

INSTRUCTION MANUAL

ZR DNA Sequencing Clean-up Kit™

Catalog Nos. **D4050 & D4051**

Highlights

- Simple 2 Minute Bind, Wash, Elute Procedure
- Flexible 6-20 µl Elution Volumes Allow for Direct Loading of Samples with no Precipitation or Drying Steps
- Complete Elimination of “Dye Blobs” with High Quality Phred Scores and Long Read Lengths
- Reusable Spin Columns that Support Both Gel and Capillary Electrophoresis Platforms

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Product Contents

ZR DNA Sequencing Clean-up Kit™ (Kit Size)	D4050 (50 preps.)	D4051 (200 preps.)	Storage Temperature
Sequencing Binding Buffer	14 ml	55 ml	Room Temp.
Sequencing Wash Buffer	20 ml	70 ml	Room Temp.
Zymo-Spin™ IB Columns	50 columns	200 columns	Room Temp.
Collection Tubes	50 tubes	200 tubes	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.

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

Specifications

- **Format** – Spin Column.
- **Sample Sources** – Dye terminator sequencing reactions: Big Dye Terminator and other fluorescent based sequencing reactions.
- **DNA Purity** – High quality, sequencing-ready DNA products that are free of unincorporated dye terminators, dNTPs, enzymes, and residual salts.
- **Equipment** – Microcentrifuge

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. pGem is a registered trademark of Promega Corporation.

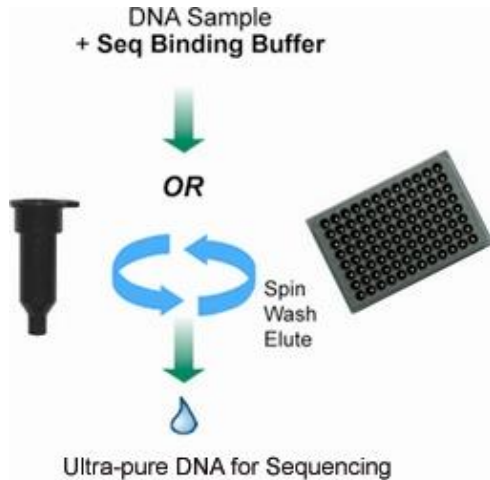
ZYMO RESEARCH CORP.

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Product Description

The **ZR DNA Sequencing Clean-up Kit™** provides a simple method for the rapid removal of post-cycle sequencing reaction contaminants (i.e., unincorporated fluorescent dyes, residual salts, dNTPs, primers, and enzymes) from DNA extension products. These contaminants can often interfere with the quality and signal strength of sequencing data. In particular, unincorporated dyes can result in dye peaks (“dye blobs”) which may obscure portions of the sequencing chromatogram and interfere with base-calling accuracy of sequencing analysis software.

The **ZR DNA Sequencing Clean-up Kit™** employs a single-buffer system that allows for efficient DNA adsorption onto the matrix of the supplied **Zymo-Spin™ IB Column**. The DNA is washed then eluted with a small volume of water or loading dye containing formamide. The entire DNA purification procedure typically takes about 2 minutes.



Sequencing chromatogram of pGEM® DNA generated using an ABI 3730xl DNA analyzer. DNA was labeled with ABI BigDye v3.1 terminators and cleaned using the ZR DNA Sequencing Clean-up Kit™.

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Protocol

1. Add 240 µl of **Sequencing Binding Buffer** to a 5-20 µl sequencing reaction.
2. Transfer mixture to a provided **Zymo-Spin™ IB Column** in a **Collection Tube**.
3. Centrifuge at 13,000 rpm (15,000 - 16,000 x *g*) for 30 seconds.
4. Add 300 µl **Sequencing Wash Buffer** to the column. Centrifuge at 13,000 rpm (15,000 - 16,000 x *g*) for 30 seconds.
5. Add 6-20 µl water directly to the column matrix. Transfer the column to a 1.5 ml microcentrifuge tube and centrifuge at 13,000 rpm (15,000 - 16,000 x *g*) for 15 seconds to elute the DNA.

Ultra-pure DNA is now ready to be loaded into the sequencer.

Procedure For Spin Column Re-generation

(**Note:** Columns may be regenerated up to 10X pending no damage to the column or matrix. If columns are regenerated, additional buffers will have to be ordered separately.)

1. Add 500 µl of 0.1% HCl to spin column and incubate at room temperature for 30 minutes.
2. Centrifuge at 13,000 rpm (15,000 - 16,000 x *g*) for 30 seconds.
3. Let dry overnight at 37 °C.
4. Spin columns are now ready for use.

Note: Alternatively, 5-20 µl sequencing reaction can be mixed with 240 µl Sequencing Binding Buffer that has already been added to the Zymo-Spin™ IB Column.

Note: A formamide solution (≤ 20%) may also be used to elute the DNA.

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

Ordering Information


Product Description	Catalog No.	Kit Size
ZR DNA Sequencing Clean-up Kit™	D4050	50 preps.
ZR DNA Sequencing Clean-up Kit™	D4051	200 preps.
ZR-96 DNA Sequencing Clean-up Kit™	D4052	(2) 96-well plates
ZR-96 DNA Sequencing Clean-up Kit™	D4053	(4) 96-well plates

For Individual Sale	Catalog No.	Amount
Sequencing Binding Buffer	D4050-1-14	14 ml
	D4050-1-55	55 ml
Sequencing Wash Buffer	D4050-2-20	20 ml
	D4050-2-70	70 ml
Zymo-Spin™ IB Columns	C1014-50	50 columns
Collection Tubes	C1001-50	50 tubes
	C1001-500	500 tubes
	C1001-1000	1,000 tubes

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DNA PURIFICATION

What is Clean-Spin™ Technology?
 The spin columns from Zymo Research have been designed to ensure complete elution with no binding/wash buffer carryover. The result is ultra-pure inhibitor-free DNA and RNA.

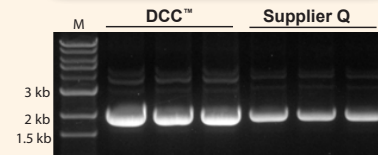
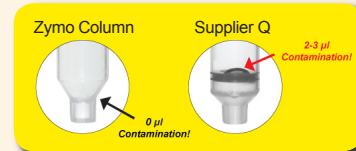


Purify DNA from PCR & other sources

DNA Clean & Concentrator™ (DCC™)

- ✓ Recovery of ultra-pure DNA that is free of salts and contaminants.
- ✓ Small ($\geq 6 \mu\text{l}$) elution volume.
- ✓ DNA is ideal for ligation, PCR, Next-Gen sequencing, etc.

Product	Size (Cat. No.)
DNA Clean & Concentrator™-5	50 Preps. (D4013) 200 Preps. (D4014)
ZR-96 DNA Clean & Concentrator™-5	2 x 96 Preps. (D4023) 4 x 96 Preps. (D4024)
Genomic DNA Clean & Concentrator™	25 Preps. (D4010) 100 Preps. (D4011)



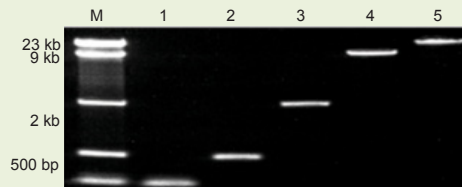
High efficiency DNA recovery with the DCC™-5 compared to Supplier Q .

Boost DNA recoveries from agarose gels to >80%

Zymoclean™ Gel DNA Recovery

- ✓ Rapid (15 min.) recovery of ultra-pure DNA from agarose gels in $\geq 6 \mu\text{l}$.
- ✓ Ultra-pure DNA ideal for DNA ligation, sequencing, etc.
- ✓ Format also available for large DNA >20 kb.

Product	Size (Cat. No.)
Zymoclean™ Gel DNA Recovery Kit	50 Preps. (D4001) 200 Preps. (D4002)
Zymoclean™ Large Fragment DNA Recovery Kit	25 Preps. (D4045) 100 Preps. (D4046)



DNA fragments recovered from an agarose gel using the Zymoclean™ Gel DNA Recovery Kit. Lanes: M: DNA Ladder; 1-5: individual ladder DNA fragments.

Recover transfection-quality plasmid DNA directly from culture

Zyppy™ Plasmid Prep Kits

- ✓ The fastest, simplest method available for purifying high quality plasmid DNA from *E. coli*.
- ✓ Pellet-Free™ procedure omits conventional cell-pelleting and resuspension steps.
- ✓ Transfection quality plasmid DNA directly from culture in under 15 minutes.

Easy, Pellet-free Procedure: Add Lysis Buffer *Directly* to Bacterial Culture

Product	Size (Cat. No.)
Zyppy™ Plasmid Miniprep Kit	50 Preps. (D4036)
	100 Preps. (D4019)
	400 Preps. (D4020)
	800 Preps. (D4037)



RNA PURIFICATION



What is Clean-Spin™ Technology?
The spin columns from Zymo Research have been designed to ensure complete elution with no binding/wash buffer carryover. The result is ultra-pure inhibitor-free DNA and RNA.

Get RNA *directly* from TRIZOL® without phase separation

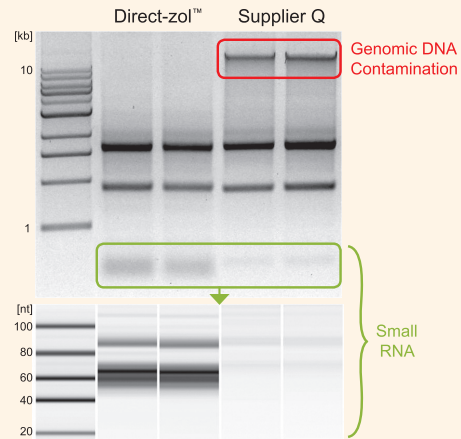
Direct-zol™ RNA

- ✓ For purification of high-quality small and large RNA *directly* from TRIZOL®, TRI Reagent®, or similar.
- ✓ Bypasses phase separation and precipitation procedures allowing for unbiased recovery of miRNA

Product	Size (Cat. No.)
Direct-zol™ RNA MiniPrep	50 Preps. (R2050)
	50 Preps. (R2051)*
	200 Preps. (R2052)
	200 Preps. (R2053)*

96-well and MagBead formats also available!

DNase I included in all kits.
* Supplied with TRI-Reagent®



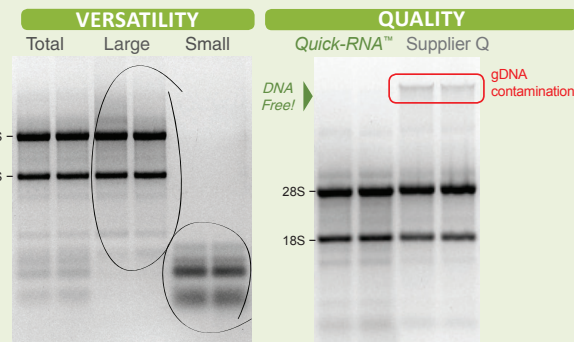
High-quality small and large RNA are effectively recovered with the Direct-zol™ kit. RNA is **DNA-free**.

Isolate DNA-free RNA from 1 to 10⁷ cells in minutes

Quick-RNA™

- ✓ Isolation of total, large, or small RNA – *You decide!*
- ✓ Ultra clean, high-quality RNA from a single cell to 10⁷ cells.
- ✓ DNA-free RNA ideal for any downstream application – *DNase I included.*

Product	Size (Cat. No.)
Quick-RNA™ MicroPrep	50 Preps. (R1050)
	200 Preps. (R1051)
Quick-RNA™ MiniPrep	50 Preps. (R1054)
	200 Preps. (R1055)
ZR-96 Quick-RNA™	2 x 96 Preps. (R1052)
	4 x 96 Preps. (R1053)



Isolate total, large, or small RNA with the Quick-RNA™ kit.

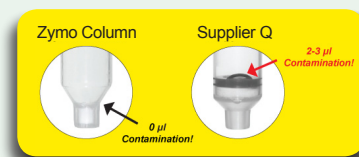
RNA is DNA-free using the Quick-RNA™ kit

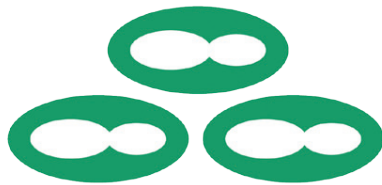
Purify RNA from enzymatic and labeling reactions in 5 minutes

RNA Clean & Concentrator™

- ✓ Recover ultra-pure RNA in small ($\geq 6 \mu\text{l}$) elution volumes.
- ✓ Compatible with TRIZOL®, phenol, chloroform, and RNase inhibitors (RNAIater®).
- ✓ RNA is ideal for RT-PCR, q-PCR, hybridization, arrays, RNA interference, etc.

Product	Size (Cat. No.)
RNA Clean & Concentrator™-5	50 Preps. (R1015)
	200 Preps. (R1016)
RNA Clean & Concentrator™-25	50 Preps. (R1017)
	100 Preps. (R1018)
ZR-96 RNA Clean & Concentrator™	2x96 well plates (R1080)
DNA-Free RNA Kit™	50 Preps. (R1013)
	200 Preps. (R1014)





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The Beauty of Science is to Make Things Simple