

Sepharose 4 Fast Flow

Product Information

Cat#No# Se-496C

Product Overview

Sepharose 4 Fast Flow is a size exclusion chromatography resin developed for industrial processing at high flow rates and moderate pressures.

Description

Sepharose 4 Fast Flow size exclusion chromatography resin is based on cross-linked 4% agarose matrix, which gives good physical stability and chromatographic qualities. The matrix was developed specifically to meet the high throughput demands of industrial process separations. The rigidity permits high flow rates, which in turn gives good resolution in a minimum of time. Sepharose Fast Flow matrices enable the rapid processing of large volumes making these resins an excellent choice for use at process-scale.

Characteristic

Industrial-scale separation of large molecules and virus particles.

High flow velocities at moderate pressures deliver good resolution with speed.

Low non-specific interactions and excellent recoveries.

Maximum operating pressure

150-250 cm/h at <0.1 MPa in a XK 50/60 column with 5 cm diameter and 25 cm bed height (at 20°C using buffers with the same viscosity as water).

Matrix

cross-linked, 4% agarose

Average particle size

~90 µm

Recommended column height

25 cm

Chemical stability

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Stable in commonly used aqueous buffers, 2.0 M NaOH, 70% ethanol, 30% isopropanol, 30% acetonitrile, 1% SDS, 2% Asepto, 6 M guanidine-hydrochloride, 8 M urea.

pH working range

3–13

CIP stability

2–14

Autoclavable

20 min at 121°C in H₂O

Storage

4 to 30°C, 20% Ethanol

Regeneration

Wash with 2 bed volumes of water, followed by 2 to 3 bed volumes of buffer. A complete cleaning-in-place (CIP) procedure is recommended after approximately 5 cycles, depending on the starting material.

Cleaning-in-place

Remove precipitated proteins: Wash the column with 4 bed volumes of 1.0 to 2.0 M NaOH solution at 40 cm/h, followed by 2 to 3 bed volumes of water.

Remove strongly bound hydrophobic proteins, lipoproteins, and lipids: Wash the column with 4 to 10 bed volumes of up to 70% ethanol or 30% isopropanol (apply gradients to avoid air bubble formation when using high concentrations of organic solvents). Alternatively, wash the column with detergent in a basic or acidic solution. For example, use 0.5% nonionic detergent in 1.0 M acetic acid. Wash at a flow velocity of 40 cm/h. Residual detergent can be removed by washing with 5 bed volumes of 70% ethanol.

Sanitization

Sanitization using NaOH reduces microbial contamination of the resin bed to a minimum without dismantling the column. The CIP procedures recommended above also sanitize Sepharose Fast Flow resins effectively. A concentration of 1.0 to 2.0 M NaOH with a contact time of 30 to 60 min has proved effective for most microbial contamination.

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Pack size

1 L

BioProcess resin

Yes

Dimensions

5 cm
