

## ProteoSpin™ CBED (Concentration, Buffer Exchange and Desalting) Micro Kit

The ProteoSpin™ CBED Micro Kit provides a fast and simple procedure for concentration, buffer exchange and desalting of protein samples. The kit is based on spin-column chromatography using Norgen's patented protein resin as an ion exchanger. Salts such as MgCl<sub>2</sub>, NaCl, KCl, CaCl<sub>2</sub>, LiCl, and CsCl have poor affinities for Norgen's resin and are easily removed from the sample. The elution is performed with choices of several different buffer solutions, allowing for salt-free elutions or buffer exchange. Each spin column can process up to 50 µg of protein from up to 5 mL of solution. The kit contains complete solutions for the preparation of both acidic and basic proteins.



Kit Specifications			
Maximum Protein Input	50 µg	% Salt Removal	Up to 99%
Protein Recovery*	Up to 99%	Volume Concentration Factor	Up to 100X
Minimum Elution Volume	30 µL	Time to Process 12 Samples	20 minutes

\*Recoveries of up to 99% have been achieved using BSA and the supplied elution buffer. Recovery will vary depending on the protein sample and the elution buffer used.

### ProteoSpin™ CBED Micro Kit Benefits

Fast and easy processing	Efficiently process up to 12 samples in only 20 minutes using an easy-to-use protocol.
High yield	Recovery of up to 99% of input amount
No mixing or formulation	Solutions and protocols are provided for both acidic and basic proteins with no need for formulation.
No molecular weight cutoff	Based on an ion exchange mechanism, a broad size range of proteins from peptides to antibodies can be processed.
Proteins bind while salts are discarded in flowthrough	Norgen's resin has an inherent low affinity for salt but high affinity for proteins, providing salt removal and buffer exchange simultaneously
Suitable for downstream applications	<b>Final elution performed with volatile or non-volatile buffers suitable for:</b> <ul style="list-style-type: none"> <li>• Mass spectrometry</li> <li>• SDS-PAGE</li> <li>• Isoelectric focusing</li> <li>• X-ray crystallography</li> <li>• NMR spectroscopy</li> </ul>

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**Table 1. Examples of BSA Volume Concentration using the ProteoSpin™ CBED Micro Kit**

Input Volume	Output Volume	Concentration Factor
1 mL	50 µL	20X
3 mL	50 µL	60X
5 mL	50 µL	100X

**Table 2. Examples of BSA Mass Concentration using the ProteoSpin™ CBED Micro Kit**

Input Concentration	Output Concentration	Concentration Factor
50 µg / 2 mL (0.025 µg/µL)	48 µg / 50 µL (0.96 µg/µL)	38X

### CBED Micro Kit Contents

1. Column Activation and Wash Buffer for Acidic Proteins
2. pH Binding Buffer for Acidic Proteins
3. Column Activation and Wash Buffer for Basic Proteins
4. pH Binding Buffer for Basic Proteins
5. Elution Buffer
6. Neutralizer
7. Micro Spin Columns
8. Elution Tubes
9. Application Manual

**Table 3. Representative Recovery and Salt Reduction using the ProteoSpin™ CBED Micro Kit**

Salt (300 ppm)	% BSA Recovery*	% Salt Reduction
MgCl <sub>2</sub>	68.4	99.7
NaCl	70.9	96.1
KCl	76.2	99.0
CaCl <sub>2</sub>	69.6	96.4
LiCl	69.6	99.7

\* To allow for detection of salts, elutions were performed in 250 mM ammonium hydroxide. Recoveries using this buffer are lower than would be observed if the provided elution buffer was used.

### Customer-Supplied Reagents and Equipment

- Benchtop microcentrifuge
- Micropipettors
- pH indicator paper
- Other elution buffers (optional)

### Storage Conditions

Unopened solutions should be stored at room temperature. Once opened, the solutions should be stored at 4°C when not in use, except for the Basic and Acidic Binding Buffers, which should be stored at room temperature.

### Shipping Conditions

The ProteoSpin™ CBED Micro Kit is shipped at room temperature.

Cat #	Description	Quantity
10100	ProteoSpin™ CBED Micro Kit	25 preps
10400	ProteoSpin™ CBED Micro Kit	50 preps