



PROTEIN SAMPLE PREPARATION

MicroRotorTM Lysis Kits

- Tailored cell lysis and total protein extraction protocols and reagents for mammalian, bacterial, yeast, and plant samples
- Direct application of extracted protein into the MicroRotor cell — no need to change buffers
- IEF-compatible extraction buffer suitable for a variety of downstream applications
- Quality-controlled for guaranteed performance and reproducibility

Easy, Effective Cell Lysis and Protein Extraction

Reducing sample complexity enhances visualization of low-abundance proteins. An effective method for reducing sample complexity is through fractionation using liquid-phase isoelectric focusing (IEF). Bio-Rad's expertise in liquid-phase IEF has been demonstrated with the Rotor[®] family of electrophoresis cells and most recently with the MicroRotor cell, which uses only a 2.5 ml volume for pI-dependent fractionation upstream of such applications as SDS-PAGE, 2-D gel electrophoresis, or LC-MS/MS.

To make the MicroRotor system even easier to use, MicroRotor lysis kits are available for easy protein sample preparation. Four different kits provide convenient, easy protocols tailored to different sample types (mammalian, plant, bacterial, and yeast samples). Total protein extracts may be used directly in a MicroRotor run, streamlining your proteomics workflow.

IEF-Compatible Extraction Buffer

All four MicroRotor lysis kits use the same chaotropic protein solubilization buffer (PSB), a proprietary combination of non-detergent sulfobetaine 201 (NDSB 201) along with urea, thiourea, and CHAPS. PSB is particularly effective for solubilizing membrane proteins. It may also be used directly in a MicroRotor run, eliminating both the need for buffer exchange and the potential for sample loss. PSB not only achieves effective protein extraction but also helps maintain the solubility of extracted proteins during IEF.

Tailored Protocols

Different sample types have different requirements for effective cell disruption and protein solubilization. All four MicroRotor lysis kits employ PSB with other elements, such as ReadyPrep[™] mini grinders or lytic enzymes, to accommodate these specific needs.

Not Just for the MicroRotor Cell

MicroRotor lysis kits apply standard methods for cell lysis and protein extraction. The resultant extracts are not restricted for use with just the MicroRotor cell but may be applied in many other downstream applications, such as SDS-PAGE and 2-D gel electrophoresis.



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MicroRotorfor Lysis Kits

Available MicroRotorfor Lysis Kits

MicroRotorfor Lysis Kit (Mammal)

Designed for use with mammalian tissues and cultured cells, this kit supplies ReadyPrep mini grinders for tissue maceration (up to a 100 mg sample) as well as PSB. Though this kit is intended for use with samples from mammalian sources, it may be applied to other animal tissues.

MicroRotorfor Lysis Kit (Bacteria)

For use with both gram-negative and gram-positive bacterial cultures, this kit employs enzymatic digestion using lysozyme followed by solubilization into PSB.

MicroRotorfor Lysis Kit (Plant)

For use with soft plant tissues and cultured plant cells, this kit employs tissue maceration (up to a 1 g sample) and solubilization into PSB. A ReadyPrep 2-D cleanup kit is also provided for removal of plant-derived phenolics and other contaminants that may interfere with IEF.

MicroRotorfor Lysis Kit (Yeast)

For use with yeast cultures (~60 µl wet cell pellet), this kit employs enzymatic digestion of the cell wall with lyticase followed by solubilization into PSB.

MicroRotorfor Lysis Kit	Number of Extractions	Number of MicroRotorfor Runs/Kit
Mammal	15	15
Plant	10	10
Bacteria	15	15
Yeast	15	15

Rigorous Quality Control

Consistent sample preparation helps ensure reproducible results from downstream applications. MicroRotorfor lysis kits are quality-controlled for guaranteed performance and reproducibility.

Components Available Separately

For added convenience, PSB buffer and ReadyPrep mini grinders are also available separately. Bio-Rad also offers an extensive line of other protein sample preparation kits, instruments, and reagents. For more information, visit us on the Web at www.expressionproteomics.com or contact our technical support team for help with identifying the products that best suit your needs.

Ordering Information

Catalog #	Description
Sample Preparation Kits	
163-2141	MicroRotorfor Lysis Kit (Mammal), 15 preps
163-2142	MicroRotorfor Lysis Kit (Plant), 10 preps
163-2143	MicroRotorfor Lysis Kit (Yeast), 15 preps
163-2144	MicroRotorfor Lysis Kit (Bacteria), 15 preps
163-2145	Protein Solubilization Buffer (PSB), makes 50 ml of solution
163-2146	ReadyPrep Mini Grinders, includes 2 sealed bags of 10 mini grinders each, sufficient for twenty 100 mg extractions
163-2130	ReadyPrep 2-D Cleanup Kit, 50 reaction size
163-2140	ReadyPrep 2-D Cleanup Kit, 5 reaction size
163-2090	ReadyPrep Reduction-Alkylation Kit, 100 preps
170-2836	MicroRotorfor Syringes, 3 ml and 10 ml, 3 each
Protein Quantitation Kits	
500-0121	RC DC™ Protein Assay Kit I, bovine γ-globulin standard
500-0122	RC DC Protein Assay Kit II, bovine serum albumin standard

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