

PROTEOSPIN™ INCLUSION BODY PROTEIN ISOLATION MICRO KIT (CAT. 10300)



- ✓ All-in-one solution for inclusion body protein isolation and purification
- ✓ Fast and convenient spin column protocol
- ✓ Complete kit with Cell Lysis Reagent, Inclusion Body Solubilization Reagent, buffers and spin columns to purify proteins
- ✓ Purification is based on spin column chromatography that uses Norgen's proprietary resin separation matrix

FOR THE **RAPID ISOLATION OF INCLUSION BODY PROTEINS**
- CELLS TO GELS IN 60 MINUTES

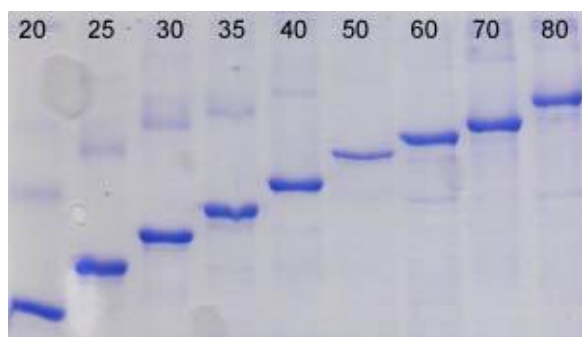


Figure 1. Efficient Isolation of Inclusion Body Proteins. Following gene expression, 1.5 mL cultures of BL21 (DE3) pLysS bacteria expressing proteins of various molecular weights were pelleted by centrifugation. Cells were lysed and inclusion bodies separated and dissolved using the ProteoSpin™ Inclusion Body Protein Isolation Micro Kit. The resulting proteins were bound to the ProteoSpin™ columns, washed and eluted in 50 µL of the provided elution buffer. The eluted protein samples were analyzed in 12.5% polyacrylamide gels, which were run for 45 minutes at 200 V/6.5 cm. The protein bands were made visible by staining with Coomassie Blue R-250. Lane labels indicate the size of each protein in kDa.

Ordering Information

ProteoSpin™ Inclusion Body Protein Isolation Micro Kit	
25 Preps	Cat. 10300

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For more data and technical specifications please visit norgenbiotek.com or scan the **QR code**.

PROTEOSPIN™ INCLUSION BODY PROTEIN ISOLATION MAXI KIT (CAT. 17700)



- ✓ All-in-one solution for inclusion body protein isolation and purification
- ✓ Complete kit with Cell Lysis Reagent, Inclusion Body Solubilization Reagent, buffers and spin columns to purify proteins
- ✓ Isolate up to 12 mg of protein per spin column
- ✓ Fast and convenient spin column protocol
- ✓ Purification is based on spin column chromatography that uses Norgen's proprietary resin separation matrix

FOR THE RAPID ISOLATION OF INCLUSION BODY PROTEINS

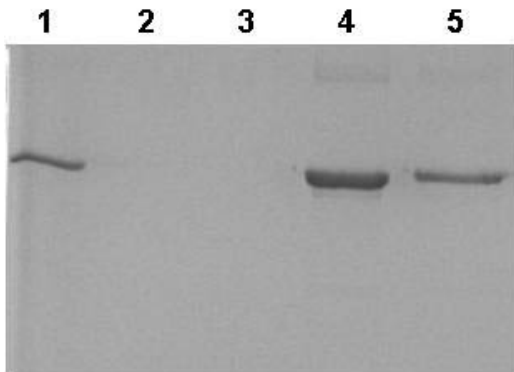


Figure 1. No Loss of Proteins when Isolating a Basic Protein. 100 mL of induced bacterial culture expressing a recombinant 30 kD BASIC protein were pelleted and processed using the ProteoSpin™ Inclusion Body Protein Isolation Maxi Kit. Briefly, pelleted cells were lysed, inclusion bodies were separated and subsequently dissolved using the provided Inclusion Body Solubilization Reagent. Fractions of input, flowthrough, wash and elution were loaded on a 12.5% acrylamide gel. Lane 1 is the input, Lane 2 is the flowthrough from the input, Lane 3 is the wash, Lane 4 is the first elution and Lane 5 is the second elution. As can be seen, proteins are not lost in the flowthrough or wash. Recombinant proteins were efficiently bound to the column and eluted.

Ordering Information

ProteoSpin™ Inclusion Body Protein Isolation

4 Preps

Cat. 17700

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For more data and technical specifications please visit norgenbiotek.com or scan the QR code.

CELL LYSIS REAGENT
(CAT. 18800, 18801)



- ✓ Proprietary solution of detergents, protease-inhibitors and buffer
- ✓ Efficient lysis of bacterial cells for extraction of inclusion body proteins

FOR THE **EFFICIENT LYSIS OF BACTERIAL CELLS** AND THE **EXTRACTION OF INCLUSION BODY PROTEINS**

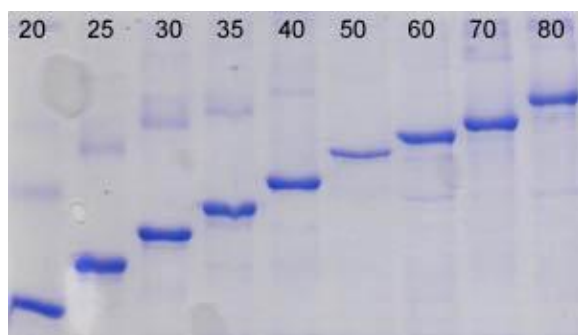


Figure 1: Efficient Isolation of Inclusion Body Proteins Using Norgen’s Cell Lysis Reagent and Inclusion Body Solubilization Reagent. Inclusion bodies were extracted and solubilized following gene expression. Recovered proteins were analyzed on 12% SDS-PAGE and stained with Coomassie Brilliant Blue R-250. Numbers represent kDa sizes of protein bands.

Ordering Information

Cell Lysis Reagent	
100 mL	Cat. 18800
500 mL	Cat. 18801



For more data and technical specifications please visit norgenbiotek.com or scan the **QR code**.

INCLUSION BODY SOLUBILIZATION REAGENT (CAT. 18700, 18701)



- ✓ Rapid and convenient solubilization of inclusion body aggregates
- ✓ Allows for downstream processing of dissolved inclusion body proteins

FOR THE EFFICIENT SOLUBILIZATION OF INCLUSION BODY PROTEINS

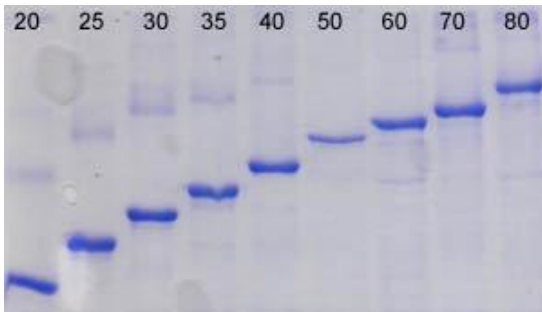


Figure 1. Efficient Isolation of Inclusion Body Proteins Using Norgen’s Cell Lysis Reagent and Inclusion Body Solubilization Reagent. Inclusion Bodies were extracted and solubilized following gene expression. Recovered proteins were analyzed on 12% SDS-PAGE and stained with Coomassie Brilliant Blue R-250. Numbers represent kDa sizes of protein bands.

Ordering Information

Inclusion Body Solubilization Reagent	
25 mL	Cat. 18700
100 mL	Cat. 18701

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PROTEOSPIN™ TOTAL PROTEIN CONCENTRATION, DETERGENT CLEAN-UP AND ENDOTOXIN REMOVAL MINI KIT (CAT. 22800)



- ✓ Columns bind proteins of interest while endotoxins flow through
- ✓ Proteins are desalted
- ✓ Reduce endotoxin levels to less than 0.01 EU/μg of protein
- ✓ Greater than 95% protein recovery
- ✓ Concentrate protein samples and remove detergents at the same time
- ✓ Effectively remove a wide range of detergents including SDS, Triton® X-100, CHAPS, NP-40, and Tween 20
- ✓ Purification is based on spin column chromatography that uses Norgen's proprietary resin separation matrix

FOR RAPID AND EFFICIENT ENDOTOXIN REMOVAL FROM PROTEINS AND PEPTIDES

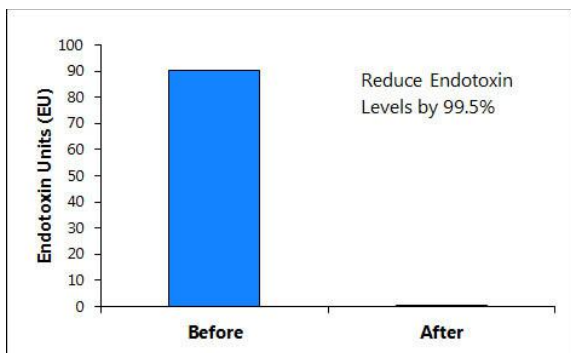


Figure 1. Endotoxin-Free Proteins. Endotoxins were removed from 100 μg protein samples in triplicate using the ProteoSpin™ Total Protein Concentration, Detergent Clean-Up and Endotoxin Removal Mini Kit. Samples containing 100 μg of BSA were spiked with endotoxins (0.9 EU/mg). The endotoxin-spiked BSA was then cleaned, in triplicate, using the ProteoSpin™ Total Protein Concentration, Detergent Clean-Up and Endotoxin Removal Mini Kit by using 5 μL of the provided Endotoxin Removal Solution in the presence of isopropanol. On average, the endotoxin levels in the 100 μg samples were reduced from 0.9 EU/mg to 0.005 EU/mg.

Ordering Information

ProteoSpin™ Total Protein Concentration, Detergent Clean-Up and Endotoxin Removal Mini Kit	
25 Preps	Cat. 22800

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For more data and technical specifications please visit norgenbiotek.com or scan the QR code.

PROTEOSPIN™ URINE PROTEIN CONCENTRATION KITS (CAT. 17400, 52300, 21600)



- ✓ Simultaneously clean-up and concentrate total urinary proteins using Norgen's proprietary resin matrix
- ✓ Rapidly remove salts and urea without buffer exchange
- ✓ Versatile sample input volumes
 - **Micro:** up to 1 mL
 - **Midi:** 1 mL - 5 mL
 - **Maxi:** 2 mL - 20 mL
- ✓ No molecular weight cutoff allows for isolation of all sizes of proteins and peptides
- ✓ Intact, functional proteins are ready for downstream applications including SDS-PAGE, 2D gels, Western Blotting, whole protein mass spectrometry, and protein microarrays
- ✓ Purification is based on spin column chromatography that uses Norgen's proprietary resin separation matrix

FOR THE RAPID AND EFFICIENT CONCENTRATION OF TOTAL PROTEINS FROM URINE

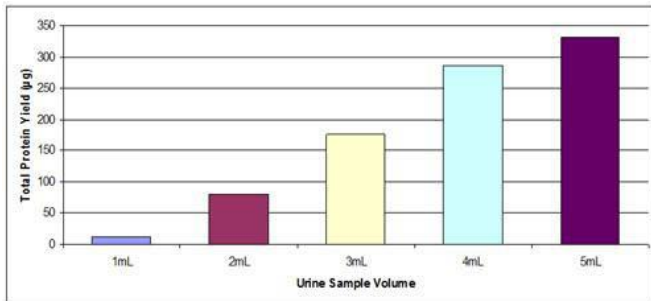


Figure 1. High Yield of Urine Proteins. Five different urine sample volumes were concentrated using Norgen's Urine Protein Concentration Midi Kit. The total urine protein yield from the different urine sample volumes processed using Norgen's kit appears to be increasing with the increase of the urine sample volume.

Ordering Information

ProteoSpin™ Urine Protein Concentration Kits	
Micro (25 Preps)	Cat. 17400
Midi (10 Preps)	Cat. 52300
Maxi (4 Preps)	Cat. 21600

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For more data and technical specifications please visit norgenbiotek.com or scan the QR code.

PROTEOSPIN™ ABUNDANT SERUM PROTEIN DEPLETION KIT (CAT. 17300)



- ✓ Rapid and efficient removal of abundant proteins from serum and plasma samples
- ✓ Process 10 samples in 30 minutes
- ✓ Allows for visualization of low abundance proteins
- ✓ Convenient and affordable spin column protocol
- ✓ Generic protocol allows for depletion from human and other animal samples
- ✓ Purification is based on spin column chromatography that uses Norgen's proprietary resin separation matrix

FOR THE RAPID DEPLETION OF ABUNDANT PROTEINS FROM SERUM SAMPLES

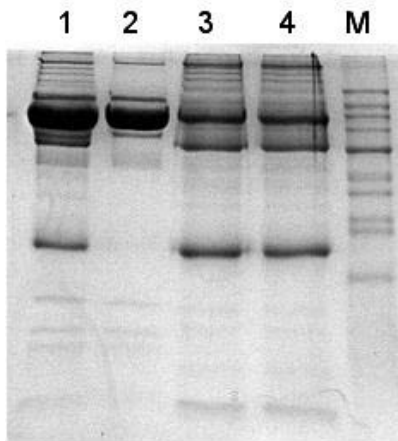


Figure 1. Depletion of Abundant Proteins. Abundant proteins were depleted from human serum using the ProteoSpin™ Abundant Serum Protein Depletion Kit. Lane 1 represents the input human serum proteins, while Lanes 3 and 4 represent the elution after the abundant proteins were depleted with the kit. Lane 2 represents the binding flow through, and contains the proteins that have been depleted from the serum sample.

Ordering Information

ProteoSpin™ Abundant Serum Protein Depletion Kit	
25 Preps	Cat. 17300

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For more data and technical specifications please visit norgenbiotek.com or scan the QR code.

PROTEOSPIN™ ON-COLUMN PROTEOLYTIC DIGESTION KIT (CAT. 17500)



- ✓ Rapid and simple procedure to generate digested peptides
- ✓ Simultaneous digestion, purification and concentration at once
- ✓ Peptide generation is complete, with no generation of additional artifacts being detected in mass spectrometry
- ✓ Peptides are ready for applications such as mass spectrometry and SDS-PAGE
- ✓ Purification is based on spin column chromatography that uses Norgen's proprietary resin separation matrix

FOR THE RAPID AND CONVENIENT ON-COLUMN DIGESTION OF PROTEINS

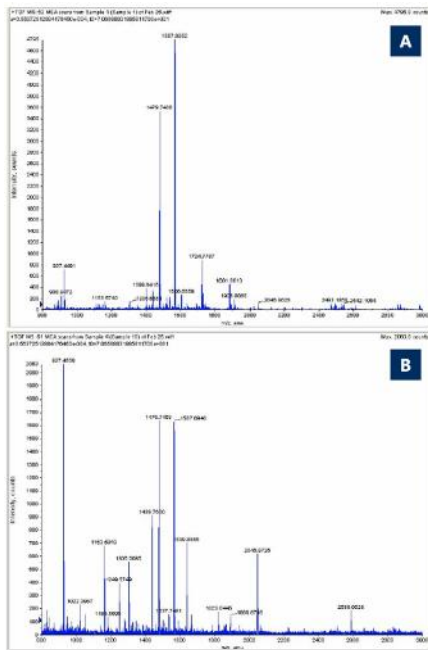


Figure 1. Generation of Tryptic BSA Peptides without the Generation of any Artifacts. MALDI-TOF spectra of the peptides that resulted after BSA was digested on-column with trypsin using the ProteoSpin™ On-Column Proteolytic Digestion Kit (Panel A) or digested in a typical liquid environment (Panel B). For both digestions, 15 µg of BSA was used as the input and 0.3 µg of Trypsin was used for the digestion. For on-column digestion, the 15 µg of BSA was loaded onto the column with the trypsin, the BSA was washed, then the on-column digestion proceeded and the resulting peptides were eluted. By comparing the spectra, it can be seen that the ProteoSpin™ kit (Panel A) resulted in the generation of the same peptide profile in MALDI-TOF as the liquid digestion did (Panel B). Furthermore, no artifacts were found to arise from the use of the column, and all the same peaks could be detected in both spectra.

Ordering Information

ProteoSpin™ On-Column Proteolytic Digestion Kit

25 Preps

Cat. 17500

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For more data and technical specifications please visit norgenbiotek.com or scan the QR code.

SELECT PUBLICATIONS AND APPLICATION NOTES

Proteospin™ Inclusion Body Protein Isolation Maxi Kit (Cat. 17700)

Shadnezhad, A., Naegeli, A., & Collin, M. (2016). **CP40 from *Corynebacterium pseudotuberculosis* is an endo-B-N-acetylglucosaminidase.** *BMC Microbiology*, 16(1), 261–261.

<https://doi.org/10.1186/s12866-016-0884-3>



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Proteospin™ Total Protein Concentration, Detergent Clean-Up And Endotoxin Removal Mini Kit (Cat. 22800)

Ono, H. K., Hirose, S., Naito, I., Sato'o, Y., Asano, K., Hu, D.-L., ... Nakane, A. (2017). **The emetic activity of staphylococcal enterotoxins, SEK, SEL, SEM, SEN and SEO in a small emetic animal model, the house musk shrew: Emetic activity of different SEs.** *Microbiology and Immunology*, 61(1), 12–16.

<https://doi.org/10.1111/1348-0421.12460>



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Proteospin™ Total Protein Concentration, Detergent Clean-Up And Endotoxin Removal Maxi Kit (Cat. 22200)

Song, L., Xiong, D., Kang, X., Yang, Y., Wang, J., Guo, Y., ... Jiao, X. (2015). **An avian influenza A (H7N9) virus vaccine candidate based on the fusion protein of hemagglutinin globular head and Salmonella typhimurium flagellin.** *BMC Biotechnology*, 15(1), 79–79.

<https://doi.org/10.1186/s12896-015-0195-z>



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Detergent-Free Total Protein Isolation Kit (Cat. 30300)

Hanafi, A., Lee, W. C., Loke, M. F., Teh, X., Shaari, A., Dinarvand, M., ... Goh, K. L. (2016). **Molecular and Proteomic Analysis of Levofloxacin and Metronidazole Resistant *Helicobacter pylori*.** *Frontiers in Microbiology*, 7, 2015–2015.

<https://doi.org/10.3389/fmicb.2016.02015>



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Proteospin™ Urine Protein Concentration Kits (Cat. 17400, 52300, 21600)

Ozcan, F., Akbas, H., Kirac, E., Suleymanlar, G., Aslan, M., & Yucel, G. (2016). **Mass spectrometric quantification of urinary human liver fatty acid binding protein in renal transplant recipients.** *Rapid Communications in Mass Spectrometry*, 30(5), 603–610.

<https://doi.org/10.1002/rcm.7474>



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Proteospin™ Urine Protein Concentration Kits (Cat. 17400, 52300, 21600)

Bathla, S., Rawat, P., Baithalu, R., Yadav, M. L., Naru, J., Tiwari, A., ... Mohanty, A. K. (2015). **Profiling of urinary proteins in Karan Fries cows reveals more than 1550 proteins.** *Journal of Proteomics*, 127, 193–201.

<https://doi.org/10.1016/j.jprot.2015.05.026>



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Proteospin™ Abundant Serum Protein Depletion Kit (Cat. 17300)

Henry, M., & Meleady, P. (2011). **Clinical proteomics: liquid chromatography-mass spectrometry purification systems.** *Methods in molecular biology (Clifton, N.J.)*, 681, 473–483.

https://doi.org/10.1007/978-1-60761-913-0_28



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