



**ZYMO RESEARCH**

*The Beauty of Science is to Make Things Simple*

# INSTRUCTION MANUAL

## **Quick-DNA™ Fungal/Bacterial Miniprep Kit** Catalog No. **D6005**

### **Highlights**

- Simple, efficient isolation of DNA (up to 25 µg/prep) from all types of tough-to-lyse fungi (e.g., yeast) and bacteria in as little as 15 minutes.
- State-of-the-art, ultra-high density **BashingBeads™** are fracture resistant and chemically inert.
- Omits the use of organic denaturants as well as proteinases.

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Satisfaction of all Zymo Research products is guaranteed. If you should be dissatisfied with this product please call 1-888-882-9682.

## Product Contents

<b>Quick-DNA™ Fungal/Bacterial Miniprep Kit (Kit Size)</b>	<b>D6005 (50 preps.)</b>	<b>Storage Temperature</b>
<b>ZR BashingBead™ Lysis Tubes (0.1 &amp; 0.5 mm)</b>	50	Room Temp.
<b>BashingBead™ Buffer</b>	40 ml	Room Temp.
<b>Genomic Lysis Buffer<sup>1</sup></b>	100 ml	Room Temp.
<b>DNA Pre-Wash Buffer<sup>2</sup></b>	15 ml	Room Temp.
<b>g-DNA Wash Buffer</b>	50 ml	Room Temp.
<b>DNA Elution Buffer</b>	10 ml	Room Temp.
<b>Zymo-Spin™ III-F Filters</b>	50	Room Temp.
<b>Zymo-Spin™ IIC Columns</b>	50	Room Temp.
<b>Collection Tubes</b>	150	Room Temp.
<b>Instruction Manual</b>	1	-

Note - Integrity of kit components is guaranteed for up to one year from date of purchase. Reagents are routinely tested on a lot-to-lot basis to ensure they provide maximal performance and reliability.

<sup>1</sup> For optimal performance, add beta-mercaptoethanol to 0.5%(v/v) i.e., 500 µl per 100 ml.

<sup>2</sup> A precipitate may have formed in the DNA Pre-Wash Buffer during shipping. To completely resuspend the buffer, incubate the bottle at 30-37 °C for 30 minutes and mix by inversion. DO NOT MICROWAVE.

## Specifications

- **Format** – Bead Beating, Spin Column Purification
- **Sample Sources** – 50 - 100 mg (wet weight) fungi or bacteria; this equates to approximately 10<sup>9</sup> bacterial cells and 10<sup>8</sup> yeast cells. Spores, pollen, nematodes, as well as other microorganisms can also be sampled.
- **DNA Purity** – High quality DNA is eluted with **DNA Elution Buffer** making it perfect for PCR ( $A_{260}/A_{280} > 1.8$ ).
- **DNA Size Limits** – Capable of recovering genomic DNA up to and above 40 kb. In most instances, mitochondrial DNA and viral DNA (if present) will also be recovered.
- **DNA Recovery** – Typically, up to 25 µg total DNA is eluted into 100 µl (35 µl minimum) **DNA Elution Buffer** per sample.
- **Equipment** – Microcentrifuge, Vortex, Cell Disrupter/Pulverizer (recommended)

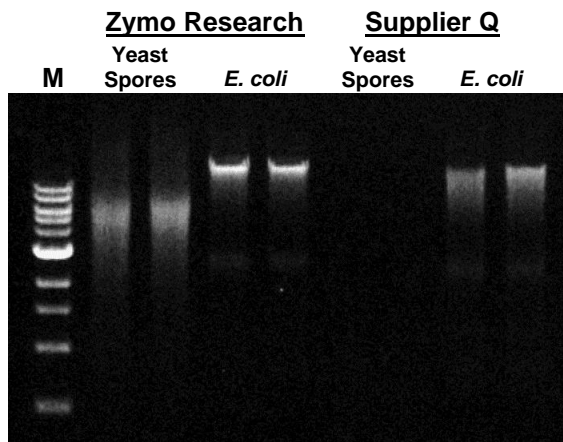
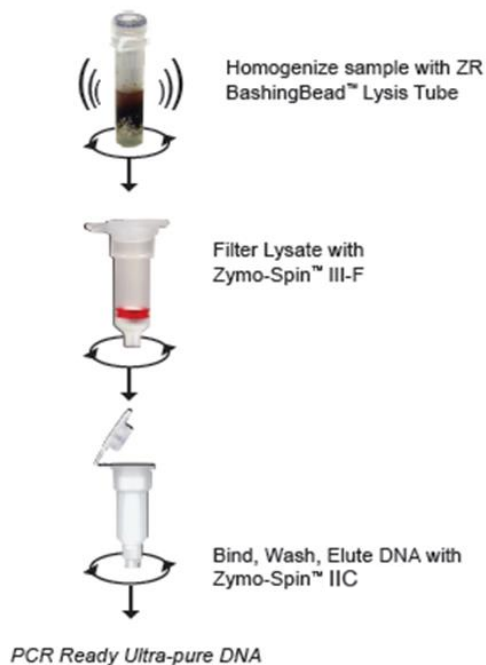
Note - ™ Trademarks of Zymo Research Corporation. This product is for research use only and should only be used by trained professionals. It is not intended for use in diagnostic procedures. Some reagents included with this kit are irritants. Wear protective gloves and eye protection. Follow the safety guidelines and rules enacted by your research institution or facility. Disruptor Genie™ is a trademark of Scientific Industries, Inc. and FastPrep® is a registered trademark of Qbiogene, Inc.

## ZYMO RESEARCH CORP.

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## Product Description

The **Quick-DNA™ Fungal/Bacterial Miniprep Kit** is designed for the simple, rapid isolation of DNA from tough-to-lyse fungi, including *A. fumigatus*, *C. albicans*, *N. crassa*, *S. cerevisiae*, *S. pombe*, as well as from mycelium and Gram positive and Gram negative bacteria. The procedure is easy and can be completed in as little as 15 minutes: fungal and/or bacterial samples are added directly to a **ZR BashingBead™ Lysis Tube (0.1 & 0.5 mm)** and rapidly and efficiently lysed by bead beating without using organic denaturants or proteinases. The DNA is then isolated and purified using our Zymo-Spin™ Technology and is ideal for downstream molecular-based applications including PCR, array, etc. A schematic of the **Quick-DNA™ Fungal/Bacterial Miniprep Kit** procedure is shown below.



High yield DNA is successfully isolated from *Saccharomyces cerevisiae* (spores) and *E. coli* cells using the **Quick-DNA™ Fungal/Bacterial Kit**. Equivalent amounts of yeast or bacteria were processed using the **Quick-DNA™ Fungal/Bacterial Kit** or the kit from supplier Q. Equal volumes of eluted DNA were then analyzed in a 0.8% (w/v) agarose/ethidium bromide gel. The size marker "M" is a 1 kb ladder (Zymo Research).

For **Technical Assistance**, please contact those at **Zymo Research's Technical Department** at 1-888-882-9682 or E-mail to [tech@zymoresearch.com](mailto:tech@zymoresearch.com).

**DNA/RNA Shield™** (R1100-50, R1100-250) can be used to stabilize nucleic acids and inactivate infectious agents in a variety of samples, without the need for reagent removal.

For rapid, robust, and simple purification of high quality, inhibitor-free DNA from any sample including feces, soil, water, biofilms, swabs, saliva, body fluids, etc. use the **ZymoBIOMICS™ DNA Miniprep Kit (D4300)**.

## **Protocol**

For optimal performance, add beta-mercaptoethanol (user supplied) to the **Genomic Lysis Buffer** to a final dilution of 0.5 %(v/v) *i.e.*, 500 µl per 100 ml.

<sup>1</sup> This equates to approximately 10<sup>9</sup> bacterial cells and 10<sup>8</sup> yeast cells.

<sup>2</sup> Cap tube tightly to prevent leakage.

1. Add 50 – 100 mg (wet weight) fungal or bacterial cells<sup>1</sup> that have been resuspended in up to 200 µl of water or isotonic buffer (e.g., PBS) to a **ZR BashingBead™ Lysis Tube (0.1 mm & 0.5 mm)**. Add 750 µl **BashingBead™ Buffer** to the tube<sup>2</sup>.

2. Secure in a bead beater fitted with a 2 ml tube holder assembly and process at maximum speed for ≥ 5 minutes.

*Note: Required processing time will vary depending on the device and application and therefore should be evaluated on a case by case basis.*

*For example, processing times may be as little as 3 minutes when using high-speed cell disrupters (e.g., the portable TerraLyzer™ Sample Processor, FastPrep® -24, or similar) or as long as 20 minutes when using lower speeds (e.g., Disruptor Genie™, or standard benchtop vortexes). See manufacturer's literature for operating information.*

3. Centrifuge the ZR BashingBead™ Lysis Tube (0.1 & 0.5 mm) in a microcentrifuge at 10,000 x g for 1 minute.

4. Transfer up to 400 µl supernatant to a **Zymo-Spin™ III-F Filter** in a **Collection Tube** and centrifuge at 8,000 x g for 1 minute.

5. Add 1,200 µl of **Genomic Lysis Buffer** to the filtrate in the Collection Tube from Step 4.

6. Transfer 800 µl of the mixture from Step 5 to a **Zymo-Spin™ IIC Column**<sup>3</sup> in a Collection Tube and centrifuge at 10,000 x g for 1 minute.

7. Discard the flow through from the Collection Tube and repeat Step 6.

8. Add 200 µl **DNA Pre-Wash Buffer** to the Zymo-Spin™ IIC Column in a new Collection Tube and centrifuge at 10,000 x g for 1 minute.

9. Add 500 µl **g-DNA Wash Buffer** to the Zymo-Spin™ IIC Column and centrifuge at 10,000 x g for 1 minute.

10. Transfer the Zymo-Spin™ IIC Column to a clean 1.5 ml microcentrifuge tube and add 100 µl (35 µl minimum) **DNA Elution Buffer** directly to the column matrix. Centrifuge at 10,000 x g for 30 seconds to elute the DNA.

Ultra-pure DNA is now ready for use in your experiments.

<sup>3</sup> The Zymo-Spin™ IIC Column has a maximum capacity of 800 µl.

## Ordering Information

Product Description	Catalog No.	Kit Size
<b>Quick-DNA™ Fungal/Bacterial Microprep Kit</b>	D6007	50 preps.
<b>Quick-DNA™ Fungal/Bacterial Miniprep Kit</b>	D6005	50 preps.
<b>Quick-DNA™ Fungal/Bacterial Midiprep Kit</b>	D6105	25 preps.
<b>Quick-DNA™ Fungal/Bacterial 96 Kit</b>	D6006	2x96 preps.

For Individual Sale	Catalog No.	Amount
<b>Genomic Lysis Buffer</b>	D3004-1-100	100 ml
<b>BashingBead™ Buffer</b>	D6001-3-40	40 ml
<b>DNA Pre-Wash Buffer</b>	D3004-5-15	15 ml
<b>g-DNA Wash Buffer</b>	D3004-2-50	50 ml
<b>DNA Elution Buffer</b>	D3004-4-10	10 ml
<b>ZR BashingBead™ Lysis Tubes (0.1 &amp; 0.5 mm)</b>	S6012-50	50
<b>Zymo-Spin™ III-F Filters</b>	C1057-50	50
<b>Zymo-Spin™ IIC Columns</b>	C1011-50	50
<b>Collection Tubes</b>	C1001-50	50
	C1001-500	500
	C1001-1000	1,000

## Lysis Instruments



Description	Cat. No.	Amount
<b>Disruptor Genie™, 120V w/ 2 ml tube holder assembly.</b>	S6001-2-120	1 unit
<b>Disruptor Genie™, 230V w/ 2 ml tube holder assembly.</b>	S6001-2-230	1 unit
<b>TurboMix Attachment, 2 ml</b> Permanently mounts to most existing Vortex Genie™ mixers converting them to a Disruptor Genie™.	S6004	1 unit

The **Disruptor Genie™** with 2 ml tube holder from Scientific Industries, Inc. (Cat. No. S6001-2-120 from Zymo Research Corp.)

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