HiScreen Capto MMC

Product Information

Cat#No#	Hi-213P

Product Overview

HiScreen Capto MMC columns are prepacked with Capto MMC ion exchange chromatography medium. The columns are an excellent choice for method optimization and parameter screening.

Description

The small column volume of 4.7 mL and bed height of 10 cm make HiScreen columns excellent tools for method optimization, parameter screening, robustness testing, and convenient scale-up. Process fluid velocities can be applied, since the 10 cm bed height gives enough residence time and the results can then serve as basis for linear process scale-up.

Characteristic

Capto MMC is a multimodal cation exchanger with a different selectivity compared with traditional ion exchangers.
It can be used to bind proteins at the conductivity of the feed material and to solve specific purification challenges.
Prepacked, ready-to-use columns for convenient process development optimization.
10 cm bed height of HiScreen columns is designed to allow method optimization and parameter screening.
Easily connected in series to achieve 20 cm bed height.
Small bed volume gives fast results and minimal sample/buffer consumption.
Reproducible results, scalable to BioProcess columns packed with the same resin using the same linear fluid velocity.

Maximum operating pressure

3 bar [0.3 MPa] (44 psi)

Sample preparation

1. Adjust the sample to the composition of the start buffer, using one of these methods: Dilute the sample with start buffer. Exchange buffer using a HiPrep 26/10 Desalting, HiTrap Desalting or PD-10 Desalting column.
2. Filter the sample through a 0.45 µm filter or centrifuge at 10 000 × g for 10 min immediately before loading

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it to the column. This prevents clogging and increases the life time of the column when loading large sample volumes.

Metal ion capacity
0.07 to 0.09 mmol H+ /mL resin
Matrix
Highly cross-linked agarose, spherical
Ionic Exchanger Type
Multimodal weak cation exchanger
Average particle size
~ 75 µm
Dynamic binding capacity
28 mg BSA/ml
Recommended flow rate
< 600 cm/h
Recommended column height
100 mm
Chemical stability
Stable to commonly used aqueous buffers, 1M acetic acid, 1.0 M NaOH8 , 8 M Urea, 6 M guanidine hydrochloride, 70% ethanol, 30% isopropanol.
pH working range
3 to 12
CIP stability
3 to 14
Temperature stability

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4°C to 30°C
Storage
4 to 30°C, 20% Ethanol
Elution buffer
25 mM phosphate buffer, 1 M NaCl, pH 7.5.
Cleaning-in-place
1. Wash with at least 2 column volumes (CV) of 2.0 M NaCl. 2. Wash with at least 4 CV 1.0 M NaOH. 3. Wash with at least 2 CV 2.0 M NaCl. 4. Wash with at least 2 CV ultra pure water. 5. Wash with Capto DEAE At least 10 CV start buffer or until eluent pH and conductivity have reached the required values.
Purification procedures
1. Remove the stoppers and connect the column to the system. Avoid introducing air into the column. 2. Wash with 1 column volume (CV) distilled water. This step removes the ethanol and avoids the precipitation of buffer salts upon exposure to ethanol. The step can be omitted if precipitation is not likely to be a problem. 3. Equilibrate the column with at least 5 CV start buffer or until the UV baseline, eluent pH and conductivity are stable. 4. Adjust the sample to the chosen starting pH and conductivity and load on the column. 5. Wash with 5 to 10 CV start buffer or until the UV trace of the effluent returns to near baseline. 6. Elute, either by linear gradient elution or a step elution, see below. If required, the collected eluted fractions can be buffer exchanged or desalted. 7. Wash with 5 CV of 1 M NaCl (100% elution buffer) to elute any remaining ionically bound material. 8. If required, perform a CIP to clean the column. 9. Re-equilibrate with 5 to 10 CV start buffer or until the UV baseline, eluent pH, and conductivity reach the required values.
Pack size

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CREATIVE BIOMART®
Chromatography

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1 × 4.7 mL
Dimensions
7.7 × 100 mm
Column volume
4.7 mL
Column i.d.
7.7 mm
Column hardware pressure limit
0.8 MPa (8 bar, 116 psi)

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