HiTrap Capto Lentil Lectin

Product Information

Cat#No#	Hi-072P

Product Overview

Capto Lentil Lectin is an affinity chromatography resin for purification of glycoproteins and other molecules containing carbohydrates such as α-D-mannose and α-D-glucose or sterically related residues.

Description

Capto Lentil Lectin resin is based on a rigid high-flow agarose base matrix that enables high flow rates. The product is available in bulk as well as in various high-throughput process development formats.

Characteristic

Group-specific adsorbent for carbohydrate-containing molecules.
High productivity and cost-efficiency in downstream operations.
Animal component-free production.
Security of supply and regulatory support.

Matrix

Highly cross-linked agarose, spherical

Average particle size

75 µm

Ligand

Lentil (Lens culinaris) lectin

Ligand density

3 g/L

Coupling chemistry

NHS

Dynamic binding capacity

~ 15 mg porcine thyroglobulin/mL resin

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CREATIVE BIOMART®
Chromatography

HiTrap Capto Lentil Lectin

Recommended flow rate
100 to 300 cm/h
Chemical stability
Stable in commonly used aqueous buffers.
pH working range
3 to 10
CIP stability
3 to 10
Storage
2°C to 8°C in 20% ethanol containing 150 mM NaCl, 1 mM CaCl2 and 1 mM MnCl.
Binding buffer
20 mM Tris-HCl, pH 7.4 containing up to 0.5 M NaCl
Binding
Binding of glycoproteins and other carbohydrate-containing molecules to Capto Lentil Lectin resin occurs at a neutral pH in the presence of both Mn2+ and Ca2+. These ions are present in excess in the solution in which the resin is supplied. The proteinmetal ion complex remains active and is stable at neutral pH even in the absence of the free metal ions. However, to preserve the binding activity at pH < 5, excess Mn2+ and Ca2+ (1 mM) is required. Recommended binding buffer is 20 mM Tris-HCl, pH 7.4 containing up to 0.5 M NaCl to avoid non-specific ionic interactions.
Elution
Elution of bound substances can be achieved using an increasing gradient (continuous or step) of α-D-methylmannoside or α-D-methylglucoside. These carbohydrates act as strong eluents and many substances elute at 0.1 to 0.2 M. Higher concentrations might be required for more tightly bound substances. Glucose and mannose may also be used, but are weaker eluents. Strongly bound substances can also be eluted using low pH (within operating range) or with a 0.1 M borate buffer, pH 6.5. Elution of strongly bound substances can be facilitated by including 1% deoxycholate or other detergent in the elution buffer.

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Regeneration
Capto Lentil Lectin can be regenerated by washing the resin with two to three bed volumes of a buffer solution containing 0.5 M NaCl, alternately with high pH (8.5) and low pH (5.5) between wash cycles. These cycles should be repeated three times followed by re-equilibration with three to five bed volumes of binding buffer. All strongly bound substances might not elute during the regeneration procedure. In such cases, a borate buffer containing 0.1% non-ionic detergent could be used at a low flow rate. A 20% ethanol wash or a gradient wash with up to 50% ethylene glycol may also be used to elute strongly bound substances. As an alternative regeneration method, the resin can be washed with a detergent solution (e.g., 0.1% Triton X-100) at 37°C for 1 min. Re-equilibrate with at least five bed volumes of binding buffer after regeneration.
Pack size
5 × 1 mL
Maximum flow velocity
300 cm/h

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