

Dextran Desalting Columns

43230 43233

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Number	Description
43230	Dextran Desalting Columns, 5 × 5mL
43233	Dextran Desalting Columns, 5 × 10mL

Contents:
Dextran Desalting Columns, 5 each
Column Extenders, 5 each
Bottom Plugs, 5 each
Porous Discs, 6 each
Porous Disc Insertion Tool
Storage: Upon receipt store at room temperature or 4°C. Product shipped at ambient temperature.

Introduction

The Thermo Scientific Dextran Desalting Columns are ready-to-use, gravity-flow columns for separating molecules greater than 5,000 Da from smaller molecules. These columns are also effective for performing a buffer exchange by first equilibrating a column with the desired buffer, and then applying the sample.

The dextran resin is stable, easy to use and provides excellent sample recoveries. The resin can withstand water, salt solutions, organic solvents and alkaline and weakly acidic solutions and can be autoclaved dry or heated at 120°C in solution of neutral pH for 30 minutes without affecting its chromatographic properties. The flow rates obtained with these columns are at least three times greater than those obtained with other commercially available desalting resins. The 5mL column has a flow rate of approximately 60mL/hour, enabling the desalting process or buffer exchange to be performed in less than one hour. Additional characteristics of the Dextran Desalting Columns are listed in Table 1.

Table 1. Characteristics of the Thermo Scientific Dextran Desalting Columns.

	<u>5mL Column</u>	<u>10mL Column</u>
Recommended Sample Size	Up to 1.5mL	Up to 3mL
Column Volume (volume of the gel bed)	5mL	10mL
Void Volume (~1/3 column volume)	1.75mL	3.5mL
Exclusion Limit (for globular proteins)	5,000 Da	5,000 Da
Wet Bead Diameter	50-150µm	50-150µm

Procedure for Buffer Exchange/Desalting

1. Invert column several times to resuspend the dextran resin, then position the column upright in a test tube or clamp and allow the resin to settle for several minutes.
2. Remove the top cap from the column and carefully pipette the storage solution (contains 0.02% sodium azide) until 5-10mm of solution remains above the resin bed.
3. (Optional) Using the open end of the supplied porous disc insertion tool, insert and slide a porous disc to within 1mm of the resin bed. A top porous disc provides a stop-flow function that prevents disturbance and drying of the resin bed during use.

4. Twist off column bottom end tab.
5. Equilibrate the column by adding five resin-bed volumes of buffer to the column and allowing it to drain through. Equilibrate the column using the buffer into which you plan to exchange the sample.
6. Place the column in or over a new collection tube and add the sample. For best results, use a sample volume $\leq 10\%$ of the column resin-bed volume (e.g., 0.5mL for a 5mL column). Sample sizes up to 25% of the column volume may be appropriate in some cases, although the separation may not be optimal.
7. Allow the sample to enter into the resin bed. A volume of equilibration buffer equal to the sample volume will drip from the column tip.
8. Place the column over a new collection tube and add a volume of buffer equal to the fraction volume you wish to collect (e.g., 0.5-1mL).
9. Allow the buffer to enter the resin bed and collect the buffer that emerges from the column.
10. Repeat steps 8 and 9 until the protein has emerged from the column.

Note: Sample emergence can be monitored by measuring the absorbance of each fraction at 280nm. Generally, the first absorbance peak will emerge upon addition of one void volume* of buffer after the sample. This peak is the protein. Molecules smaller than the exclusion limit of the resin (e.g., buffer salts) will emerge from the column in subsequent fractions. These fractions can be discarded after confirming that all fractions containing protein have been collected.

*The void volume is approximately 1/3 the resin-bed volume (see Table 1 on previous page).

11. Desalting columns can be regenerated by washing with 10 column volumes of buffer. For storage, wash the column with five resin-bed volumes of ultrapure water containing 0.02% sodium azide, then cap the bottom and top when $\sim 3\text{mL}$ of solution remains above the resin bed. Store column at 4°C .

Related Thermo Scientific Products

43426	Polyacrylamide Desalting Columns, 1.8K MWCO, $5 \times 5\text{mL}$
43240	Polyacrylamide Desalting Columns, 6K MWCO, $5 \times 5\text{mL}$
20439	Excellulose™ Desalting Columns, 5K MWCO, $5 \times 2\text{mL}$
20449	Excellulose Desalting Columns, 5K MWCO, $5 \times 5\text{mL}$
68700	SnakeSkin® Dialysis Tubing, 7K MWCO, 2 mm dry I.D. $\times 35$ feet

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Current versions of product instructions are available at www.thermo.com/pierce. For a faxed copy, call 800-874-3723 or contact your local distributor.

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