HiTrap Capto S column

Product Information

Cat#No#	Hi-232P

Product Overview

HiTrap Capto S chromatography column is prepacked with a strong cation exchange modern resin for small scale protein purification.

Characteristic

Suitable for screening of selectivity, binding and elution conditions, and small-scale purifications.
Sulfoethyl (S) strong cation exchanger.
Optimized for capture and intermediate protein purification.
Convenient HiTrap format for easy connection to a syringe, peristaltic pump, or chromatography system.

Maximum operating pressure

5 bar [0.5 MPa] (70 psi)

Sample preparation

1. Dilution of cell paste: Add 5–10 ml of start buffer for each gram of cell paste.
2. Enzymatic lysis: 0.2 mg/ml lysozyme, 20 µg/ml DNAse, 1 mM $MgCl_2$, 1 mM Pefabloc SC or PMSF (final concentrations). Stir for 30 min at room temperature or 4°C depending on the sensitivity of the target protein.
3. Mechanical lysis: Sonication on ice for approx. 10 min, homogenization with a French press or other homogenizer or freeze/thaw, repeated at least five times.
4. Adjust the pH of the lysate. The pH should be at least 0.5 units below (cation exchangers) or 0.5 units above (anion exchangers) the pI of the target molecule. Do not use strong bases or acids for pH-adjustment (precipitation risk). Apply the unclarified lysate on the column directly after preparation.

Metal ion capacity

0.11 to 0.14 mmol H^+/mL resin

Matrix

Highly cross-linked agarose, spherical

Ionic Exchanger Type

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CREATIVE BIOMART®
Chromatography

HiTrap Capto S column

Strong cation, S
Average particle size
~ 90 µm
Dynamic binding capacity
> 120 mg lysozyme/mL resin;> 60 mg ß-Lactoglobulin/mL resin.
Recommended flow rate
1 mL/min
Recommended column height
25 mm
Chemical stability
Stable to commonly used aqueous buffers, 1.0 M NaOH, 8 M Urea, 6 M guanidine hydrochloride, 30% isopropanol and 70% ethanol.
pH working range
4 to 12
CIP stability
3 to 14
Storage
4 to 30°C, 0.2 M Sodium Acetate in 20% Ethanol.
Elution buffer
50 mM sodium acetate, 1 M NaCl, pH 5.0
Elution
1. Equilibrate the column with at least 5 column volumes (CV) of start buffer for Capto Q ImpRes and Capto SP ImpRes or until the UV baseline, eluent pH and conductivity are stable. 2. Adjust the sample to the chosen starting pH and conductivity and apply to the column. 3. Wash with 5–10 CV of start buffer or until no material appears in the effluent.

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4. Begin elution using a gradient volume of 10–20 CV and an increasing salt concentration up to 0.5 M NaCl (50% elution buffer).
5. Wash with 5 CV of 1 M NaCl (100% elution buffer) to elute any remaining ionically bound material.
6. Re-equilibrate with 5–10 CV of start buffer or until the UV baseline, eluent pH, and conductivity reach the required values.

Cleaning-in-place
1. Wash with at least 2 column volumes (CV) of 2 M NaCl. 2. Wash with at least 4 CV of 1 M NaOH. 3. Wash with at least 2 CV of 2 M NaCl. 4. Rinse with at least 2 CV of distilled water. 5. Wash with 5 CV of start buffer for Capto Q ImpRes and Capto SP ImpRes or until eluent pH and conductivity have reached the required values.
Pack size
5 × 1 mL
Maximum flow velocity
700 cm/h
Dimensions
7 × 25 mm
Column volume
1 mL
Column i.d.
7 mm
Column hardware pressure limit
5 bar (0.5 MPa, 72 psi)
Functional group
-SO3 -

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