SPEEDO™ Centrifugal Rapid Desalination Column

product code:1511~1514

1. Product Overview

Speedo™ Centrifugal Rapid Desalination Column, packing particle diameter of 57-80μm, suitable for separating < 1K and > 5K molecular weight substances, the retention rate of salts and small molecules is more than 95%, almost equal volume recovery, the sample will not be diluted, and the recovery rate can be maintained while completing protein desalting. There is no need for column loading, which replaces the time-consuming traditional dialysis process to achieve rapid protein purification/replacement of protein buffers. Only 2 short centrifugations are required to complete the sample desalting or buffer exchange experiments.This media has significant rapid hydration convenience in desalination operation: only need to use the target solution to hydrate the media directly before use, can complete the preparation for desalination.Compared with the market need to use a specific storage solution for the slow hydration of the competing media, this solution completely avoided the "storage solution hydration → use need to be replaced several times for the target solution" of the cumbersome process.This unique design greatly simplifies the operation steps and effectively improves the efficiency of the experiment, which is one of the core advantages for you to choose this media.

2. Product Components

Product name	Catalog number	Suitable for sample volume	Product Specifications
SPEEDO™ Centrifugal Rapid Desalination Column	1511	50-200 μL	30T
	1512	0.5-2 mL	24T
	1513	5-8 mL	12T
	1514	50~200mL	on demand

3. Storage Conditions

Store dry at 15~25°C and transport at room temperature.

4. Scope of Application

Samples requiring buffer exchange or desalting; not suitable for samples containing organic solvents or high concentrations of organic matter; if the sample contains surfactants, they cannot be removed by the desalting column.

5. Required Materials

Catalog Number: 1522. A 50 mL centrifuge tube is required for use with this kit.

6. Precautions

(1) This product is intended for research use only and must not be used for clinical diagnosis or other inappropriate purposes.

(2) The resin may dehydrate and shrink in high-concentration alcohol solutions or saturated salt solutions. Do not pass such solutions through the column.

(3) When loading the sample, apply it evenly to the center of the tube. Avoid loading along the tube wall.

(4) If the sample concentration is too low, it can be concentrated to the desired volume or concentration using the company's rapid concentration products (Catalog Numbers: 1111, 1112) prior to use.

7. Experimental Procedure

1511

(1) Remove the upper cap of the desalting column.

(2) Add 800 μL of the target buffer for sample exchange. Allow the column to stand until the resin is fully equilibrated with the buffer, then centrifuge at 500 × g for 5 minutes.

(3) Apply the protein sample to be processed. Allow it to stand for 30 seconds, then centrifuge at 500 × g for 5 minutes using a swing-out or fixed-angle rotor. Collect the eluted sample.

1512

(1) Remove the seals from both ends of the column and place it into a 50 mL collection

tube (user-supplied).

(2) Add 8–10 mL of the target buffer for sample exchange. Allow the column to stand until the resin is fully equilibrated with the buffer and the excess buffer has drained from the outlet. Centrifuge at 500 × g for 5 minutes.

(3) Apply the protein sample to be processed. Allow it to stand for 30 seconds, then centrifuge at 500 × g for 5 minutes using a swing-out rotor (**fixed-angle rotors must not be used**). Collect the eluted sample.

1513

(1) Unscrew the cap of the desalting column.

(2) Add 13–15 mL of the target buffer for sample exchange into the inner tube of the desalting column. Allow the resin to swell completely in the buffer, and let the excess buffer drain naturally from the bottom outlet. Subsequently, centrifuge the column at 500 × g for 5 min.

(3) Apply the protein sample to be processed onto the column. After a 30- second incubation, place the column in a horizontal rotor (**fixed- angle rotor must not be used**) and centrifuge at 500 ×g for 5 min. Collect the eluted sample.

8. Common Problems and Solutions

Issue	Cause	Resolution
Low Protein Recovery Rate	1. Low protein concentration (< 5 μg/mL). 2. Inappropriate composition or pH of the exchange buffer, leading to non-specific adsorption.	1.Concentrate the protein solution appropriately prior to desalting. 2.Replace with a suitable buffer and thoroughly equilibrate the pre-packed column 2-3 times.
Turbidity or Precipitation After Protein Recovery	1. Use of a non-optimal buffer. 2. Removal of certain ions from the buffer, causing protein precipitation at its isoelectric point.	Replace with a suitable buffer and thoroughly equilibrate the pre-packed column 2-3 times.
Low Desalting Efficiency	Excessively high salt ion concentration.	Appropriately increase the number of desalting cycles.

9. Safety Information

9.1. Standard Operating Procedures：

9.1.1. Use clean, impurity-free consumables throughout the process to avoid sample contamination and impact on experimental results

9.1.2. Before operating the centrifuge, ensure that the mass difference between centrifuge tubes loaded in opposing rotor positions is ≤0.1 g to maintain the dynamic balance condition of the rotor system.

9.2. Waste Classification and Disposa：

9.2.1. Unused desalting columns, if the packing material is accidentally spilled, do not require special treatment and can be discarded as general waste, posing no environmental impact.

9.2.2. Used desalting columns, along with all waste liquids and solid waste generated during the experiment, must be disposed of strictly in accordance with relevant laboratory waste management regulations.

9.3. **Emergency Measures**： In case of skin contact with dry desalting packing material, special treatment is generally not required; simple washing is sufficient. If experimental reagents accidentally come into contact with the eyes, they should be immediately rinsed with copious amounts of water for 15 minutes, and medical attention should be sought promptly. If accidentally ingested, immediate transportation to a hospital for treatment is required.

9.4. **Safe Storage**：The product must be stored sealed in a dry place at 15–25°C to avoid contamination.

10. Technical support

Web: www.amountbiotech.com

Email: info@amountbiotech.com

Phone: 0595-24669806

Address: 8th Floor, No. 916, South Ring Road, Licheng District, Quanzhou City, Fujian Province