Streptavidin Sepharose High Performance affinity resin

Product Information

Cat#No#	St-383C

Product Overview

Streptavidin Sepharose High Performance is an affinity resin for reliable and high-resolution purification of biotinylated proteins and other biomolecules.
High resolution – due to 34 µm bead size.
Versatile – any biotinylated ligand can be used as a ligand for affinity purification.
Useful for exploiting interaction with streptavidin – the strong interactions of biotin-streptavidin or the weaker interactions of 2-iminobiotin and streptavidin.

Description

Streptavidin Sepharose High Performance is an affinity chromatography medium designed for fast and reliable binding of biotinylated substances. The medium is very useful since any biotinylated substance bound via streptavidin can be used as a ligand for an affinity purification. Prepacked, ready to use, HiTrap columns offer added convenience and speed. Streptavidin Sepharose High Performance is also supplied as a preswollen medium in suspension.

Characteristic

Binding of biotinylated substances.
High capacity.
Convenient to use.
Simple operation with a syringe, a pump, an ÄKTA system, or other chromatography systems.

Applications

The interaction between streptavidin and biotin is very strong and requires denaturing conditions for elution. This strong interaction can be utilized in the purification of antigens. Biotinylated antibody-antigen complexes bind to the HiTrap Streptavidin HP column, enabling subsequent elution of the antigen. An alternative application is to exploit the interaction between 2-iminobiotin and streptavidin, which is a weaker interaction. Iminobiotinylated substances can be eluted from the column at pH 4.

Sample preparation

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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 0.45 µm filter or centrifuged before it is applied to the column.

Medium Preparation

Streptavidin Sepharose High Performance is supplied pre-swollen in 20% ethanol. Wash the required amount of medium with 10 volumes of binding buffer to remove the ethanol solution. Prepare a slurry with binding buffer in a ratio of 75% settled medium to 25% buffer.

Packing Column

1.Equilibrate all material at the temperature at which the chromatography will be performed.
2.De-gas the medium slurry.
3.Eliminate air from the column dead spaces by flushing the end pieces with binding buffer. Make sure no air has been trapped under the column net. Close the column outlet with a few centimetres of binding buffer remaining in the column.
4.Pour the slurry into the column in one continuous motion. Pouring the slurry down a glass rod held against the wall of the column will minimise the introduction of air bubbles.
5.Immediately fill the remainder of the column with binding buffer. Mount the column top piece onto the column and connect the column to a pump.
6.Open the bottom outlet of the column and set the pump to run flow rate.

Matrix

Highly cross-linked agarose, 6%

Average particle size

~34 µm

Ligand

Streptavidin

Dynamic binding capacity

>300 nmol biotin/mL resin 6 mg biotinylated BSA/mL resin.

Recommended flow rate

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< 150 cm/h
pH working range
4–9
CIP stability
2–10.5
Temperature stability
Working:4°C to room temperature;Storage:4°C to 8°C.
Storage
4 to 8°C, 20% Ethanol
Binding buffer
20 mM sodium phosphate, 0.15 M NaCl, pH 7.5.
Elution buffer
8 M Guanidine-HCl, pH 1.5.
Binding
1.Fill the pump tubing with binding buffer. To avoid introducing air to the column, connect the column “drop to drop” to the pump tubing. 2.Equilibrate the column with 5 column volumes of binding buffer. 3.Apply the sample. For best results use a low flow rate, 15 to 75 cm/h, during sample application. 4.Wash with at least 10 column volumes of binding buffer or until no material appears in the effluent. 5.Elute with 10 to 20 column volumes of elution buffer.
Elution
1.Fill the pump tubing with binding buffer. To avoid introducing air to the column, connect the column “drop to drop” to the pump tubing. 2.Equilibrate the column with 5 column volumes of binding buffer. 3.Apply the sample. For best results use a low flow rate, 15 to 75 cm/h, during sample application. 4.Wash with at least 10 column volumes of binding buffer or until no material appears in the effluent.

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5.Elute with 10 to 20 column volumes of elution buffer.

Purification procedures

1.Fill the pump tubing with buffer. To avoid introducing air into the column, connect the column ”drop to drop” to the pump tubing.
2.Wash the column with at least 5 column volumes of binding buffer and elution buffer respectively.
3.Equilibrate the column with 5 column volumes of binding buffer.
4.Apply the sample. For best results use a low flow rate, 15 to 30 cm/h, during sample application.
5.Wash with at least 10 column volumes of binding buffer or until no material appears in the effluent.

Pack size

5 mL

Maximum flow velocity

4 ml/min

Maximum operating backpressure

0.3 MPa (3 bar, 43 psi)

Dimensions

0.7 × 2.5 cm

Column volume

1 ml

Column hardware pressure limit

5 bar (70 psi, 0.5 MPa)

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