Product Data Sheet **Seplife® LXMS 30S**

1. Description

Seplife® LXMS 30S is a polymeric resin for ion exchange chromatography characterized by strong chemical stability and high rigidity for use in polishing steps with or without organic solvents and at high flow rates

- Highly uniform particle size for high resolution
- Strong cation exchange resin based on a hydrophilic coated styrene/divinylbenzene backbone functionalized with sulphonate (S)
- Suitable for ion exchange chromatography in the separation of proteins, peptides, oligonucleotides and other small and medium size biomolecules
- High stability to CIP, organic solvents and pH
- Regulatory Support File (RSF) is available for Seplife® LXMS 30S

Seplife® LXMS 30S is polymeric resin for ion exchange chromatography based on styrene/divinylbenzene functionalized with sulphonate (S) with a highly uniform particle size (30 micron).

2. Properties

Product	Seplife® LXMS 30S
Appearance	White to light yellow spherical beads
Type	Strong acid cation - Sulfonic acid
Matrix	Polystyrene/divinylbenzene
Ligand	Sulfonic acid
Ion exchange capacity (mmol/ml)	0.07-0.10
Particle size range (μm)	27-30
Typical pore size (Å)	500
pH stability	2-12 (operation), 1-14 (CIP)
Chemical stability	Stable in commonly used aqueous ion exchange buffers
Flow rate* (cm/h)	Max 900
Dynamic binding capacity** (mg/ml)	≥90
Shipped as	Slurry in 20% ethanol solution

* Testing conditions: Chromatography column 16mm×200mm; Column bed height 100mm; Packing pressure 2 MPa; Mobile phase 0.5mol/L NaCl.

**Testing conditions: Chromatography column 8mm×100mm; Column bed height 100mm; Packing pressure 0.5 MPa,; Mobile phase: 20mmol/L PB buffer pH6.8; Sample: Lysozyme; Retention time 2 min.

3. Instructions

3.1 Column packing

The best column packing results are obtained with the resin slurry in 0.5M NaCl at a concentration of 60%-70%.

- Mix the resins to form a homogenate and measure the desired mass or volume, about 1.2 times the column volume.
- Replace 20% ethanol with 0.5 M NaCl solution and equilibrate overnight.
- Before loading the column, adjust the slurry concentration to 65-70% with 0.5 M NaCl solution; pour the resin slurry into the chromatography column in one go, allow to sediment by gravity and mark the height after sedimentation.
- Load the distributor and adjust the height so that the compression coefficient is 1.05-1.10; then pump 0.5M NaCl through the column and stabilize the bed with 1.5 to 2 times the highest working flow rate. (2 - 5 column volumes).
- Efficiency and asymmetry determinations can be performed as described below.

3.2 Column Efficiency Evaluation

The test method for column efficiency of the chromatography columns is as follows:

Mobile phase: 0.5 M NaCl solution

Linear flow rate: 100 cm/h

Sample: 2 M NaCl solution

Loading volume: 0.5-1 % of column volume

Detection: Conductivity detector

Acceptable column asymmetry factor is in the range 0.8-1.8.

3.3 Rinsing

The loaded columns should be rinsed with at least 5 BV of deionized water.

3.4 Equilibration

Equilibrate the column with an appropriate 5-10 column volume buffer until the conductivity and pH of the effluent remain unchanged.

3.5 Sample feeding

The solid sample can be prepared by dissolving in the equilibrium solution; the low concentration sample solution can be dialyzed by the equilibrium solution; the high concentration sample solution can be diluted by the equilibrium solution. To avoid clogging of the column, samples should be processed by centrifugation or membrane filtration. The feed amount is calculated according to the capacity of the resin and the content of the target protein in the feed solution. Before loading, make sure that the sample buffer should be as consistent as possible with the equilibration solution.

3.6 Elution

After loading the sample, continue rinsing with equilibration buffer until the baseline is stable. Typically, the molecules retained on the chromatographic media are eluted by increasing the salt concentration or changing the pH to ensure repulsion of the charged species. Occasionally, a solution containing a small percentage organic solvent such as acetonitrile or ethanol is required to disrupt any hydrophobic interactions.

3.7 Regeneration and CIP

Regular CIP can prevent the enrichment of protein precipitation impurities in the column bed, and help to maintain the capacity and separation effect of the chromatography media. In general, specific CIP methods and the frequency of CIP need to be designed for each process according to the type of contaminants. The recommended regeneration and CIP method is as follows: Rinse with 5 BV 1-2 M NaCl followed by 5 BV 0.5-1 M NaOH.

4. Storage

Sealed and stored at 4-30°C (storage solution is 20% ethanol) in a ventilated, dry and clean place, do not freeze.

5. Transportation

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

6. Ordering information

Product Name	References	Pack Size
Seplife® LXMS 30S	PS40123X(30)1-1	25ml
	PS40123X(30)1-2	100ml
	PS40123X(30)1-3	500ml
	PS40123X(30)1-4	1L
	PS40123X(30)1-5	5L
	PS40123X(30)1-6	10L

Production date: See label
Expiry date: 5 years, under proper storage conditions

Manufacturer: Sunresin New Materials Co. Ltd.
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