



ZYMO RESEARCH

The Beauty of Science is to Make Things Simple

INSTRUCTION MANUAL

ZR-96 Oligo Clean & Concentrator™

Catalog Nos. **D4062 & D4063**

Highlights

- Quick, high-throughput (*96-well*) recovery of ultra-pure DNA and RNA oligonucleotides.
- Complete removal of dyes, salts, enzymes, nucleotides, and short oligos.
- ≥ 10 μ l elution with zero retention *Fast Spin* plates.
- Eluted DNA/RNA is well suited for use in hybridization, sequencing, PCR, ligation, *etc.*

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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

ZR-96 Oligo Clean & Concentrator™ (Kit Size)	D4062 (2x 96 Preps.)	D4063 (4x 96 Preps.)	Storage Temperature
Oligo Binding Buffer	40 ml	2x 40 ml	Room Temp.
DNA Wash Buffer¹	48 ml	2x 48 ml	Room Temp.
Zymo-Spin™ I-96 Plate	2	4	Room Temp.
Collection Plate	4	8	Room Temp.
Elution Plate	2	4	Room Temp.
Cover Foil	2	4	Room Temp.
Instruction Manual	1	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 the highest performance and reliability.

¹ Ethanol must be added prior to use as indicated on the **DNA Wash Buffer** label.
(DNA Wash Buffer is compatible with DNA and RNA.)

Applications

Isotope and Dye Removal	Efficiently removes unincorporated fluorescent (<i>i.e.</i> , AMCA, FITC, BIO, DIG, Cy3, Cy5, FAM, <i>etc.</i>) and radiolabeled dNTP derivatives from DNA following <i>in vitro</i> labeling reactions.
DNA Fragment Clean-up From Enzymatic Reactions	Efficient desalting of DNA with the removal of DNA polymerases, modifying enzymes, RNA polymerases, ligases, kinases, nucleases, phosphatases, endonucleases, <i>etc.</i>
Post-Reverse Transcription (RT) & cDNA Clean-up	Efficiently purifies DNA following RT, either as a DNA/RNA complex or as single stranded cDNA following chemical hydrolysis of the RNA template (<i>see page 3</i>).

Specifications

- **Sample Sources** – Enzymatic reaction mixtures containing oligonucleotides ≥ 16 nt (radioactive-, biotin-, DIG-labeled, *etc.*).
- **Size Limits** – For oligonucleotides ≥ 16 nt, up to 23 kb.
- **Compatibility** – single-stranded (ss) and double-stranded (ds) DNA and RNA.
- **Recovery** – Binding capacity of the Zymo-Spin™ I-96 Plate is 10 μ g of ssDNA/RNA or 5 μ g of dsDNA with a typical recovery $>90\%$. The plate can be eluted with ≥ 10 μ l.
- **Purity** – High-quality DNA/RNA ($A_{260}/A_{280\text{ nm}} > 1.8$; $A_{260}/A_{230\text{ nm}} > 1.8$) eluted with water is especially well suited for hybridization, sequencing, ligation, and PCR.
- **Detergent Tolerance** – $\leq 5\%$ Triton X-100, $\leq 5\%$ Tween-20, $\leq 5\%$ Sarkosyl, $\leq 0.1\%$ SDS.

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.

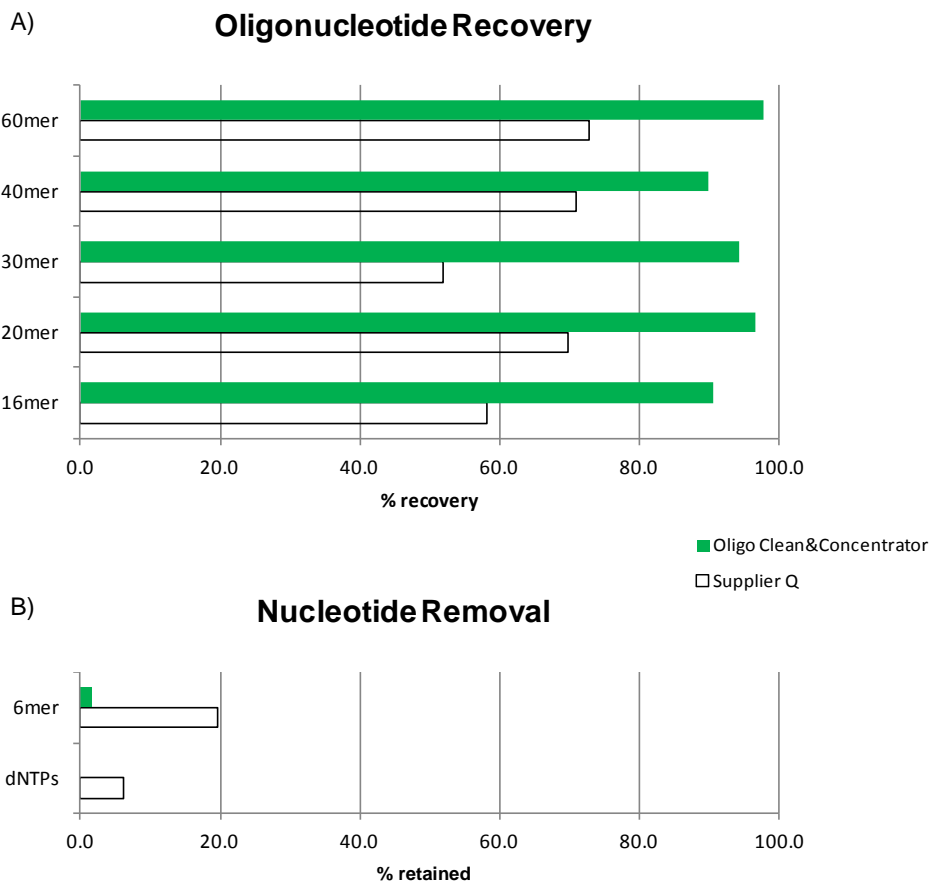
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Product Description

The **ZR-96 Oligo Clean & Concentrator™** provides a streamlined method for high-throughput (96-well) recovery and clean-up of DNA and RNA oligonucleotides ≥ 16 nt from labeling (radioactive, biotin, DIG *etc.*) and other enzymatic reactions. Unincorporated nucleotides, short oligos, dyes, enzymes, and salts are effectively removed by the clean-up procedure.

There is no need for organic denaturants or chloroform. Instead, the kit features *Fast Spin* plate technology and employs a single-buffer system that allows for efficient oligonucleotide adsorption to the matrix of **Zymo-Spin™ I-96 Plate**. Oligonucleotide is washed and concentrated into a small volume of water ($\geq 10 \mu\text{l}$). Purified oligonucleotide is suitable for hybridization, gel shift assays, enzymatic reactions, ligation, sequencing, microarray analysis, *etc.*

For **Assistance**, please contact Zymo Research Technical Support at 1-888-882-9682 or e-mail tech@zymoresearch.com.



The **Oligo Clean & Concentrator™** facilitates $>90\%$ recovery of ssDNA oligonucleotides (**A**) and efficient short oligo and nucleotide removal (**B**).

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Buffer Preparation

Before starting, add 192 ml 100% ethanol (208 ml of 95% ethanol) to the 48 ml **DNA Wash Buffer** concentrate.

Protocol

1. Add 100 μ l **Oligo Binding Buffer** to 50 μ l sample^{1,2}.
2. Add 400 μ l ethanol³ (95-100%), mix briefly by pipetting and transfer the mixture to a well of the provided **Zymo-Spin™ I-96 Plate**⁴ mounted on a **Collection Plate**.

Note: If required, scale up volumes proportionally.

3. Centrifuge at 5,000 x *g* for 5 minutes. Discard the flow-through.

For radioactive samples: Transfer the plate onto a new collection plate then discard the plate containing the radioactive flow-through appropriately.

4. Add 800 μ l **DNA Wash Buffer** to each well. Centrifuge the plate at 5,000 x *g* for 5 minutes and discard the flow-through. Then centrifuge at 5,000 x *g* for 5 minutes to ensure complete removal of the wash buffer.
5. Transfer the plate onto the **Elution Plate**. Add 25 μ l water⁵ directly to the column matrix and centrifuge at 5,000 x *g* for 5 minutes to elute the oligonucleotide.

Ultra-pure oligonucleotide in water is now ready for use⁶.

Notes:

¹ Minimum recommended sample volume is 50 μ l (adjust with water).

² For sample preparation, the **Collection Plate** may be used.

³ For DNA/RNA \geq 80 nt, only 200 μ l ethanol are required.

⁴ The well capacity is ~800 μ l. For larger samples, it may be necessary to load and spin the plate multiple times.

⁵ TE buffer can also be used for elution if required.

⁶ Use the **Cover Foil** to prevent evaporation and to store purified samples in the **Elution Plate**.

cDNA clean-up following reverse transcription

The **Oligo Clean & Concentrator** can be used to effectively clean and concentrate first-strand cDNA following reverse transcription (RT) and hydrolysis. The **Oligo Binding Buffer** can effectively neutralize the hydrolysis reaction and the recovered cDNA may be used directly for microarray analysis, etc.

Hydrolysis reaction

To each 30-50 μ l of RT reaction, add 10 μ l 0.5 M EDTA followed by 10 μ l 1.0 M NaOH, then mix. Incubate at 65°C for 15 minutes.

Clean-up

See *protocol* above.

Ordering Information

Product Description	Catalog No.	Kit Size
ZR-96 Oligo Clean & Concentrator™	D4062	2x 96 Preps.
	D4063	4x 96 Preps.
Oligo Clean & Concentrator™-5	D4060	50 Preps.
	D4061	200 Preps.

For Individual Sale	Catalog No.	Amount
Oligo Binding Buffer	D4060-1-10	10 ml
	D4060-1-40	40 ml
DNA Wash Buffer (concentrate)	D4003-2-24	24 ml
	D4003-2-48	48 ml
Zymo-Spin™ I-96 Plate	C2004	2 plates
Collection Plate	C2002	2 plates
Elution Plate	C2003	2 plates

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Popular Products From Zymo Research

Product	Description	Kit Size (Preps.)	Catalog No. (Format)
Fragment DNA Purification			
DNA Clean & Concentrator™-5	Clean and concentrate up to 5 µg DNA into ≥6 µl elution volume in as little as 2 minutes with no wash residue carryover.	50 200 50 200	D4003 (uncapped) D4004 (uncapped) D4013 (capped) D4014 (capped)
DNA Clean & Concentrator™-25	Clean and concentrate 25 µg of DNA into ≥25 µl elution volume in as little as 2 minutes with no wash residue carryover.	50 200 50 200	D4005 (uncapped) D4006 (uncapped) D4033 (capped) D4034 (capped)
ZR-96 DNA Clean & Concentrator™-5	Quick (15 minute), high-output recovery of up to 5 µg pure DNA into 10-15 µl minimum elution volume allows for highly concentrated DNA.	2 x 96 4 x 96	D4023 D4024
Genomic DNA Clean & Concentrator™	Quick (5 minute) clean-up of up to 10 µg high molecular weight DNA (≤200 kb) from any enzymatic reaction or impure preparation without precipitations.	25 100	D4010 (capped) D4011 (capped)
Zymoclean™ Gel DNA Recovery Kit	Purify DNA from high and low-melting agarose gels in minutes.	50 200 50 200	D4001 (uncapped) D4002 (uncapped) D4007 (capped) D4008 (capped)
ZR-96 Zymoclean™ Gel DNA Recovery Kit	High-throughput DNA purification from high and low-melting agarose gels.	2 x 96 4 x 96	D4021 D4022
Zymoclean™ Large Fragment DNA Recovery Kit	Purify high molecular weight DNA (≤ 200 kb) from high and low-melting agarose gels in minutes.	25 100	D4045 (capped) D4046 (capped)
OneStep™ PCR Inhibitor Removal Kit	Fast, one step procedure for removal of PCR inhibitors such as polyphenolics, humic/fulvic acids, melanin, etc. for successful PCR and other downstream applications.	50 2 x 96	D6030 D6035
Plasmid DNA Purification			
Zyppy™ Plasmid Miniprep Kit	Pellet-Free™ plasmid DNA purification in less than 10 minutes. Recover up to 25 µg DNA in as low as 30 µl.	50 100 400	D4036 D4019 D4020
Zyppy™-96 Plasmid Miniprep	The fastest and simplest high-throughput method for plasmid purification.	2 x 96 4 x 96 8 x 96	D4041 D4042 D4043
Zyppy™ Plasmid Midiprep Kit	Pellet-Free™ plasmid DNA purification in 15 minutes in a 150 µl minimum elution volume.	25 50	D4025 D4026
ZR Plasmid MiniPrep™-Classic	Plasmid DNA purification in minutes: (alkaline lysis/spin column format for low 30 µl elution volume).	100 400 800	D4015 D4016 D4054
Genomic DNA Purification			
Quick-gDNA™ MiniPrep	Easy purification of genomic DNA from whole blood, plasma, serum, body fluids, buffy coat, lymphocytes, tissue, swabs or cultured cells in as little as 15 minutes <u>without</u> the use of Proteinase K or organic denaturants.	50 200 50 200	D3006 (uncapped) D3007 (uncapped) D3024 (capped) D3025 (capped)
ZR-96 Quick-gDNA™	Simple, high throughput purification of DNA from whole blood, plasma, serum, body fluids, buffy coat, lymphocytes, tissue, swabs, or cultured cells in about 30 minutes.	2 x 96 4 x 96 10 x 96	D3010 D3011 D3012
ZR Genomic DNA™-Tissue MiniPrep	For high quality DNA purification from <u>solid tissues</u> (e.g., tail snips, ear punches, adipose tissue, etc.), body fluids, cultured cells, buccal cells, FFPE tissues, hair, and other biological sources using Proteinase K and Fast.	50 200	D3050 D3051
Environmental DNA Purification Kits	Unique BashingBead™ technology allows isolation of DNA from samples refractory to conventional lysis procedures including tough-to-lyse tissues, soil samples, feces, plants, seeds, insects, bacteria, yeast, filamentous fungi, unicellular and filamentous algae, and protozoa		Visit website for a comprehensive list

Please visit our website to see our complete line-up of products.

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Phone: (949) 679-1190 ▪ Toll Free: (888) 882-9682 ▪ Fax: (949) 266-9452 ▪ info@zymoresearch.com ▪ www.zymoresearch.com