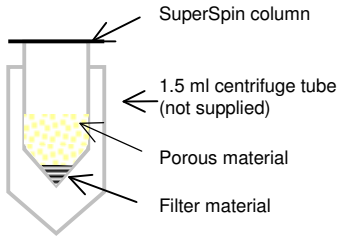
BIOTOOLOMICS

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 buffer 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 ultrafiltration have very low surface areas. 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

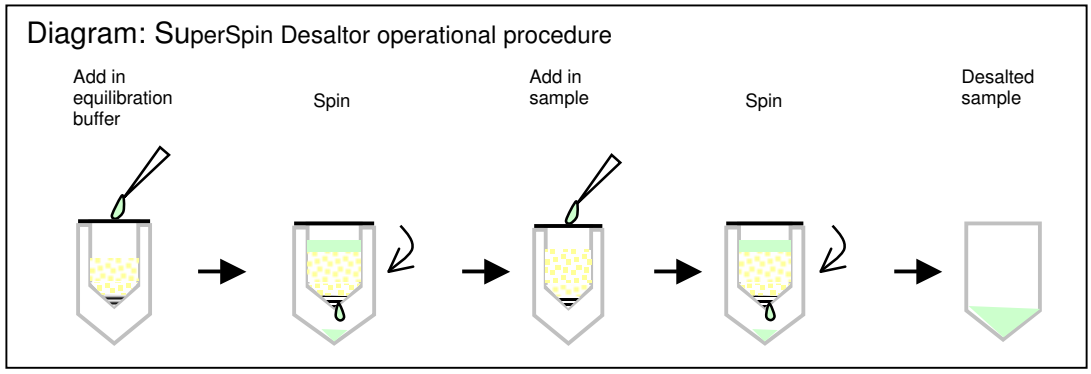
SuperSpin desaltor is particularly useful for the following applications:

- 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. Invert and shake each SuprSpin column to fully re-slurry the particles. (Caution: don't open the lid of SuperSpin Desaltor in this stage).
2. Snap off the bottom closure and loosen the cap.
3. Place the column into a standard 1.5 ml microcentrifuge tube (not supplied). Keep the lid of the 1.5 ml tube open, or cut it off if it interferes with the spin process.
4. Spin at 6500 rpm for 30 seconds to pack down the particles and remove the liquid.
5. Empty the 1.5 ml centrifuge tube. Gently open the cap of the spin column. Slowly load 400 µl of the equilibration buffer of choice. Put the cap back but keep it loosely screwed. Place the column into the 1.5 ml tube. 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 whole resin bed becomes white when dry. Otherwise, spin for another 30 seconds.***
6. Repeat the above Step 5 one more time.
7. Place the spin column into a fresh 1.5 ml tube. Load the sample on top of the particles gently. The loading volume is 10 µl to 100 µl. Put the cap back but keep it loosely screwed. Spin at 6500 rpm for 30 seconds.
8. 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

Product	Quantity	Code no.
SuperSpin Desaltor	50	210101

Related products	Quantity	Code no.
Ni SuperSpin	50	150101
Co SuperSpin	50	150103
Zn SuperSpin	50	150104

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