SuperBind IgY HP

Cat #: C-BETB012

Size:

1. Resin: 10 mL, 50 mL, 100 mL, 250 mL, 500 mL, 1 L;
2. Prepacked Column: 1mL or 5mL-Column

Storage: 20% ethanol, 4-30°C

Product Overview

SuperBind IgY HP is a highly rigid thiol-affinity chromatography medium that exhibits high binding capacity for large molecular weight IgY. It utilizes the interaction between electron donors and electron acceptors to separate and purify biomolecules. This interaction is strengthened in high-salt environments and weakened in low-salt environments.

Product Specifications

Parameters	SuperBind IgY HP
Matrix	High rigidity agarose
Mean particle diameter (μm)	36-44
Ligand	2-Mercaptopyridine
Ligand density (mg/mL)	~3
Recommended flow rate (cm/h)	≥150
Recommended pressure (MPa)	0.5
pH (Working range)	3-11
pH (Cleaning-in-Place)	2-13
Chemical stability	Stabilized in common buffers, such as 1 M NaOH, 1 M acetic acid, 0.5 M NaOH, 40% isopropyl alcohol, 70% ethanol, etc.
Storage temperature	4°C to 30°C, 20% ethanol

Usage Method

A reference protocol is provided below:

Buffer

Buffer A (Binding Buffer): 0.02 M PB, 0.5 M K2SO4, pH 7.5, filtered through a 0.45 μm filter.

Buffer B (Elution Buffer): 0.02 M PB, pH 7.5, filtered through a 0.45 μm filter.

Buffer C (Regeneration Buffer): 0.02 M PB, 30% isopropanol, pH 7.5.

Equilibration: Wash the column with 3-5 column volumes (CVs) of Buffer A, followed by 3-5 CVs of Buffer C, and finally equilibrate with 3-5 CVs of Buffer A (until baseline is reached).

Sample Loading: Load an appropriate amount of sample based on the medium capacity and process requirements (prepare solid samples with Buffer A, while liquid samples can be dialyzed with Buffer A).

Wash: Wash the column with 3-5 CVs of Buffer A (until baseline is reached).

Elution: Elute with 15 CVs of Buffer B and collect eluted samples based on UV peaks. Linear elution or step gradient elution can be used.

Regeneration: After a certain number of cycles (the number of cycles is related to the contaminants in the samples), regeneration of the column is required:

First, wash the chromatography column with 3-5 CVs of water, followed by 7-10 CVs of 0.02 M PB + 30% isopropanol, pH 7.5. Then, wash with 7-10 CVs of water, and finally rinse with 2-3 CVs of 20% ethanol, store at 4-30°C.

Cleaning-in-Place: In order to avoid interference between different samples or when the medium is heavily contaminated (increased back pressure), cleaning-in-place of the medium is necessary.

(1) For proteins bound by ionic bonds, wash with 2-3 CVs or more of 2 M NaCl, followed by 3 CVs or more water.

(2) For precipitated proteins, hydrophobic proteins or lipoproteins, wash with 2-3 CVs of 1 M NaOH (10-20 min), followed by 5-10 CVs of equilibration buffer and 3 CVs or more water.

(3) For hydrophobic proteins, lipoproteins, and lipid substances, wash with 5-10 CVs of 70% ethanol or 30% isopropanol (15-20 min), followed by 5-10 CVs of water.

Additionally, cleaning-in-place can also be done with 2 CVs of alkaline or acidic solution containing detergent. For example, wash with 0.1-0.5% non-ionic detergent + 0.1 M acetic acid for 1-2 hours, rinse with 5-10 CV of 70% ethanol to remove the detergent, and then wash with 5-10 CVs of water.