Capto Chelating

Product Information

Cat#No#	Ca-354C

Product Overview

Capto Chelating is a BioProcess immobilized metal ion affinity chromatography (IMAC) resin.
Rigid agarose base matrix allows high flow rates and processing of large sample volumes for increased throughput.
Capto Chelating is supplied free of metal ions, allowing the user to charge it with the most appropriate metal ion for purification of a target protein.
Convenient purification of native and recombinant proteins with affinity for metal ions.

Description

Capto Chelating chromatography medium (resin) is a BioProcess medium for immobilized metal ion affinity chromatography (IMAC) of native and histidine-tagged fusion proteins. The medium is suitable for both laboratory- and large-scale purifications. Capto Chelating is part of a platform of media based on the Capto product line.

Characteristic

Suitable for a wide range of purification applications.
Straightforward scale-up to production columns.
Withstands effective and rigorous cleaning-in-place (CIP) procedures.

Ligand Coupling Method

Allylation-Bromination

Matrix

Highly cross-linked agarose

Average particle size

~75 µm

Ligand

Iminodiacetic acid

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Ligand density
23-33 μmol/ml
Recommended flow rate
Minimum 600 cm/h in a 1 m diameter column with 20 cm bed height at 20°C using process buffers with the same viscosity as water at < 3 bar (0.3 MPa).
Chemical stability
pH 2-14
pH working range
3–12
CIP stability
2–14
Shelf life
5 years
Storage
4 to 30°C, 20% Ethanol
Binding
Protein binding to an immobilized metal ion usually occurs in the pH range 5.5–8.5. Binding is often strongest at the upper end of this range. The choice of binding buffer depends on the chelated metal ion and on the binding properties of the sample molecules. Sodium acetate and sodium phosphate are recommended buffers.
Elution
Reducing pH, either continuous gradient or step-wise change. Most proteins elute between pH 6 and 4. A final pH of 3 to 4 is often suitable. Competitive elution with gradient or step-wise increasing concentration of imidazole, histidine, ammonium chloride, or other substances with higher affinity for the chelated metal ion. Chelating agents such as EDTA that will strip the metal ions from the medium and cause the proteins to co-

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elute. This method does not resolve different proteins.

Regeneration

Before Capto Chelating can be recharged with a new metal ion, it should be regenerated by stripping the previously used metal ions from the medium in the packed column using EDTA.

Cleaning-in-place

1.Removing ionically bound proteins by washing the column with 0.5 column volumes of a 2 M NaCl solution.
2.Removing precipitated proteins, hydrophobically bound proteins, and lipoproteins by washing the column with 1 M NaOH.
3.Removing strongly hydrophobically bound proteins, lipoproteins, and lipids by washing the column with 70% ethanol, 30% isopropanol, or detergents in a basic or acidic solution.

Sanitization

Sanitization reduces microbial contamination of the medium. A recommended sanitization procedure is treatment with 0.5–1 M NaOH.

Pack size

25 mL

BioProcess resin

Yes

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