Seplife® DX DEAE 25/80

1. Description

Seplife® DX DEAE 25/80 is a hydrophilic ion exchange media with controlled pore size distribution used in industrial applications, prepared by crosslinked dextran functionalized with weak base anion groups.

- Designed for ion exchange chromatography of biomolecules
- Supplied in dry form
- Regulatory Support File (RSF) is available for Seplife® DX DEAE 25/80

Seplife® DX DEAE 25/80 is an ion exchange chromatographic resin based on crosslinked dextran functionalized with weak base anion with a large particle size (40-120 micron).

2. Properties

Product	Seplife® DX DEAE 25/80
Appearance	White spherical beads
Type	Weak base anion - Diethylaminoethyl
Matrix	Crossed linked dextran
Ion exchange capacity (mmol/g)	3.0 -4.0(Cl^-)
Particle size (dry, μm)	40-120
Swelling property (ml/g)	5.0-7.0
pH stability	2-9 (operational), 2-13 (CIP)
Chemical Stability	Stable in all common aqueous buffers; 1M sodium hydroxide; 8M urea; 6M guanidine hydrochloride; 70% ethanol.
Flow rate* (cm/h)	max. 480
Shipped as	Dry

*Testing conditions: Chromatography column 16mm×200mm; column bed height 15cm; temperature 25° C; mobile phase 0.1M NaCl.

3. Instructions

Seplife® DX DEAE 25/80 is provided as a dry powder and needs to be swollen when used. The swelling ratio depends on the buffer solution used. The swelling ratio can vary significantly in different solution compositions. Do not use magnetic stirring during swelling, to avoid breaking the particles.

3.1 Product pretreatment

Weigh the required amount of Seplife® DX DEAE 25/80, add 50~100 times distilled water or equilibration buffer, and let it swell. Swelling typically takes 1~2 days at room temperature, or 2 hours in boiling water.

3.2 Column packing

Column packing should be done according to standard operating procedures. It is important to ensure that each material is at its working temperature, and the chromatography media may need to be degassed before column packing.

Note: If the column is packed at the maximum linear flow rate, the flow rate during the subsequent chromatographic separation should not exceed 75% of the column packing flow rate.

3.3 Equilibration

Equilibrate the column with an appropriate 2-5 column volume buffer. Ensure the conductivity and pH of the effluent are the same as the buffer.

3.4 Sample feeding

Determine the loading amount according to the target product concentration and the loading capacity of the media. Samples with particulates and precipitate should be filtered or centrifuged before the chromatography purification.

3.5 Cleaning

After loading the sample, equilibrate the column with loading buffer to wash away unbound proteins and impurities until the conductivity and pH of the effluent are exactly the same as those of the loading buffer.

3.6 Elution

Use continuous or gradient elution with increasing salt concentration in the buffer or decreasing pH.

3.7 Regeneration

First wash off the impurity proteins on the column with 1~2M NaCl. Then wash off the salt from the column with distilled water, to stabilized the conductivity and pH of the effluent. Then pass the loading buffer through the column with until the conductivity and pH of the effluent are stable.

4. Storage

Seplife® DX DEAE 25/80 dry powder should be stored in a dry, ventilated and clean place at 4~30℃; the hydrated media should be stored in 20% ethanol solution or 0.1M NaOH at 4~8℃.

5. Transportation

Avoid sunlight, rain, and heavy pressure during transportation. It is strictly forbidden to transport with toxic and hazardous materials.

6. Precautions

6.1 Column selection: Theoretically, as long as the column is long enough, the ideal resolution can be obtained, but since the flow rate of the column is related to the pressure gradient, the increase of the column length will slow down the flow rate, broaden the peak, and reduce the resolution. As the diameter increases, the inhomogeneity of liquid flow increases and the resolution decreases significantly.

6.2 During the purification process, the pH and ionic strength of the elution buffer must be strictly controlled. The sample and the chromatography media must be thoroughly equilibrated with equilibration buffer before column chromatography.

6.3 Column loading: The loaded column bed must have a flat surface, with no channel flow or air bubbles, otherwise it should be reloaded.

6.4 During the elution process, the flow rate should be strictly controlled.

6.5 The sample volume and concentration should be controlled and optimized for best performance.

6.6 During sample loading and the entire elution process, prevent the column surface from drying out.

7. Ordering information

Product Name	References	Pack Size
Seplife® DX DEAE 25/80	D2017210	25g
	D2017211	100g
	D2017212	500g
	D2017213	1kg
	D2017214	5kg
	D2017215	10kg

Production date: See label

Expiry date: 5 years, under proper storage conditions

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