Streptavidin Beads 6FF Gravity Column

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1. Product Description

Recombinant streptavidin isolated from Streptomyces avidinii is immobilized on high-crossed linked 6% agarose beads. **Streptavidin Beads 6FF** can be used to bind biotin and biotinylated substances. The interaction between streptavidin and biotin is very strong and requires denaturating conditions for elution, which may destroy both the ligand and the sample. The interaction between 2-iminobiotin and streptavidin is weak, it can be eluted at pH4.0, which preserve the biomolecules activity.

The crosslinking of the base matrix has been optimized to give the matrix good flow properties and high physical and chemical stability, both of which are key factors for cost-effective, large-scale use.

Streptavidin Beads 6FF Gravity Column is packed with 1ml and 5ml of **Streptavidin Beads 6FF**. It is easy to operate.

Table 1. Characteristics of **Streptavidin Beads 6FF**

Item	Description
Matrix Spherical	highly cross-linked 4% agarose
Ligand	Streptavidin
Capacity (/ml medium)	>200nmol Biotin/ml medium
Particle size (μm)	45-165
Maxi pressure	0.3 MPa, 3 bar
pH stability	2-10
Storage Solution	1×PBS containing 20% ethanol
Storage Temperature	2-8℃

2. Purification Procedure

2.1 Buffer Preparation

Water and chemicals used for buffer preparation should be high purity. It is recommended to filter the buffers by passing them through a 0.22μm or 0.45 μm filter before use.

Binding of biotin or biotinylated substances

Binding Buffer: 20mM NaH_2PO_4, 0.15M NaCl, pH7.4

Elution Buffer: 8M Guanidine-HCl, pH1.5

Note: The harsh elution condition may affect the activities of the sample and the ligand. Streptavidin Beads 6FF cannot be re-used after elution under these conditions.

Purification of iminobiotinylated subatances

Binding Buffer: 50mM ammonium carbonate, 0.5M NaCl, pH10.0

Elution Buffer: 50mM ammonium acetate, 0.5M NaCl, pH4.0

2.2 Sample preparation

The sample should be adjusted to the composition of the binding buffer. This can be done either by diluting the sample with binding buffer or by buffer exchange. The sample should be filtered through a 0.22um or 0.45 μm filter or centrifuged before use

2.3 Column Purification

For the use of **Streptavidin Beads 6FF Gravity Column**, please refer to the following instructions. The amount of each solution is calculated according to the volume of the column (e.g., for 2 CV, the 1 ml size corresponds to 2 ml of solution, and the 5 ml size corresponds to 10 ml of solution). The entire purification process takes about 30 min (depending on the sample volume and the viscosity of the solution). Please refer to Figure 1 for the procedure.

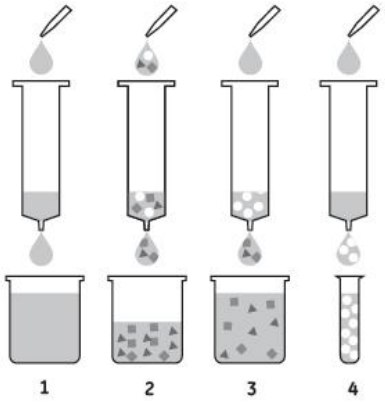

Figure 1. Schematic diagram of the protein purification process using **Streptavidin Beads 6FF gravity columns**

Step 1: Column equilibration, Step 2: Sample loading, Step 3: Washing, Step 4: Elution

1) Fix **Streptavidin Beads 6FF Gravity Column** on the iron stand, remove the lower and upper plugs in turn, and drain the buffer from the column. Add 5 column volumes Lysis Buffer onto the column to equilibrate the beads.
2) Apply the sample to the column and drain the flow-through. Collect the flow-through for measuring the binding efficiency to the beads, i.e. by SDS-PAGE.
3) Wash the column with 10-15 column volumes.
4) Elute the sample with 5-10 column volumes Elution Buffer and collect the eluate.
5) Equilibrate the column with 3 column volumes of Lysis Buffer , 5 column volumes of distilled water. Finally store the resin with 1×PBS containing 20% ethanol at 2℃-8℃.

2.4 Analysis

Identify the fractions containing the target protein. Use UV absorbance, SDS-PAGE, or western blot.

3. Related Products

Product	Cat. No.	Size
Streptavidin Beads 6FF Gravity Column	SA021GC01	1 ml
	SA021GC05	5 ml