Product Data Sheet

Seplife® K602 FF

1. Description

Seplife® K602 FF is an agarose resin functionalized with polyvinyl pyrrolidone designed for the stabilization of beer via polyphenols removal.

- Hydrophilic base matrix ensures very low levels of non-specific adsorption
- High stability to CIP (cleaning in place) up to 1M NaOH
- High stability to sanitization with hot water at 85ºC
- Designed for the processing of large volumes of beer in axial or radial chromatography systems
- Regulatory Support File (RSF) and food compliance documentation is available for Seplife® K602 FF.

2. Properties

Product	Seplife® K602 FF
Appearance	White to light yellow spherical beads
Matrix	Crosslinked Agarose
Ligand	Polyvinyl pyrrolidone
Ligand density (mg/mL)	160-220
Particle size (μm)	160-300
d50v (μm)	220±10
pH stability	4-12 (operational), 4-14 (CIP)
Chemical stability	Stable in all common aqueous buffers; 1M NaOH; 8M urea; 6M guanidine hydrochloride; 70% ethanol.
Shipped as	Slurry in 20% ethanol solution

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 when possible, the chromatography media may be degassed before column packing.

3.2 Equilibration

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

3.3 Sample feeding

1.. The sample is prepared in the equilibration buffer; turbid sample should be centrifuged and filtered before loading.

2. Generally, polyphenols bind to the Seplife K602 FF media, and the rest of the components flow through the media. The composition of the polyphenols is related to the type, turbidity, and the ingredients used in the beer.

3. The polyphenols are removed from the resin by NaOH rinsing.

3.4 Regeneration

Generally, use 1M NaOH solution to wash more than 10 times the volume of the column. Then wash with the equilibration solution or water until the equilibrium is reached (pH and conductivity).

If there are inactivated proteins or lipids that cannot be washed away during regeneration, they can be removed by cleaning in place (CIP).

3.5 Cleaning-in-place (CIP)

1. For proteins bound by ionic bonds, 0.5-1 BV of 2M NaCl can be used to remove them.

2. For precipitated proteins, hydrophobically bound proteins or lipids, first wash with 1 BV of 0.1M NaOH, and then wash with equilibrium buffer solution until the pH is neutral.

3. For proteins and lipids with strong hydrophobic binding, wash with 4-10 BV of 70% ethanol or 30% isopropanol. It should be noted that the concentration of the organic solvent should gradually increase to avoid bubbles.

4. Storage

Sealed and stored at 4-30°C (preservation 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. 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 column 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 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 should be small and the concentration should not be too high.

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

7. Ordering information

Product Name	Product Code	Packing size
Seplife® K602 FF	AP006M21	50mL
	AP006M22	200mL
	AP006M23	1L
	AP006M24	5L
	AP006M25	20L

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

Manufacturer: Sunresin New Materials Co. Ltd.
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