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A Geno Technology, Inc. (USA) brand name

Streptavidin Resin Kit

(Cat. # 786-555)

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INTRODUCTION

The Streptavidin Resin is designed for the single-step affinity purification of proteins and antibodies with a biotin tag. The resin consists of streptavidin coupled to 4% cross-linked agarose, via a 15 carbon spacer arm. Streptavidin is a tetrameric protein and in many respects is similar to avidin except that it has no carbohydrate and has a slightly lower molecular weight of about 60kDa. The solubility of streptavidin (*isoelectric pH 5*) in aqueous buffer is much lower than avidin, but the binding to biotin is similar. The advantage of streptavidin is that the lack of carbohydrates significantly reduces the amount of non-specific binding.

ITEM(S) SUPPLIED (Cat. # 786-555)

Description	**Size**
Caps, Screw	5
Spin Column, 1ml	5
Empty disposable columns-1-5ml Medi	5
Streptavidin Resin*	5ml resin
Streptavidin Binding Buffer	100ml
Streptavidin Elution Buffer	100ml

**Streptavidin resin is supplied 10ml as 50% slurry in 20% ethanol.*

STORAGE CONDITIONS

The kit is shipped at ambient temperature. Upon arrival, store resin & Elution Buffer refrigerated at 4°C, **DO NOT FREEZE** and all other kit components at room temperature. The kit components stable for 1 year when stored and used as recommended.

SPECIFICATIONS

- Biotin Binding Capacity: ≥100 nmoles/ml resin (measured as binding of biotin-4-fluorescein)
- Streptavidin Density: >1mg/ml/ml packed resin
- Bead Structure: 4% cross-linked agarose
- Bead Size: 75-300 microns

BINDING PROPERTIES:

Binding of biotinylated material is rapid and essentially irreversible. Material modified with 2-iminobiotin may be bound to streptavidin at high pH (>9.5) and eluted at low pH (<4).

ADDITIONAL ITEMS REQUIRED

Biotinylated sample in solution (1-3mg biotinylated protein/ml packed resin)

PROTOCOL

A. Gravity Flow Column

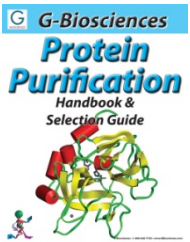
1. Allow the resin and sample to equilibrate to room temperature.
2. Pack an appropriate volume of Streptavidin Resin into an appropriate size column.
3. Equilibrate the column with 3 volumes of Streptavidin Binding/Wash buffer.
4. Add the sample to the column and allow it to enter the resin. Place a stopper on the bottom of the column and then apply a cap to the top of the column.
5. Incubate the column at room temperature for 10 minutes.
   Note: If the volume of the sample is too large, add appropriate amount, incubate for 10 minutes, drain column and repeat steps 4 and 5.
6. Wash the column with 10 column volumes of Streptavidin Binding/Wash buffer.
7. Elute the protein with 5-10 volumes of Streptavidin Elution buffer. Collect in 0.5-1ml fractions and monitor protein collection with a suitable protein assay or reading absorbance at 280nm.
8. Immediately, desalt or dialyze the fractions of interest and inhibit protein precipitation by neutralizing the pH with 1M Tris, pH9.0.

B. Spin Column Protocol

1. Allow the resin and sample to equilibrate to room temperature.
2. Pack an appropriate volume of streptavidin resin into a column.
3. Centrifuge at 500x *g* for 1 minute to remove storage buffer.
4. Add 1 column volume of Streptavidin Binding/Wash buffer and centrifuge at 500 x *g* for 1 minute. Repeat twice more for a total of three washes.
5. Place the column in a new collection vial and add the sample to the column and allow it to enter the resin. Place a stopper on the bottom of the column and then apply a cap to the top of the column.
6. Incubate the column at room temperature for 10 minutes.
   Note: If the volume of the sample is too large, then add appropriate amount, incubate for 10 minutes, drain column and repeat steps 4 and 5.
7. Wash the column with 1 column volume of Streptavidin Binding/Wash buffer. Centrifuge at 500x *g* for 1 minute. Repeat wash step four additional times.
8. Elute the protein with 5-10 volumes of Streptavidin Elution buffer. Collect in 0.5-1ml fractions. Monitor protein collection with a suitable protein assay or absorbance at 280nm.
   Note: Elution can be also be performed by boiling the beads in SDS-PAGE loading buffer. Alternatively, use a thiol cleavable biotinylation reagent, such as HOOK™ NHS-S-S-Biotin (Cat. # BG-04).
9. Immediately, desalt or dialyze the fractions of interest and inhibit protein precipitation by neutralizing the pH with 1M Tris, pH9.0.

RELATED PRODUCTS

Download our Protein Purification Handbook.



http://info2.gbiosciences.com/complete-protein-labeling-conjugation-handbook

For other related products, visit our website at www.GBiosciences.com or contact us.

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