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A Geno Technology, Inc. (USA) brand name

# Immobilized Protein G

(Cat. # 786-829 to 786-832, 786-834, 786-284)



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## INTRODUCTION

Immobilized Protein G consists of recombinant protein G, originally from Streptococcal group G, covalently immobilized onto 4% highly cross-linked agarose. The recombinant protein G, produced in *E. coli*, has been designed to eliminate the albumin and cell surface binding properties. Immobilized protein G is widely used for the isolation and purification of a wide variety of immunoglobulins from a variety of species and has greater affinity than the immobilized protein A (Cat# 786-283).

## ITEM(S) SUPPLIED

Cat. #	Description	Size
786-829	Immobilized Protein G Resin*	2ml resin
786-284	Immobilized Protein G Resin*	5ml resin
786-830	Immobilized Protein G Resin*	10ml resin
786-831	Immobilized Protein G Resin*	25ml resin
786-834	Immobilized Protein G Resin*	10 x 0.2ml resin
786-832	Immobilized Protein G Resin*	5 x 1ml columns

*\*Immobilized Protein G is supplied as a 50% slurry in 20% ethanol/PBS solution*

## STORAGE CONDITIONS

It is shipped at ambient temperature. Upon arrival, store it refrigerated at 4°C, **DO NOT FREEZE**. This product is stable for 1 year at 4°C.

## SPECIFICATIONS

- High binding capacity: 38mg human IgG/ml resin; >20mg sheep IgG/ml resin
- Ligand: Recombinant Streptococcal Protein G lacking the albumin-binding domain produced in *E. coli*
- Bead size: 50-165µm
- Bead Structure: 4% highly cross-linked agarose

Species	Antibody Class	Protein A	Protein G
Mouse	Total IgG	++++	++++
	IgG <sub>1</sub>	+	+++
	IgG <sub>2a</sub>	++++	++++
	IgG <sub>2b</sub>	++++	++++
	IgG <sub>3</sub>	+++	+++
Human	Total IgG	++++	++++
	IgG <sub>1</sub>	++++	++++
	IgG <sub>2</sub>	++++	++++
	IgG <sub>3</sub>	+	++++
	IgG <sub>4</sub>	++++	++++
Rat	Total IgG	+	++
	IgG <sub>1</sub>	-	+
	IgG <sub>2a</sub>	-	++++
	IgG <sub>2b</sub>	-	++
	IgG <sub>2c</sub>	++	+++
Hamster	Total IgG	++	++
Guinea Pig	Total IgG	++++	++
Rabbit	Total IgG	++++	+++
Horse	Total IgG	++	++++
Cow	Total IgG	++	++++
Pig	Total IgG	+++	++
Sheep	Total IgG	+	++
Goat	Total IgG	+	++
Chicken	Total IgG	-	-

Table 1: Relative affinity of Protein A and Protein G for Immunoglobulins

## ADDITIONAL ITEMS REQUIRED

- 1.0M Tris, pH 8.0
- 100mM Tris, pH 8.0
- 10mM Tris, pH 8.0
- 100mM Glycine, pH 3.0
- Storage Buffer: 10mM NaH<sub>2</sub>PO<sub>4</sub>, 150mM NaCl, 2.7mM KCl, pH 7.4, 20% ethanol
- Disposable columns

## PREPARATION BEFORE USE

*Sample preparation:* We recommend that for optimal binding the serum samples/ascites fluid or tissue culture media be the addition of 1/10<sup>th</sup> volume of 1.0M Tris, pH 8.0.

## PROTOCOL

If using pre-packed columns (Cat. # 786-832, 786-834), start a step 2.

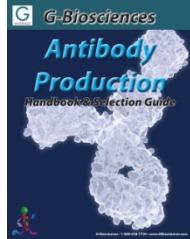
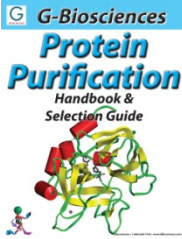
1. Add an appropriate volume of Protein G resin to a suitable disposable column. The table below is a guideline for an appropriate amount of resin for each ml of sample.

IgG Source	Bed volume (ml) / ml sample
Antisera	2ml
Tissue culture supernatant with 10% FBS	0.2ml
Tissue culture supernatant serum free	0.01ml
Ascites fluid	2ml

2. Equilibration Step: Wash the resin, by the addition of 10 column volumes (CV) of 100mM Tris, pH 8.0. Allow wash/binding buffers to drain under gravity.
3. Gently apply the sample to the column by adding to the top of the resin. Do not disturb the gel bed.
4. Wash Step: Wash the column with 10CV of 100mM Tris, pH 8.0 followed by 10CV 10mM Tris, pH 8.0 or until the absorbance (280nm) of the flow through is near or at background levels.
5. Elution Step: Elute the immunoglobulins from the column by adding 100mM Glycine, pH 3.0 in a stepwise manner. Add approximately 500µl per step up to a total volume of 4CV. Collect the eluate in 1.5ml tubes containing 50µl 1M Tris, pH 8.0.
6. Identify the immunoglobulin-containing fractions using a suitable protein assay. (NI-Protein Assay Cat. # 786-005)
7. Following elution, wash the resin with 2CV elution buffer, followed by at least 10CV 100mM Tris, pH 8.0. Store resin in storage buffer at 4°C.

## RELATED PRODUCTS

Download our Protein Purification and Antibody Production Handbooks.



<http://info.gbiosciences.com/complete-protein-purification-handbook/>

<http://info.gbiosciences.com/complete-Antibody-Production-handbook/>

For other related products, visit our website at [www.GBiosciences.com](http://www.GBiosciences.com) or contact us.

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