

HiTrap Capto Q ImpRes column

Product Information

Cat#No# Hi-229P

Product Overview

HiTrap Capto Q ImpRes chromatography column is packed with a strong anion exchange modern resin for high resolution, small-scale protein purification.

Characteristic

Suitable for screening selectivity, binding and elution conditions, and for small-scale purifications.

Quaternary ammonium (Q) strong anion exchanger.

Optimized for intermediate and polishing 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 MgCl₂, 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

0.15 to 0.18 mmol (Cl⁻) /ml medium

Matrix

High flow agarose

Particle Size

HiTrap Capto Q ImpRes column

36 to 44 µm

Dynamic binding capacity

>55 mg BSA /ml medium; >48 mg \square -lactoglobulin /ml medium.

Recommended column height

25 mm

Chemical stability

All commonly used aqueous buffers, 1 M sodium hydroxide, 8 M urea, 6 M guanidine hydrochloride, 30% isopropanol and 70% ethanol.

pH working range

2 to 14

CIP stability

2 to 12

Storage

4 to 30°C, in 20% Ethanol

Elution buffer

20 mM Tris-HCl, 1 M NaCl, pH 8.0.

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.
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.

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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.
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Pack size

5 × 1 mL

Dimensions

7 × 25 mm

Column volume

1 mL

Column i.d.

7 mm

Column hardware pressure limit

5 bar (0.5 MPa)

Functional group

-CH₂N⁺(CH₃)₃
