



**ZYMO RESEARCH**

*The Beauty of Science is to Make Things Simple*

# INSTRUCTION MANUAL

## ZR-96 DNA Clean & Concentrator™-5

Catalog Nos. D4023 & D4024

### Highlights

- Quick (15 minute), large-scale recovery of ultra-pure DNA from PCR, endonuclease digestions, cell lysates, etc.
- **Zymo-Spin™ I-96 Plate** design allows DNA to be eluted at high concentrations into minimal volumes of water.
- Eluted DNA is well suited for use in PCR, DNA sequencing, DNA ligation, endonuclease digestion, RNA transcription, radiolabeling, etc.
- Omits the use of organic denaturants as well as proteinases.

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## Product Contents

ZR-96 DNA Clean & Concentrator™-5 (Kit Size)	D4023 (2 96-well plates)	D4024 (4 96-well plates)	Storage Temperature
DNA Binding Buffer	100 ml	2x100 ml	Room Temp.
DNA Wash Buffer*	24 ml	48 ml	Room Temp.
Zymo-Spin™ I-96 Plate	2	4	Room Temp.
Collection Plate	2	4	Room Temp.
Elution Plate	2	4	Room Temp.
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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.

\* Ethanol must be added prior to use as indicated on **DNA Wash Buffer** label.

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

## Specifications

- **DNA Purity** – High-quality, purified DNA is eluted with water and is especially well suited for sequencing, ligation reactions, and restriction endonuclease digestions.
- **DNA Size Limits** – From 50 bp to 23 kb.
- **DNA Recovery** – Typically, up to 5 µg total DNA can be eluted into as little as 10 µl water per sample. For DNA 50 bp to 10 kb, the recovery is 70-90%. For DNA 11 kb to 23 kb the recovery is 50-70%.
- **Sample Sources** – DNA from PCR, restriction endonuclease digestions, plasmid preparations, kinase reactions, etc.
- **Product Detergent Tolerance** – ≤5% Triton X-100, ≤5% Tween-20, ≤5% Sarkosyl, ≤0.1% SDS.

Note - ™ Trademarks of Zymo Research Corporation. This product is for research use only and should only be used by trained professionals. 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.

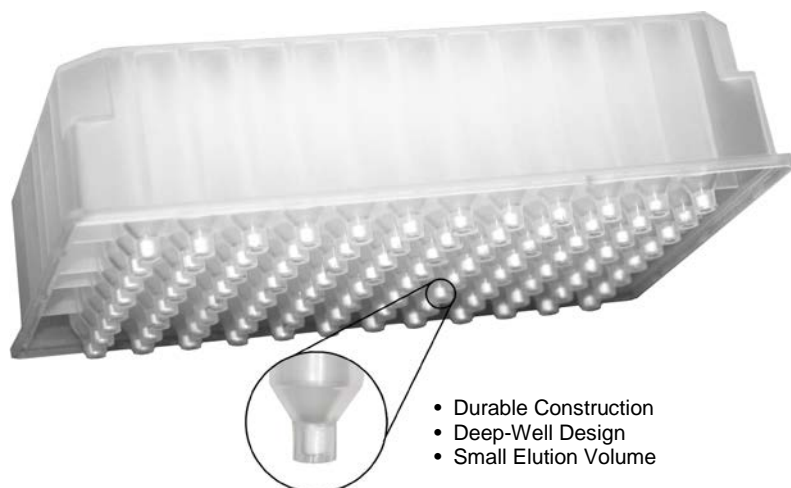
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## Product Description

Zymo Research's **ZR-96 DNA Clean & Concentrator™-5 (ZR-96 DCC™)** provides a hassle-free method for the rapid, large-scale (96 sample) purification and concentration of high-quality DNA from PCR samples, endonuclease digestions, or DNA from cell lysates. Simply add the specially formulated **DNA Binding Buffer** to your samples and transfer to the wells of the supplied **Zymo-Spin™ I-96 Plate**. There is no need for organic denaturants or chloroform. Instead, the product features Fast-Spin column technology to yield high quality, purified DNA in just minutes. DNA purified using the **ZR-96 DCC™** is suitable for nucleotide sequencing, array analysis, PCR, nucleotide blotting, and restriction endonuclease digestion procedures.

The **ZR-96 DCC™** employs a single-buffer system that allows for efficient DNA adsorption of up to 96 samples onto the matrix of the supplied **Zymo-Spin™ I-96 Plate**. The DNA is washed twice then eluted with a small volume of water into a 96-well **Elution Plate**. The entire DNA purification/concentration procedure typically takes about 20 minutes. The figure below shows a schematic highlighting the **Zymo-Spin™ I-96 Plate** design.



## Reagent Preparation

- Before starting, add 96 ml 100% ethanol to the 24 ml **DNA Wash Buffer** concentrate (192 ml 100% ethanol to the 48 ml **DNA Wash Buffer** concentrate) to obtain the final **DNA Wash Buffer** solution.

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).

**Note:** Alternatively, add 104 ml and 208 ml of 95% ethanol to the 24 ml and 48 ml sizes of the **DNA Wash Buffer** concentrate, respectively.

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## Protocol

1. Add two volumes of **DNA Binding Buffer** to each volume of DNA sample. (e.g., 300  $\mu$ l **DNA Binding Buffer** to 150  $\mu$ l DNA sample). Transfer sample mixtures to the wells of a **Zymo-Spin™ I-96 Plate** mounted on a **Collection Plate**.

Alternatively, add two volumes of **DNA Binding Buffer** to each volume of DNA sample directly in the wells of the **Zymo-Spin I-96 Plate™** mounted on a **Collection Plate**. Ensure proper mixing by pipetting up and down a few times.

2. Centrifuge at  $\geq 3,000 \times g$  (5,000  $\times g$  max.) for 5 minutes until sample mixtures have been completely filtered. Discard the flow-through.
3. Add 300  $\mu$ l **Wash Buffer** to each well of the **Zymo-Spin™ I-96 Plate**. Centrifuge at  $\geq 3,000 \times g$  for 5 minutes. Repeat wash step. (Alternatively, one wash can be performed using 600  $\mu$ l **Wash Buffer**).
4. Add 10-15  $\mu$ l water directly to the column matrix in each well. Transfer the **Zymo-Spin™ I-96 Plate** onto an **Elution Plate** and centrifuge at  $\geq 3,000 \times g$  for 5 minutes to elute the DNA.

Ultra-pure DNA in water is now ready for use.

**Note:** Add 100  $\mu$ l **DNA Binding Buffer** to all samples  $\leq 50 \mu$ l.

**Note:** For ssDNA (e.g., single stranded cDNA), add 7 volumes to each volume of sample. For example, 350  $\mu$ l **DNA Binding Buffer** to a 50  $\mu$ l sample.

**Note:** The sample capacity of each well of the **Zymo-Spin™ I-96 Plate** is approximately 1.1 ml. Therefore, it may be necessary to load and spin the plate multiple times if a sample has a volume larger than 1.1 ml.

**Note:** Elution of DNA from the plate is dependent on pH and temperature. If water is used, make sure the pH is  $>5.0$ . Waiting 1 minute after adding water to the plate may improve the yield of larger ( $> 6$  kb) DNA. For even larger DNA ( $> 10$  kb) the total yield may be improved by eluting the DNA with 60-70°C water.

**Note:** TE buffer (10 mM Tris-HCl, 1 mM EDTA, pH 8.0) or modified TE (10 mM Tris, 0.1 mM EDTA, pH 8.5) can also be used for elution if required by your experiment.

**Ordering Information**

<b>Product Description</b>	<b>Catalog No.</b>	<b>Kit Size</b>
ZR-96 DNA Clean & Concentrator™-5	D4023	(2) 96-well plates
ZR-96 DNA Clean & Concentrator™-5	D4024	(4) 96-well plates

<b>For Individual Sale</b>	<b>Catalog No.</b>	<b>Amount</b>
DNA Binding Buffer	D4004-1-L	100 ml
DNA Wash Buffer (concentrate)	D4003-2-24	24 ml
	D4003-2-48	48 ml
Zymo-Spin™ I-96 Plates	C2004	2 plates
Collection Plates	C2002	2 plates
Elution Plates	C2003	2 plates

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## Popular DNA Purification & Analysis Products from Zymo

Product	Description	Kit Size	Cat No. (Column Format)
<b>DNA Clean &amp; Concentrator-5 Kit™</b>	Clean and concentrate DNA from any reaction or “crude” preparation in 2 min. A 6 µl minimum elution volume allows for highly concentrated DNA. Designed for samples containing up to 5 µg of DNA.	50 Preps	<b>D4003</b> (uncapped)
		200 Preps	<b>D4004</b> (uncapped)
		50 Preps	<b>D4013</b> (capped)
		200 Preps	<b>D4014</b> (capped)
<b>ZR-96 DNA Clean &amp; Concentrator-5 Kit™</b>	Quick (15 minute), high-output recovery of pure DNA from PCR, endonuclease digestions, plasmid preparations, etc. 10-15 µl minimum elution volume allows for highly concentrated DNA. Designed for samples containing up to 5 µg of DNA.	2x96 Preps	<b>D4023</b>
		4x96 Preps	<b>D4024</b>
<b>DNA Clean &amp; Concentrator-25 Kit™</b>	Clean and concentrate DNA from any reaction in 2 min. 25 µl minimum elution volume allows for highly concentrated DNA. Designed for samples containing up to 25 µg of DNA.	50 Preps 200 Preps	<b>D4005</b> <b>D4006</b>
<b>Zymoclean Gel DNA Recovery Kit™</b>	Purify DNA from agarose gels in as little as 15 min. DNA sizes range from 75 bp to 23 Kb. 6 µl minimal elution volume (70-95% recovery rate).	50 Preps 200 Preps	<b>D4001</b> <b>D4002</b>
<b>ZR-96 Zymoclean Gel DNA Recovery Kit™</b>	High-output DNA purification from agarose gels in as little as 15 min. DNA sizes range from 75 bp to 23 Kb.	2x96 Preps	<b>D4021</b>
		4x96 Preps	<b>D4022</b>
<b>EZ DNA Methylation Kit™</b>	Streamlined kit for the conversion of unmethylated cytosines in DNA to uracil via the <u>chemical-denaturation</u> of DNA and a specially designed CT Conversion Reagent™. DNA is then desulphonated and subsequently cleaned using Fast-Spin column technology. No messy precipitations. Ultra-pure recovered DNA can be used for Methylation Specific PCR (MSP) and bisulfite sequencing applications.	50 Rxns	<b>D5001</b>
		200 Rxns	<b>D5002</b>
		2x96 Rxns	<b>D5003</b>
<b>EZ DNA Methylation-Gold Kit™</b>	Streamlined kit for the conversion of unmethylated cytosines in DNA to uracil via <u>heat-denaturation</u> of DNA and a specially designed CT Conversion Reagent™. DNA is then desulphonated and subsequently cleaned using Fast-Spin column technology. No messy precipitations. Ultra-pure recovered DNA can be used for Methylation Specific PCR (MSP) and bisulfite sequencing applications.	50 Rxns	<b>D5005</b>
		200 Rxns	<b>D5006</b>
		2x96 Rxns	<b>D5007</b>
<b>Pinpoint Slide DNA Isolation System™</b>	Recover genomic DNA from paraffin-embedded or fresh tissue sections for PCR. Ideal for isolating DNA from clinical tissue samples.	50 Preps	<b>D3001</b>
<b>ZR Genomic DNA I Kit™</b>	Genomic DNA isolation from whole blood, tissue culture cells, solid tissue and liquid samples. (Silica bead format is scalable to fit your requirements).	100 Preps	<b>D3004</b>
		400 Preps	<b>D3005</b>
<b>ZR Genomic DNA II Kit™</b>	Genomic DNA purification from whole blood, tissue culture cells, solid tissue and liquid samples. No requirement for beads or phenol chloroform.	50 Preps	<b>D3006</b>
		200 Preps	<b>D3007</b>
<b>ZR-96 Genomic DNA Kit™</b>	High-output genomic DNA purification from whole blood, tissue culture cells, solid tissue and liquid samples. No requirement for beads or phenol chloroform.	2x96 Preps	<b>D3010</b>
		4x96 Preps	<b>D3011</b>
<b>Zymoprep I™</b>	Efficient purification method for yeast plasmid DNA: Works well for library plasmid recovery from yeast two-hybrid screens.	100 Preps	<b>D2001</b>
<b>Zymoprep II™</b>	Efficient purification method for yeast plasmid DNA: Works well for library plasmid recovery from yeast two-hybrid screens.	50 Preps	<b>D2004</b>
<b>Zyppy Plasmid Miniprep I Kit™</b>	High-purity plasmid DNA purification in minutes: (alkaline lysis/Fast-Spin column format for low elution volume 40 µl).	100 Preps	<b>D4015</b>
		400 Preps	<b>D4016</b>
<b>Zyppy Plasmid Miniprep II Kit™</b>	High-purity plasmid DNA purification in minutes: (alkaline lysis/Fast-Spin column format for low elution volume 25 µl).	100 Preps	<b>D4019</b>
		400 Preps	<b>D4020</b>
<b>ZR Viral DNA Kit™</b>	Isolation of viral DNA from cell-free body fluids or sample mixtures containing cells at concentrations less than 10 <sup>5</sup> cells per ml.	50 Preps	<b>D3015</b>
		200 Preps	<b>D3016</b>
<b>ZR-96 Viral DNA Kit™</b>	High-output (96-well) isolation of viral DNA from cell-free body fluids or sample mixtures containing cells at concentrations less than 10 <sup>5</sup> cells per ml.	2x96 Preps	<b>D3017</b>
		4x96 Preps	<b>D3018</b>

\*Bulk quantities are available upon request. Please contact: [busdev@zymoresearch.com](mailto:busdev@zymoresearch.com) or call 1-888-882-9682 for assistance.

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