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CHROMATOGRAPHY

Zeta•Sep FPLC Desalting Columns 1ML

For desalting, removal of small molecules, and buffer exchange using Liquid Chromatography systems

Sample volume 0.05 to 0.3 mL. Flow rate 0.5 to 2 mL/min. Max. Backpressure: 3bar

ZETA•SEP FPLC Desalting Columns are designed for:

- Separating larger biomolecules (i.e. proteins such as antibodies, enzymes or larger nucleic acids) from unwanted smaller molecules.
- Buffer exchange, desalting, removal of low molecular weight contaminants, and reaction terminations.
- Simple, rapid and reproducible separation using a syringe, pump or liquid chromatography system.

The fractionation range for globular proteins is between 1 and 5 kD. The size exclusion cut-off is approximately 5 kD, which ensures efficient separation of proteins/peptides/biomolecules larger than 5 kD from lower molecular weight molecules of less than 1 kD.

Zeta•Sep Desalting FPLC Columns contain Zetadex-25 Superfine, a beaded composite size-exclusion matrix manufactured by *emp Biotech* in Berlin-Buch. It exhibits high flow rates, excellent resolution and chemical stability. Buffer and pH effects on resolution are minimal.

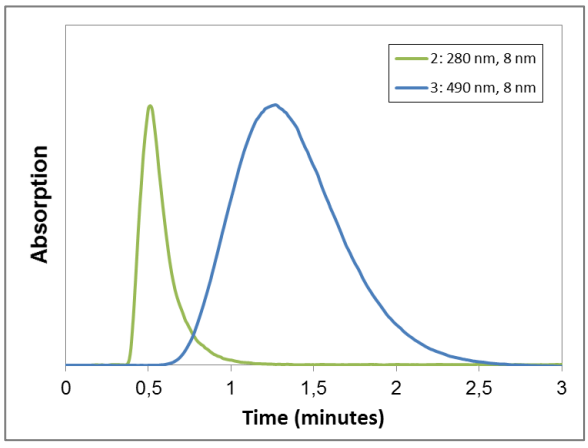
High Performance Results:

Sample: ***0.2 ml of 2 mg/ml BSA & 100µM of 5-Carboxyfluorescein in PBS pH 7.4 (0.05 % NaN_3).***

Flow rate: 2 ml/min.

Eluent: PBS pH 7.4 (0.05 % NaN_3)

Detection: Abs. at 280nm and 490nm



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Zeta Sep FPLC Desalting Specifications:

Column bed volume	1 mL
Size of eluted Proteins	> 5 kD
System compatibility	• Automated liquid chromatography systems (MPLC, FPLC™, ÄKTAdesign™, etc.) • Peristaltic pump • Syringe
Column dimensions	0.7 cm inner diameter x 2.5 cm height
Column body material	Polypropylene
Column ports	Inlet 10–32 (1/16”) female Outlet 10–32 (1/16”) male
Support Matrix	Zetadex-25 Superfine
Bead size	20 - 85 µm (hydrated)
Maximum back pressure	3 bar (0.3 MPa)
Recommended flow rate	0.5 to 2 mL/min
Maximum recommended flow rate	3 mL/min
Storage temperature	Ambient
Storage solution	20 vol % ethanol
Recommended Sample Volume	50 – 300 µL
Matrix Stability	Stable to all commonly used buffer systems
pH Stability	2 to 13 pH

Catalog Number	Description	Contents
ZS-0102-M001.0-005	Zeta•Sep FPLC Desalting Column 1ML	5 × 1 mL Columns
ZS-0102-M001.0-100	Zeta•Sep PFLC Desalting Column 1ML	100 × 1 mL Columns

Available Adaptor Sets

System	Adaptor needed	Adaptor Set
Standard FPLC™ system (e.g., ÄKTAdesign™)	None required	N/A
FPLC™ system, first generation (Pharmacia)	1 x M6 female to 10–32 male 1 x 10–32 female to M6 male	ZetaSep M6 Adaptor Set, Cat. No.: 745260
MPLC system (e.g., BioLogic™, BIO-RAD)	1 x 1/4’’ 28 female to 10–32 male 1 x 10–32 female to 1/4’’ 28 female	ZetaSep 1/4-28 Adaptor Set, Cat. No.: 745261
MPLC system (e.g., Profinia™, BIO-RAD)	1 x Luer female to 10–32 male 1 x 10–32 female to Luer male	ZetaSep Luer Adaptor Set, Cat. No.: 745264
Peristaltic pump	1 x 1/16’’ ID tubing to 10–32 male	ZetaSep Inlet PP Adaptor Set, Cat. No.: 745263
Syringe	1 x Luer female to 10–32 male	ZetaSep Inlet Luer Adaptor, Cat. No.: 745262

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Standard Protocol for Zeta•Sep Desalting Columns

Buffer Preparation: For desalting neutral compounds, a low ionic strength buffer is recommended. For separating charged compounds, a buffer with a higher ionic strength may be required.

Sample Preparation: The sample should be free of insoluble compounds and particulates. To extend the life of the column, pass the sample through a filter with a 0.45 µm pore size prior to column loading. Highly viscous samples will require a buffer having a viscosity of not more than 1.5 fold from that of the sample. As a general rule, keep the protein concentration below 65 mg/mL for proteins and 5 mg/mL for high (>1000kD) molecular weight polymers.

Sample Processing: For sample volumes of 0.3 mL or less, the higher molecular weight components of your sample will elute between 0.3 and 1.0 mL. Lower molecular weight components will elute after 0.7 mL

1. Column equilibration:
    a. Purge the system tubing with buffer. Remove the Zeta•Sep column inlet stopper. Connect the Zeta•Sep column inlet to the system tubing without introducing air bubbles into the column.
    b. Remove the endcap from the Zeta•Sep column outlet and run a minimum of 10 mL buffer at a flow rate of no more than 3 mL/min to remove the storage ethanol and to fully equilibrate the Zeta•Sep column with the buffer.

2. Pump or Chromatography System Use:
    a. After the Zeta•Sep column has been equilibrated, apply a sample having a volume of no more than 0.3 mL. Monitor the column effluent using a UV, conductivity, fluorescence or other detection system. Keep the flow rate optimally between 0.5 and 2 mL/min. Collect eluent fractions to recover the purified sample.
    b. When the sample processing is completed, flush the column with a minimum of 10 mL buffer at no more than 3 mL/min before processing the next sample. Monitor the column effluent using a UV, conductivity, fluorescence or other detection system to assure the column is ready.

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