Desalting
Cellufine GH-25

Cellufine is the liquid chromatography media for the purification of proteins, enzymes and other bio-active substance. Since it is made from spherical cellulose particles having high chemical stability, high mechanical strength and bio-compatibility, it is suitable for the production in pharmaceutical and food industry. And the leaking from this matrix is much less than that from the synthetic polymer media.

Description

Cellufine GH-25 provides a rapid means of salt removal and buffer exchange for protein solutions. The semi-rigid spherical cellulose beads allow high flow rates with little compression of the column bed. The separation mechanism is based on differential solute access into the chromatographic bead.
Whereas large molecules (above 3 kD) are excluded from the packing and pass quickly through the column, small molecules (salts) diffuse into the bead and are thus retained longer.
GH-25 can be used to remove alcohols, salts, detergents, fluorochromes, sugar, etc., from virtually any protein solution. It is compatible with most solvents and is stable from pH 1 - 14.

Physical Chemicals Characteristics

	GH-25
Support matrix	cellulose
Particle shape	spherical
Particle diameter (µm)	44 – 105
MW exclusion limit (kD)	3
pH stability	range 1 - 14
Operating pressure	< 2 bar (29 psi)
Supplied	suspension in 20 % EtOH

Column Packing

1. Calculate volume required for the desired bed dimension.
2. Prepare a 40 – 60 % (v/v) slurry in appropriate exchange buffer.
3. With outlet closed, carefully pour the slurry into column. Depending on the volume, a filler tube may be necessary.
4. With the inlet open to release air, insert and affix the top adjuster assembly at the slurry interface.
5. Open the column outlet and begin pumping buffer at a rate 10 - 20% higher than the operational flow rate.
6. After the bed stabilizes, close the column outlet. Then with the inlet open, reposition the end cell on top of the bed.

Operating Guidelines

General Operation

Equilibrate column with 2–5 volumes of exchange buffer, or until the UV baseline has stabilized.

Sample Preparation and Load

Samples are typically loaded in the buffer which is to be exchanged. Filtration may be required to remove insoluble matter. The sample load is calculated as a function of column volume. Sample loads of 10% to 30% of total column volume are recommended. At higher loads, samples become less diluted. However, salt removal may not be absolute.
Furthermore, volume loadability is inversely related to protein concentration. Flow Rate
The recommended linear velocity range for GH-25 is 100–300 cm/h.

Elution
Elution occurs under isocratic conditions. The protein and salt/alcohol should elute at approximately 30% and 85% of the total column volume, respectively.

Chemical Compatibility
Stable in :

- pH 1–14
- Ethanol, methanol, acetone, etc.
- 8 M Urea, 6 M Guanidine/HCl
- 0.1 M HCl
- 0.5 M NaOH
- Most salts (NaCl, (NH4)2SO4, etc.)
- Most detergents (SDS, Tween®, Chaps, etc.)
- Autoclavable : 121°C at 1 bar for 20 minutes

Regeneration
Flush the column with 2-5 bed volumes of 0.1 - 0.5 M NaOH at a velocity of 50 –100 cm/h.
Remove caustic by flushing with several bed volumes of DIW or exchange buffer. In the later case, measure the pH of the column eluate to ensure that the system has returned to equilibrium.

Storage
Short term storage for bulk and column (2 weeks or less) can be stored in DIW containing
0.02% sodium azide, 20% ethanol, or 0.1 M NaOH. Long term storage can be conducted under identical conditions at 4–8 °C.
Do not freeze.

Shelf Lifetime : 5 years

Produit	Quantité	Référence
Cellufine GH-25	100 ml	670000327
Cellufine GH-25	500 ml	19711

for research use only, not intended for diagnostic use.

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