



ZYMO RESEARCH

The Beauty of Science is to Make Things Simple

INSTRUCTION MANUAL

ZR-96 DNA Clean-up Kit™

Catalog Nos. D4017 & D4018

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ZYMO RESEARCH CORP.

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I. General Information

Description

Zymo Research's **ZR-96 DNA Clean-up Kit™** provides a hassle-free method for rapid, large-scale (96 sample) purification and concentration of high-quality DNA from PCR samples, endonuclease digestions, or "crude" plasmid preparations. Simply add the specially formulated **DNA Binding Buffer** to your samples and transfer to the wells of the supplied **Silicon-A™ 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 DNA Clean-up Kit™** is suitable for nucleotide sequencing, microarray analysis, PCR, nucleotide blotting, and restriction endonuclease digestion procedures.

Highlights

- Quick (20 minute), large-scale recovery of ultra-pure DNA from PCR, endonuclease digestions, plasmid preparations, etc.
- **Silicon-A™ Plate** design allows DNA to be eluted at high concentrations into minimal volumes of solvent.
- 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.

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 75 bp to 23 kb.
- **DNA Recovery** – Typically, up to 5 µg total DNA can be eluted into as little as 30-40 µl water per sample. For DNA 75 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.
- **Stability of Product Reagents** – Integrity of kit components is guaranteed for up to one year from date of purchase.
- **Quality Control** – Reagents are routinely tested on a lot-to-lot basis to ensure they provide maximal performance and reliability.

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

Product Contents

ZR-96 DNA Clean-up Kit™ Kit Size	D4017 (2 96-well plates)	D4018 (4 96-well plates)	Storage Temperature
DNA Binding Buffer	100 ml	2x100 ml	Room Temp.
DNA Wash Buffer*	24ml	48 ml	Room Temp.
Silicon-A™ Plate	2	4	Room Temp.
Collection Plate	2	4	Room Temp.
Elution Plate	2	4	Room Temp.
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* Ethanol must be added prior to use as indicated on **DNA Wash Buffer** label.

Ordering Information

Product Description	Catalog No.	Kit Size
ZR-96 DNA Clean-up Kit™	D4017	2 96-well plates
ZR-96 DNA Clean-up Kit™	D4018	4 96-well plates

For Individual Sale	Catalog No.	Amount
DNA Binding Buffer	D4004-1-L	100 ml
DNA Wash Buffer (concentrate)	D4003-2-24	24 ml
Silicon-A™ Plate	C2001	2 plates

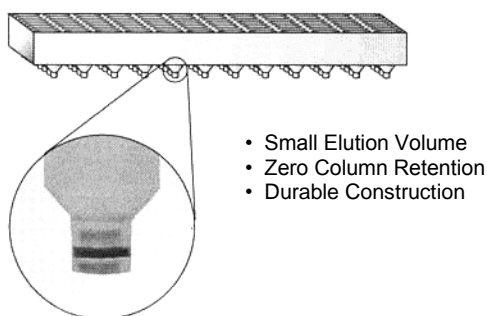
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II. Protocol

Overview

The **ZR-96 DNA Clean-up Kit™** employs a single-buffer system that allows for efficient DNA adsorption of up to 96 samples onto the matrix of the supplied **Silicon-A™ 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 **Silicon-A™ Plate** design.

Improved 96-Well Filter 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.

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.

Method

1. In a 1.5 ml microcentrifuge tube, add 2 volumes of **DNA Binding Buffer** to each volume of DNA sample. (e.g., 300 μ l binding buffer to 150 μ l sample). Mix briefly by vortexing.
2. Transfer sample mixtures to the wells of a **Silicon-A™ Plate** mounted onto a **Collection Plate**.
3. 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.
4. Add 300 μ l **Wash Buffer** to each well of the **Silicon-A™ Plate**. Centrifuge at $\geq 3,000 \times g$ for 5 minutes. Repeat wash step.
5. Add 30-40 μ l water directly to the column matrix in each well. Transfer the **Silicon-A™ Plate** onto an **Elution Plate** and centrifuge at $\geq 3,000 \times g$ for 3 minutes to elute the DNA.

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

Note: Add 100 μ l 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 μ l binding buffer to 50 μ l sample.

Note: The sample capacity of each well of the **Silicon-A™ Plate** is 600 μ l. Therefore, it may be necessary to load and spin the plate multiple times if a sample has a volume larger than 600 μ l.

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.

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.

Popular DNA Purification & Analysis Products from Zymo

Product	Description	Kit Size	Cat No. (Column Format)
DNA Clean & Concentrator-5 Kit™	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	D4003 (uncapped)
		200 Preps	D4004 (uncapped)
		50 Preps	D4013 (capped)
		200 Preps	D4014 (capped)
ZR-96 DNA Clean & Concentrator-5 Kit™	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	D4023
		4x96 Preps	D4024
DNA Clean & Concentrator-25 Kit™	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	D4005 D4006
Zymoclean Gel DNA Recovery Kit™	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	D4001 D4002
ZR-96 Zymoclean Gel DNA Recovery Kit™	High-output DNA purification from agarose gels in as little as 15 min. DNA sizes range from 75 bp to 23 Kb.	2x96 Preps	D4021
		4x96 Preps	D4022
EZ DNA Methylation Kit™	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	D5001
		200 Rxns	D5002
		2x96 Rxns	D5003
EZ DNA Methylation-Gold Kit™	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	D5005
		200 Rxns	D5006
		2x96 Rxns	D5007
Pinpoint Slide DNA Isolation System™	Recover genomic DNA from paraffin-embedded or fresh tissue sections for PCR. Ideal for isolating DNA from clinical tissue samples.	50 Preps	D3001
ZR Genomic DNA I Kit™	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	D3004
		400 Preps	D3005
ZR Genomic DNA II Kit™	Genomic DNA purification from whole blood, tissue culture cells, solid tissue and liquid samples. No requirement for beads or phenol chloroform.	50 Preps	D3006
		200 Preps	D3007
ZR-96 Genomic DNA Kit™	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	D3010
		4x96 Preps	D3011
Zymoprep I™	Efficient purification method for yeast plasmid DNA: Works well for library plasmid recovery from yeast two-hybrid screens.	100 Preps	D2001
Zymoprep II™	Efficient purification method for yeast plasmid DNA: Works well for library plasmid recovery from yeast two-hybrid screens.	50 Preps	D2004
Zyppy Plasmid Miniprep I Kit™	High-purity plasmid DNA purification in minutes: (alkaline lysis/Fast-Spin column format for low elution volume 40 µl).	100 Preps	D4015
		400 Preps	D4016
Zyppy Plasmid Miniprep II Kit™	High-purity plasmid DNA purification in minutes: (alkaline lysis/Fast-Spin column format for low elution volume 25 µl).	100 Preps	D4019
		400 Preps	D4020
ZR Viral DNA Kit™	Isolation of viral DNA from cell-free body fluids or sample mixtures containing cells at concentrations less than 10 ⁵ cells per ml.	50 Preps	D3015
		200 Preps	D3016
ZR-96 Viral DNA Kit™	High-output (96-well) isolation of viral DNA from cell-free body fluids or sample mixtures containing cells at concentrations less than 10 ⁵ cells per ml.	2x96 Preps	D3017
		4x96 Preps	D3018

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

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