

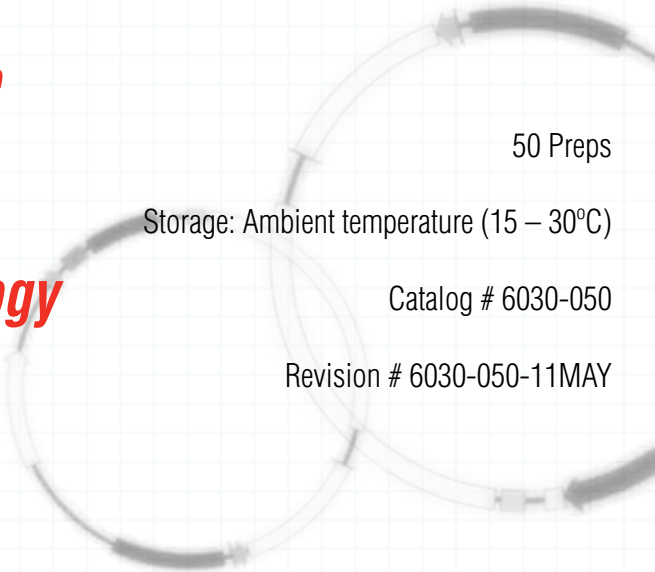


## *Instruction Manual*

# **FastRNA™ SPIN Kit for Yeast**

*Rapid Isolation of High-Quality Total RNA from Yeast,  
Fungi, & Algae using the FastPrep™ Instrument*

- › *One Call*
- › *One Source*
- › *A World of  
Biotechnology  
Reagents*



50 Preps

Storage: Ambient temperature (15 – 30°C)

Catalog # 6030-050

Revision # 6030-050-11MAY

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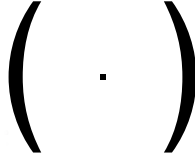
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Tiny (or Huge)  
Samples?

Tough Samples?



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fastprep  
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integrated  
laboratory solution  
**Sample Prep**

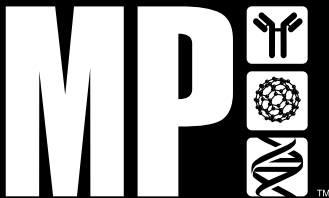
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# FastRNA™ SPIN Kit for Yeast

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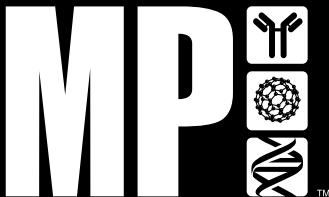
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# 1. Introduction to the FastRNA™ SPIN Kit for Yeast and the FastPrep-24™ Instrument

The FastRNA™ SPIN Kit for Yeast quickly and efficiently isolates high-quality, total RNA from tough-to-lyse yeast strains, fungi, and algae in approximately 15 minutes using a specialized Lysing Matrix (Ytria-stabilized zirconium oxide, 0.5mm) for cell lysis and SPIN columns for the purification process. The kit is designed for processing samples in 2-ml tubes using the FastPrep-24™ Instrument from MP Biomedicals. Yeast, fungi, or algae cultures, whether wet, dry, or frozen are easily lysed in approximately 60 seconds.

The FastPrep-24™ Instrument is a high-speed, benchtop device that uses a proprietary vertical angular motion to produce sample homogenization by simultaneous matrix impaction from multiple directions. FastPrep-24™ Instrument provides an extremely quick and highly reproducible homogenization that surpasses traditional lysis methods using enzyme digestion, sonication, blending, douncing and vortexing. When used with Molecular Biology kits from MP Biomedicals the FastPrep-24™ Instrument permits the release and purification of intact DNA, RNA and proteins from virtually any source, including bacteria, yeast and fungi, spores, plant seeds and leaves, animal tissue, organs and blood, etc.

The FastRNA™ SPIN Kit for Yeast isolates both large and small RNA species without the use of phenol or reducing agents. Small RNAs (e.g., tRNAs, microRNAs) can be recovered following a simple adjustment within the RNA isolation protocol. RNA (~5 µg) isolated from  $10^1$  to  $10^5$  cells can be eluted into volumes as little as 6 µl in less than 15 minutes. High quality total RNA ( $A_{260}/A_{280} > 1.8$ ,  $A_{260}/A_{230} > 1.8$ ) is recovered. In general, traces of DNA may be present in the eluted RNA fraction. Trace DNA can be removed by DNase digestion. RNA is eluted with RNase-free water and can be stored at  $\leq -70$  °C. The addition of RNase inhibitors is optional, but highly recommended for prolonged storage

## 2. Kit Components, Storage and User Supplied Materials

### 2.1 FastRNA™ SPIN Kit for Yeast

Lysing Matrix Y (0.5mm Ytria-stabilized ZrO <sub>2</sub> )	50 x 2-ml tubes
FastRNA Lysis Buffer	50 ml
FastRNA Prep Buffer	25 ml
FastRNA Wash Buffer	12 ml
Water (DNase/RNase-Free)	1 ml
FastRNA Spin Column 1	50 each
FastRNA Spin Column 2	50 each
Collection Tubes, 2ml	100 each
User manual	1 each
MSDS (Online: <a href="http://www.mpbio.com">www.mpbio.com</a> )	1 each
Certificate of Analysis	1 each

### 2.2 Storage

All FastRNA™ SPIN Kit reagents are stable at room temperature. Storage should be maintained at room temperature. The kit reagents are guaranteed for up to one year from the date of purchase of the kit.

### 2.3 User Supplied Materials

FastPrep-24™ Instrument  
Microcentrifuge that can spin up to 14,000 rpm  
100% Ethanol (or 95% Ethanol)

## 3. Important Considerations Before Use

### 3.1 Preparation of FastRNA Wash Buffer Concentrate

Prior to beginning the Kit Protocol in Section 5, add 96 ml 100% ethanol (or 104 ml of 95% ethanol) to the 24 ml FastRNA Wash Buffer concentrate.

## 4. Safety Precautions

Some of the supplied kit reagents contain components that, when in contact with human tissue, may cause irritation. Wear personal protective equipment to prevent contact with the skin or mucus membranes (gloves, lab coat, and eye protection) at all times when using this product. Consult the Material Safety Data Sheet at [www.mpbio.com](http://www.mpbio.com) for additional details. This product is for research purposes only

## 5. Protocol

NOTE: The FastRNA Wash Buffer needs to be prepared before beginning the protocol. See Section 3.1 for details of this optimization.

1. Resuspend a fresh or frozen cell pellet in 800  $\mu$ l FastRNA Lysis Buffer ( $\geq 4$  volumes) (e.g., 800  $\mu$ l buffer will allow for processing of up to 400  $\mu$ l lysate in Step 4) and transfer the mixture to a Lysing Matrix Y tube.
2. Secure Lysing Matrix Y tube with sample in the FastPrep-24™ Instrument fitted with the 2-ml tube adapter and process for 60 seconds at 6.0 m/s.
3. Centrifuge the sample in the Lysing Matrix Y tubes at  $\geq 12,000 \times g$  for 1 minute.
4. Transfer the lysate (i.e., the supernatant from Step 3) to a FastRNA Spin Column 1 in a Collection Tube. Centrifuge at  $8,000 \times g$  for 30 seconds. Save the flow-through
5. Add 0.8 volumes ethanol (95-100%) to the flow-through in the Collection Tube and mix well (e.g., 320  $\mu$ l ethanol added to 400  $\mu$ l flow-through). For quantitative small RNA recovery, use 2 volumes ethanol (95-100%).
6. Transfer the mixture to a FastRNA Spin Column 2 in a Collection Tube. Centrifuge at  $\geq 12,000 \times g$  for 1 minute. Discard the flow-through.
7. Add 400  $\mu$ l FastRNA Prep Buffer to the column. Centrifuge at  $\geq 12,000 \times g$  for 1 minute. Discard the flow-through and replace the FastRNA Spin Column 2 back into the Collection Tube.

8. Add 800  $\mu$ l of prepared FastrRNA Wash Buffer to the column. Centrifuge at  $\geq 12,000 \times g$  for 30 seconds. Discard the flow-through and place the FastrRNA Spin Column 2 back into the Collection Tube. Repeat the wash step with 400  $\mu$ l FastrRNA Wash Buffer.
9. Centrifuge FastrRNA Spin Column 2 at  $\geq 12,000 \times g$  for 2 minutes in the emptied Collection Tube to ensure complete removal of the wash buffer.
10. Place the FastrRNA Spin Column 2 into an RNase-free tube. Add  $\geq 6 \mu$ l DNase/RNase-Free Water directly to the column matrix and let stand at room temperature for 1 minute.
11. Centrifuge at  $10,000 \times g$  for 30 seconds to elute the RNA from the column. RNA can be used immediately or stored at  $\leq -70^{\circ}\text{C}$ .

## 6. Recommended Reference Format for Publications

RNA was isolated from (specific sample) using the FastrRNA™ SPIN Kit for Yeast and the FastPrep-24™ Instrument (MP Biomedicals, Santa Ana, CA).

## 7. Technical Support

For technical support with this product please contact our MP Biomedical's Technical Support Team at **1-800-854-0530**, by email at **biotech@mpbio.com**, or visit us online at **www.mpbio.com** for live support.

For our European customers, please contact our European Technical Support Team at **00 800 7777 9999**, or by email at **techsup.eur@mpbio.com**.

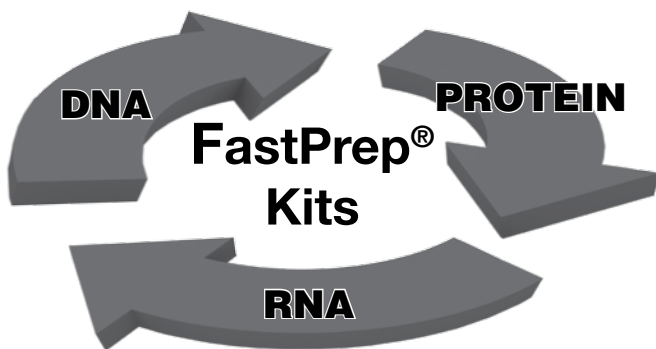


## 8. Product Use Limitation & Warranty

The products presented in this instruction manual are for research or manufacturing use only. They are not to be used as drugs or medical devices in order to diagnose, cure, mitigate, treat or prevent diseases in humans or animals, either as part of an accepted course of therapy or in experimental clinical investigation. These products are not to be used as food, food additives or general household items. Purchase of MP Biomedicals products does not grant rights to reproduce, modify, or repackage the products or any derivative thereof to third parties. MP Biomedicals makes no warranty of any kind, expressed or implied, including merchantability or fitness for any particular purpose, except that the products sold will meet our specifications at the time of delivery. Buyer's exclusive remedy and the sole liability of MP Biomedicals hereunder shall be limited to, at our discretion, no replacement or compensation, product credits, refund of the purchase price of, or the replacement of materials that do not meet our specification. By acceptance of the product, Buyer indemnifies and holds MP Biomedicals harmless against, and assumes all liability for, the consequence of its use or misuse by the Buyer, its employees or others, including, but not limited to, the cost of handling. Said refund or replacement is conditioned on Buyer notifying within thirty (30) days of receipt of product. Failure of Buyer to give said notice within thirty (30) days shall constitute a waiver by the Buyer of all claims hereunder with respect to said material(s). GeneClean® and FastPrep® are registered trademarks of MP Biomedicals, LLC.

## Take Advantage of FastPrep® Kits Ready-to-use Protocols For DNA, RNA And Protein Isolation From Any Sample

- Rapid and reproducible sample lysis and purification process
- No cross contamination with the closed lysing matrix tubes
- Increased yields of high quality DNA, RNA and proteins
- Integrity and size of DNA, RNA and proteins are retained
- Nucleic acids and proteins are ready-to-use in downstream application



### FastDNA® Kit and FastDNA® Spin Kit

Cat N° 6540-400 - Cat N° 6540-600 respectively (100 preps)

- Lyse and isolate DNA in less than 30 minutes
- Plant, animal, yeast, fungal and microbial samples
- No hazardous organic reagents required
- SPIN filters streamline silica handling (FastDNA Spin Kit)

### FastDNA® Spin Kit for Soil

Cat N° 6560-200 (100 preps)

- Lyse and isolate DNA in less than 30 minutes
- Variety of soil and environmental sample types
- No hazardous organic reagents required
- SPIN filters streamline silica handling

## **FastRNA® Pro Soil-Direct Kit and FastRNA® Pro Soil-Indirect Kit**

Cat N° 6070-050 - Cat N° 6075-050 respectively (50 preps)

- Isolate RNA from soil samples (direct kit) and washed soil (indirect kit) in less than 2 hours
- Variety of soil and environmental sample types
- RNA protected during and after processing
- Humic acids reduced to allow uninhibited RT-PCR
- Includes additional reagents for even further purification if necessary
- SPIN filters streamline silica handling

## **FastProtein™ Blue Matrix**

Cat N° 6550-400 (50 preps) - Cat N° 6550-500 (100 preps)

- Release of proteins from gram positive and gram negative bacteria in 40 seconds
- Protein extracts are ready for immediate electrophoresis or purification
- Ideal for optimizing induction conditions

## **FastProtein™ Red Matrix**

Cat N° 6550-600 (50 preps) - Cat N° 6550-700 (100 preps)

- Release of proteins from yeast cells and fungi in 40 seconds
- Protein extracts are ready for immediate electrophoresis or purification
- Ideal for optimizing induction conditions

# Instruction Manual

## FastRNA™ SPIN Kit for Yeast

Revision # 6030-050-11MAY

### Worldwide Ordering and Technical Support

#### USA

##### Worldwide Headquarters

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Fax: +1 440.337.1180

Toll-Free Fax: 800.334.6999

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00800.6666.8888

#### Australia

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Toll-Free Tel: 1800.249.998

Fax: +61 2.9838.7390

Toll-Free Fax: 1800.818.671

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#### France

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Fax: +48 22.658.45.05

#### Russia

Tel: +7 495.661.0008

#### Serbia

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Fax: +381 11.242.1949

#### Singapore

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Fax: +65 6774.6146

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