Seplife® LX-AG1×8 resins (Cl^-, OH^-, Acetate$^-$)

1. Description

Seplife® LX-AG1×8 resins are strong basic anion exchangers capable of exchanging anions of acidic, basic, and neutral salts in the right operating conditions. Strong anion exchange resins are used for peptide and nucleic acid purifications, enzyme immobilization and metal purification.

Seplife® LX-AG1×8 resins are of high purity and provided in three anion forms making them especially suitable for peptide salt conversion from TFA^- to Cl^- or Acetate forms or for other analytical applications.

2. Properties

Product	Seplife® LX-AG1×8 (Cl^- Form)	Seplife® LX-AG1×8 (OH^- Form)	Seplife® LX-AG1×8 (Acetate Form)
Appearance	Yellow spherical beads	Yellow to brown spherical beads	Yellow to brown spherical beads
Matrix	Polystyrene/DVB	Polystyrene/DVB	Polystyrene/DVB
Crosslink Degree	8%	8%	8%
Type	Strong anion exchange resin Cl^- form	Strong anion exchange resin OH^- form	Strong anion exchange resin acetate form
Particle size (μm)	100-300	100-300	100-300
pH stability	1-14	1-14	1-14
Chemical stability	All common ion exchange buffers	All common ion exchange buffers	All common ion exchange buffers
Ion exchange capacity (mmol/mL)	≥1.5	≥1.5	≥1.5
Chloride ion residue (μmol/mL)	Not applicable	≤20	≤20
Density (g/mL)	0.70-0.80	0.70-0.80	0.70-0.80
Moisture content (%)	35-45	35-45	35-45
Shipped as	Wet form		

3. Instructions

3.1 Generic column packing instructions

The Seplife® LX-AG1×8 resin is shipped as wet resin. We recommend using pure water as the mobile phase for column packing. The recommended slurry concentration for column packing is 50-60%.

1) Gently mix the resins to form a homogeneous slurry; a resin volume of approx. 1.2 times more than the desired column packed volume should be used.

2) Before packing the column, ensure the slurry concentration in water is 50-60 %; pour the entre slurry quantity into the chromatography column.

3) Load the distributor and adjust the height, then start the pump and stabilize the column bed with 1.5 to 2 times the working flow rate.

4) Adjust the distribution plate height after the column bed is stabilized.

5) NOTE: the resin may shrink, or swell as much as 100%, depending on the (conversion) ionic form.

6) Efficiency and symmetry determinations are performed according to SOP and must meet predetermined criteria.

3.2 Equilibration

After packing the column, equilibrate with the mobile phase first, with 5-10 column volumes, and control the flow rate at 120-300cm/h until the conductivity and pH of the flow-through remain unchanged before feeding the sample. For peptide conversion salt format, 0-50% acetonitrile is recommended as the mobile phase.

3.5 Sample feeding

The solid sample can be prepared by dissolving in the equilibrium solution. The feed amount is calculated according to the capacity of the resin and content of the feed solution. Before loading, ensure that the sample buffer should be as consistent as possible with the equilibration solution. For peptide conversion salt format, 0-50% acetonitrile is recommended.

3.6 Elution

After loading the sample, continue rinsing with equilibration buffer until the baseline is stable. According to the actual situation, elute the samples adsorbed on the resin sequentially by increasing the salt concentration or changing the pH of the mobile phase. For peptide conversion salt format, 0-50% acetonitrile is recommended as the mobile phase.

3.7 Regeneration and CIP

Regular Cleaning-In-Place (CIP) can prevent column fouling and help to maintain the capacity and separation effect of the chromatographic media. Specific CIP methods and the frequency of CIP need to be designed for each process according to the type of contamination. The recommended regeneration and CIP method is as follows: Rinse the column up flow with 5 CV of 1.0 NaCl, 0.1 M NaOH in 20% acetonitrile.

3.8 Resin conversion

To convert a resin to an ionic form with a higher selectivity, wash the resin with 2-5 bed volumes of a 1 M solution of the desired counterion. For conversion to an ionic form with a lower relative selectivity for the resin, the necessary volume of counterion solution will depend on the difference in selectivity. Common techniques for converting ion exchange resins from one ionic form to another.

Conversion From→To	Reagent Used	Volumes (CV)	Linear Flow Rate (cm/h)	Test	Rinse (Water, CV)	Test for Completion of Rinsing
TFA^-→Cl^-	1N HCl	≥5	120	TFA^-	≥5	pH≥5.0
TFA^-→OH^-	2.5M NaOH 50℃-80℃	≥10	120	TFA^-	≥5	pH≤9
TFA^-→Ac^-	TFA^-→OH^-→Ac^-	≥10, ≥2	120	TFA^-, pH＜2	≥5, ≥3	pH≥4.7
Cl^-→OH^-	2.5M NaOH 50℃-80℃	≥10	120	Cl^-	≥5	pH≤9
Cl^-→Ac^-	Cl^-→OH^-→Ac-	≥10, ≥2	120	Cl^-, pH＜2	≥5, ≥3	pH≥4.7
OH^-→Ac^-	1N HAc	≥2	120	pH＜2	≥3	pH≥4.7

4. Storage

The resin contains a certain amount of water and should be kept moist in a sealed container during storage and transportation.

Resin in OH^-, Ac^-, the form needs to be well sealed during storage to avoid contact with air.

The resin should be stored at 4°C-30°C in closed container away for direct sunlight and sources of heat.

5. Transportation

Avoid sunlight, rain, and high-pressure during transportation. Do not transport together with toxic and hazardous materials.

6. Ordering information

Product Name	References	Pack Size
Seplife®LX-AG1×8 (Cl Form)	LXSSQC01(Cl)-1	25ml
	LXSSQC01(Cl)-2	100ml
	LXSSQC01(Cl)-3	500ml
	LXSSQC01(Cl)-4	1L
	LXSSQC01(Cl)-5	5L
	LXSSQC01(Cl)-6	10L
Seplife®LX-AG1×8 (OH Form)	LXSSQC01(OH)-1	25ml
	LXSSQC01(OH)-2	100ml
	LXSSQC01(OH)-3	500ml
	LXSSQC01(OH)-4	1L
	LXSSQC01(OH)-5	5L
	LXSSQC01(OH)-6	10L
Seplife® LX-AG1×8 （Acetic acid Form）	LXSSQC01(Ac)-1	25ml
	LXSSQC01(Ac)-2	100ml
	LXSSQC01(Ac)-3	500ml
	LXSSQC01(Ac)-4	1L
	LXSSQC01(Ac)-5	5L
	LXSSQC01(Ac)-6	10L

Production date: See label

Expiry date: 5 years from manufacture, under proper storage conditions

Manufacturer: Sunresin New Materials Co. Ltd.

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

www.sunresinlifesciences.com

E-mail: info.lifescience@sunresin.com