

1. Description

Seplife® MMC Large Scale/75 is a multimodal weak cation agarose resin with a different selectivity compared to IEX agarose resins. Multimodal chromatography includes ion exchange, hydrophobic, and hydrogen bonding forces.

- Seplife® MMC Large Scale/75 is suitable for fast elution of biomolecules from complex or problematic mixtures.
- High dynamic binding capacity is achieved at higher conductivity
- Designed for large scale purification thanks to the high dynamic binding capacity and very high flow rates.
- High stability to CIP (cleaning in place) up to 1M NaOH.
- Regulatory Support File (RSF) is available for Seplife® MMC Large Scale/75.

Seplife® MMC Large Scale/75 is a multimodal weak acid cation chromatographic resin based on highly cross-linked agarose (6%) and has a narrow particle size (45-125 micron).

2. Properties

Product	Seplife® MMC Large Scale/75
Appearance	White to off white spherical beads
Type	Multimodal Weak Acid Cation agarose
Matrix	Highly cross-linked 6% agarose
Ion exchange capacity (mmol/ml)	0.07-0.09
pH ligand fully charged	Negatively charged at pH > 5
Particle size range (µm)	45-125
pH stability	3-12 (operational), 2-14 (CIP)
Chemical Stability	Stable in common aqueous solutions: 1M NaOH, 1M acetic acid. AVOID the use of Oxidizing agents, cationic detergents
Flow rate* (cm/h)	max 1000cm/h
10% Dynamic binding capacity (mg /ml)**	≥45
Shipped as	20% ethanol slurry

*Testing conditions: Chromatography column 16mm×200mm; column bed height 20cm; temperature 25° C; mobile phase water.

** Testing conditions: Binding buffer: 50mM acetate + 0.25M NaCl, pH 4.75; Elution buffer: 50mM acetate + 1.0M NaCl, pH 7.0, Sample : bovine serum albumin, Column: 8mm*100mm, room temperature, Retention time 2 minute.

3. Instructions

3.1 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.

3.2 Equilibration

Equilibrate the column with at least 5 BV of the initial buffer solution until the conductivity and pH of the effluent remain constant. The pH of the initial buffer is 0.5-2.0 pH units lower than the isoelectric point of the target protein.

3.3 Sample feeding

Samples are prepared in buffer. Cloudy samples should be centrifuged and filtered before loading.

3.4 Elution

Elute with lower conductivity or higher pH buffer. Keep the flow rate and buffer composition unchanged during elution.

3.5 Regeneration

Elute the reversibly bound molecules with a solution of high ionic strength (such as 2M NaCl buffer), and adjust the pH to 10-11. Rinse with at least 5 BV of the initial buffer until the conductivity and pH of the effluent remain constant.

3.6 Cleaning-In-Place (CIP)

1. For proteins bound by ionic bonds, backwash with 0.5-2 BV of 2M NaCl for 10-15 minutes.
2. For precipitated proteins, hydrophobically bound proteins or lipids, backwash with 1M NaOH at a flow rate of 40cm/h for 1 to 2 hours.
3. For proteins and lipids with strong hydrophobic binding, backwash with 2-4 BV of 70% ethanol or 30% isopropanol. However, it should be noted that the concentration of the organic solvent should be gradually increased to avoid bubbles.

After cleaning, equilibrate the column with equilibration buffer solution at least 3 times the volume of the column bed until the pH and conductivity remain unchanged.

4. Storage

Sealed and stored at 4-30°C (preservation solution 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. Precautions

6.1 Samples must be clear of particles (centrifuge and filter before loading on the column).

6.2 The sample and chromatography media must be thoroughly equilibrated with equilibration buffer before column chromatography can be performed.

6.3 The loaded column bed must have a flat surface with no channel flow and air bubbles, otherwise it should be re-loaded.

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

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

6.6 This product should avoid contact with oxidants and avoid long exposure to air.

7. Ordering information

Product Name	References	Pack Size
Seplife® MMC Large Scale/75	A5016302	25ml
	A5016303	100ml
	A5016304	500ml
	A5016305	1L
	A5016306	5L
	A5016307	10L

Production date: See label

Expiry date: 5 years, under proper storage conditions

Manufacturer: Sunresin New Materials Co. Ltd.

Add.No. 135, Jinye Rd, Xi'an Hi-tech Industrial Development Zone,
 one, Shaanxi, 710076, China

www.seplite.com www.sunresin.com

E-mail: info.lifescience@sunresin.com

All information set forth herein is for informational purposes only. This information is general descriptive(introductory) information of SUNRESIN and its related products, technologies and services. Neither shall constitute the guarantee of SUNRESIN and its affiliates to products, technologies and services in specific fields and specific application conditions results, unless otherwise expressly noted. SUNRESIN and its affiliates assumes no obligation or liability for the information in this document. Customer is responsible for judging whether the information is appropriate for Customer's concrete demand and are obliged to understand whether the use of these products, technologies and services is permitted by the laws and regulations of their countries and relevant regions. Unless expressly stated, no freedom from infringement of use any patent or trademark or intellectual property rights owned by SUNRESIN or its affiliated companies under this document is to be inferred.