PreCap Streptactin

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1. Product Description

Streptactin Beads 4FF is a chromatography medium for one-step purifying Strep-tag II fusion proteins from various of expression system. The Strep-Tag II peptide is an eight amino acid fusion tag(Trp-Ser-His-Pro-Gln- Phe-Glu-Lys), which has negligible effects on recombinant proteins. The ligand immobilized on high-crossed linked 4% agarose is a specially recombinant protein. The binding affinity of the Strep-tag II to Streptactin is higher than to streptavidin. Purification under physiological conditions and mild elution preserves the activity of the target protein.

PreCap Streptactin is a prepacked ready to use column. **PreCap Streptactin** 1ml and 5ml columns are packed with 1ml and 5ml of **Streptactin Beads 4FF**. **PreCap Streptactin** can be adapted to all kinds of chromatography system, such as ÄKTA. It is easy to operate.

Table 1. Characteristics of **Streptactin Beads 4FF**

Item	Description
Matrix	Highly cross-linked 4% agarose beads
Ligand	Streptactin
Capacity (/ml medium)	6 mg Strep-tag II fusion proteins
Particle Size (μm)	45-165
Maxi Pressure	0.3 MPa, 3 bar
pH	3-10
Storage Buffer	1XPBS containing 20% ethanol
Storage Temperature	2℃ - 8℃

Table 2. Chemical compatibilities for **Streptactin Beads 4FF**

Reagent	Concentration
Reduction Agents	
DTT	50 mM
β-mercaptoethanol	50 mM
Non-Ionic Detergents	
C8E4 Octyltetraoxyethylene	Max.0.88 %
C10E5; Decylpentaoxyethylene	0.12 %
C10 E6	0.03 %
C10E8	0.005 %
C12E9; Dodecyl nonaoxyethylene (Thesit)	0.023 %
DM; Decyl-β-D-maltoside	0.35 %
LM; N-dodecyl β-D-maltoside	0.007 %
NG; N-nonyl-β-D-glucopyranoside	0.2 %
OG; N-octyl-β-D-glucopyranoside	2.34 %
TX; Triton X-100	2 %
Tween-20	2 %
Ionic Detergents	
N-lauryl-sarcosine	2 %
8-HESO;N-octyl-2-hydroxy-ethylsulfoxide	1.32 %
SDS; Sodium-N-dodecyl sulfate	0.1 %

Zwitter-Ionic Detergents	
CHAPS	0.1 %
DDAO; N-decyl-N,N-dimethylamine-N-oxide	0.034 %
LDAO; N-dodecyl-N,N-dimethylamine-N-oxide	0.13 %
Other reagent	
Ammonium sulfate $(NH4)_2SO_4$	2 M
$CaCl_2$	Max.1 M
Ethanol	10%
EDTA	50 mM
Guanidine	Max.1 M
Glycerol	Max.25 %
Imidazole	Max.250 mM
$MgCl_2$	1 M
NaCl	5 M
Urea	Max.1 M

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 0.22 μm or 0.45 μm filter before use.

Binding/Wash buffer: 100 mM Tris-HCl,150 mM NaCl,1mM EDTA,pH 8.0 or PBS

Elution Buffer: 2.5mM desthiobiotin in binding buffer

Regeneration Buffer: 1mM HABA in binding buffer

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. It is recommended to filter the sample solution by passing them through a 0.22 μm or 0.45 μm filter before use.

2.3 Sample Purification

1) Fill the syringe or pump tubing with binding buffer. Remove the stopper and connect the column to the syringe (with the provided connector), or pump tubing, “drop to drop” to avoid introducing air into the column. Remove the snap-off end at the column outlet.
2) Wash the column with 10 column volumes of binding buffer.
3) Apply the sample, using a syringe fitted to the connector or by pumping it onto the column.
4) Wash with 5 to 10 column volumes of wash buffer or until no material appears in the effluent.
5) Elute with 5 column volumes of elution buffer. Other volumes may be required if the interaction is difficult to break.

2.4 Analysis

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

3. Regeneration

Regeneration: Wash the column with 3CV distilled water followed by 15CV regeneration buffer and 30CV binding buffer. The displacement is detected by the change in color of the edium in the column from yellow to red. This color change is due to the accumulation of HABA/Streptactin complexes. The HABA is washed away with the binding buffer.
Equilibration:Before next use, balance with 5 times column volume of equalizer.

4. Related Products

Product	Cat. No	Size
Streptactin Beads 4FF	SA053005	5 ml
	SA053025	25 ml
	SA053100	100 ml
	SA053500	500 ml
	SA05301L	1 L
	SA05310L	10 L
PreCap Streptactin	SA053C11	1X1 ml
	SA053C51	5x1 ml
	SA053C15	1X5 ml
	SA053C55	5X5 ml
	SA053CS	3X1 ml+1X5 ml