The rabbit serum was dialyzed against 5ml of the supplied IgG Isolation Buffer for two hours to ensure optimal IgG purification.

During dialysis 250µl Pearl™ IgG Purification Resin was transferred to a spin column and briefly centrifuged to remove the storage buffer. The resin was equilibrated with two washes with IgG Isolation Buffer.

Following dialysis, the Tube-O-DIALYZER™ tube was placed in a benchtop centrifuge and briefly centrifuged to recover 100% of the dialyzed rabbit serum. The serum was applied to the spin column and incubated at room temperature with gentle tumbling for 5 minutes.

The spin column was transferred to a collection tube and centrifuged for 1 minute to collect the purified IgG. The original rabbit serum and flow-through was diluted 1:10 and 5µl were compared on a SDS-polyacrylamide gel under reducing and non reducing conditions. The proteins were visualized with Labsafe GEL Blue™ protein stain.



think proteins! think G-Biosciences!



RESULTS

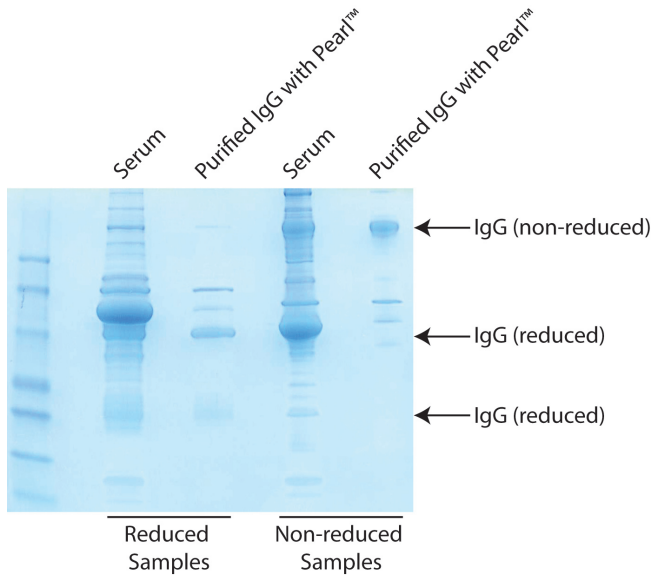


Figure 1: IgG molecules were successfully purified from rabbit serum with the spin format Pearl™ IgG Purification kit. Diluted samples of starting serum and the purified IgG were resolved by SDS_PAGE under reducing and non-reducing conditions. The IgG molecules are indicated.

CONCLUSION

The IgG was rapidly purified in <15 minutes, following dialysis, and resulted in >90% recovery and ~80% purity, which is comparable or better than published data for Protein A and Protein G resins.

ORDERING INFORMATION

VWR Cat. No.	Description	Size
89168-052	Pearl™ IgG Purification (Spin Format)	For 25 mg IgG
89168-054	Pearl™ IgG Purification Kit	For 200 mg IgG
89168-056	Pearl™ IgG Purification Resin	3 mL Resin
89168-058	Pearl™ IgG Purification Resin	25 mL Resin
89168-060	Pearl™ Monoclonal IgG Purification Kit	1L Serum (0.2L Ascites)
71003-270	Pearl™ Antibody Clean Up Kit	10
95057-588	Tube-O-DIALYZER™, Micro 1K MWCO	20
95057-590	Tube-O-DIALYZER™, Micro 4K MWCO	20
95057-592	Tube-O-DIALYZER™, Micro 8K MWCO	20
95057-594	Tube-O-DIALYZER™, Micro 15K MWCO	20
95057-596	Tube-O-DIALYZER™, Micro 50K MWCO	20
82021-412	LabSafe GEL Blue™	1 Liter
82021-414	LabSafe GEL Blue™	1 Gallon

REFERENCES

Tube-O-DIALYZER™

1. Rono, J. et al (2012) Infect Immunol. 80:1900
2. Bansal, P. et al (2009) Biol Reprod 81:7
3. Ehmsen, K. et al (2008) Nuc Acid Res 36:2182
4. Palmer, C. et al (2008) PLoS ONE 3:e2633
5. Holt, T. et al (2008) Electrophoresis 26:4486
6. Baechle, D. et al (2006) J Biol Chem 281:5406
7. Finlay, W. et al (2005) Clin and Exp Allergy. 35:1040
8. Ferenbach, A. et al (2005) Nuc Acid Res 33:316
9. Thomas, B. and Thekkumkara, T. (2004) Mol Biol Cell 15:4347
10. Roughhead, Z. et al (2003) J Nutr 133:442
11. Tubbs, C. et al (2002) J Androl 23:512
12. Zhang, Y. et al (2002) Mol Cancer Res 1:122
13. Kahn, A. et al (2001) Appl. Envir. Microbiol. 67:3577
14. Okamoto, H. et al (1998) Stroke 29:1209

LabSafe GEL Blue™

1. Kwak, J. et al (2011) Chem Senses. 36:443
2. Stie, J. et al (2007) J Leukoc Biol 82:161
3. Taylor, R.M. et al (2006) J Biol Chem 281:37045

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