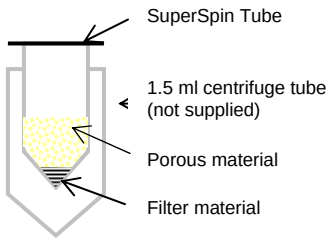
SuperSpin™ Desaltor

Data and Instructions

Based on the principles behind size exclusion chromatography, cross-linked neutral polysaccharide particles with very small pores are packed into spin tubes for rapid desalting and / or buffer exchange. SuperSpin Desaltor achieves desalting or buffere exchange in just a few minutes. Up to 24 samples (depending on the type of microcentrifuge) of 10 – 100 µl can be processed in one spin. It is a much faster and more efficient approach when compared to dialysis tubes or membrane ultrafiltration. The small porous particles provide huge surface area with very short diffusion distance, which means small molecules such as salt can be partitioned rapidly. In comparison, both dialysis tube and membrane have very low surface area. It always takes much longer to conduct dialysis (typically from a few hours to a few days). Membrane ultrafiltration of small samples always experiences membrane blockage and severe loss of valuable materials.

Configuration of SuperSpin Desaltor



Key benefits:

- Rapid desalting or buffer exchange
- Very little loss of target molecules (typically > 95% recovery)
- Most proteins (> 6,000 dalton) and DNAs (> 10 bp) can be desalted
- DNAse free

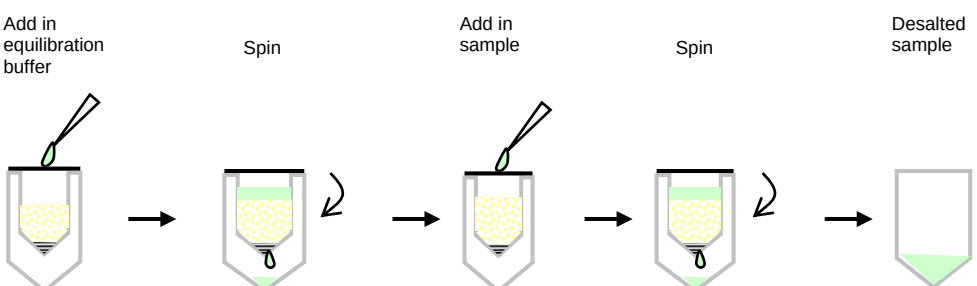
SuperSpin desaltor is particularly useful for the following applications:

- Desalting of histidine-tagged proteins (e.g. imidazole and NaCl) recovered from IMAC SuperSpin
- Desalting of samples before loading to SDS-PAGE
- Desalting of samples before conducting other analysis
- Buffer exchange, for example, after low pH elution
- Desalting of DNAs

Operational instruction

1. Place a SuperSpin Desaltor into a standard 1.5 ml microcentrifuge tube. (Caution: don't open the lid of SuperSpin Desaltor in this stage). Keep the cap of the 1.5 ml tube open, or remove lid if it interferes with the spin process.
2. Spin at 6500 rpm for 10 seconds to pack down the particles.
3. Gently open the lid of the spin tube. Slowly load 200 µl of the equilibration buffer of choice. Close the lid and spin at 6500 rpm for 30 seconds. ***The liquid retention time in the spin tube may vary for different buffers. The resin bed needs be fully dried in this spin step. By visual checking, the resin bed should become white dry. Otherwise, spin for another 30 seconds.***
4. Empty the 1.5 ml centrifuge tube and replace in the Desaltor tube. Repeat the above Step 3 one more time.
5. Place the spin tube into a fresh 1.5 ml tube. Load the sample upon top of the particles gently. The loading volume is 10 µl to 100 µl. Close the spin tube lid and spin at 6500 rpm for 30 seconds.
6. The liquid collected in the 1.5 ml tube is the final desalted sample.

Diagram: SuperSpin Desaltor operational procedure



Technical data

Biological samples with molecule size > 6,000 dalton can be desalted with SuperSpin Desaltor.

Protein	Sample loading	Salt removal	Protein recovery
Lysozyme (14.6K, 1 mg/ml in 10 mM Tris/HCl plus 1 M NaCl)	10 µl	100%	99%
Lysozyme (14.6K, 1 mg/ml in 10 mM Tris/HCl plus 1 M NaCl)	100 µl	86.5%	96%
BSA (66K, 1 mg/ml in 10 mM Tris/HCl plus 1 M NaCl)	10 µl	100%	83%
BSA (66K, 1 mg/ml in 10 mM Tris/HCl plus 1 M NaCl)	100 µl	83.5%	98%

Ordering information

IMAC SuperSpin	Quantity	Geneflow Product No	Manufacturers Ref
SuperSpin Desaltor	50	P7-0002	210101

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