

Zeba™ XL Spin Desalting Columns, 40K MWCO

Catalog Numbers A40002471 and A40002476

Pub. No. MAN1000342 Rev. A



WARNING! Read the Safety Data Sheets (SDSs) and follow the handling instructions. Wear appropriate protective eyewear, clothing, and gloves. Safety Data Sheets (SDSs) are available from [thermofisher.com/support](https://www.thermofisher.com/support).

Product description

The Thermo Scientific™ Zeba™ XL Spin Desalting Columns, 40K molecular-weight cutoff (MWCO) use a high performance resin that offers exceptional desalting and protein recovery characteristics. The Zeba™ 40K MWCO resin is for buffer exchanging proteins with molecular weight >40K and removing small molecules.

Technology overview

The Zeba™ Spin Desalting Columns contain a size-exclusion chromatographic resin to separate proteins from small molecules. As with all size exclusion-based separation, the amount of small molecules removed and protein recovered are affected by the nature of the molecules and sample volume. The sample volumes recommended provide exceptional removal of various small molecules (typically > 95% for molecules 1,500–2,000 Da); however, proteins and small molecules often behave differently than predicted because of various factors such as hydrophobicity, secondary structure, and interactions. Therefore, some optimization of sample volume might be needed to achieve optimal performance for each specific sample. In general, reducing the sample volume added to the column increases small molecule removal, and increasing sample volume maximizes protein recovery.

Contents and storage

Item	Amount	Cat. no.	Storage
Zeba™ XL Spin Desalting Columns, 20 mL	5 columns	A40002471	15–25°C (room temperature)
Zeba™ XL Spin Desalting Columns, 20 mL	10 columns	A40002476	

Note: Products are recommended for processing compounds >40,000 Da. The resin slurry is supplied in 0.05% sodium azide.

Required materials not supplied

- For spin columns:
 - Centrifuge capable of 700 x g with swinging bucket
 - 50 mL conical tubes
- Wash/equilibration buffer

Note: Use the same wash/equilibration buffer as needed for the final sample solution. Equilibrating the desalting resin before sample loading is necessary to ensure proper buffer exchange.

Remove salt from proteins

For centrifugation times and volumes for the buffer and sample, see Table 1.

1. Remove the column's bottom closure. Loosen the cap (do not remove cap).
2. Place the column into a collection tube then centrifuge to remove half of the storage solution.
3. Discard flowthrough then replace the column back into the collection tube and centrifuge again to remove the rest of the storage solution.
4. Discard flowthrough then replace the column back into the collection tube.
5. Add 10 mL of wash/equilibration buffer on top of the resin. Centrifuge tube then discard flowthrough. Repeat for a total of 3 washes and spins.

IMPORTANT! Incomplete centrifugation can result in poor sample recovery or sample dilution.

6. Transfer the column to a new collection tube.
7. Apply sample on top of the resin.
8. Centrifuge then retain flowthrough that contains sample. Discard the spin column.

Table 1 Centrifugation times and volumes for the buffer and sample.

		Column
Sample volume range		4–10 mL
Wash/equilibration buffer volume		10 mL
Centrifuge speed		700 x <i>g</i>
Centrifugation time	Storage solution removal #1	2 minutes
	Storage solution removal #2	2 minutes
	Wash 1	3 minutes
	Wash 2	3 minutes
	Wash 3	5 minutes
	Sample recovery	4 minutes

IMPORTANT! Do not alter the spin times which have been optimized for sample recovery.

Troubleshooting

Observation	Possible cause	Recommended action
Sample or buffer does not flow through the resin	Centrifugation problem.	Ensure bottom closure is removed.
		Ensure top cap is loosened.
Low yield	Sample was not completely in solution before adding it to the column.	Filter solution or centrifuge sample at 14,000 x <i>g</i> for 10 minutes before adding to column.
	Protein precipitated in equilibration buffer.	Check for protein solubility in the final buffer or solution.

Limited product warranty

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Revision history: Pub. No. MAN1000342 A

Revision	Date	Description
A	10 September 2024	Initial release of Zeba™ XL Spin Desalting Columns, 40K MWCO.

The information in this guide is subject to change without notice.

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