



ZYMO RESEARCH

The Beauty of Science is to Make Things Simple

INSTRUCTION MANUAL

ZR Urine DNA Isolation Kit™

Catalog No. **D3060**

Highlights

- Reliable, quick (*10 minute*) recovery of DNA from urine.
- Ideal for recovering small amounts of DNA from large volume samples.
- *Fast-Spin* column design allows DNA to be eluted at high concentrations into minimal volumes ($\geq 6 \mu\text{l}$) elution buffer or water.
- Eluted DNA is ideal for use in PCR, arrays, methylation detection, etc.

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Satisfaction of all Zymo Research products is guaranteed. If you are not satisfied with this product please call 1-888-882-9682.

Product Contents

ZR Urine DNA Isolation Kit™ (Kit Size)	D3060 (20 Preps.)	Storage Temperature
Genomic Lysis Buffer*	50 ml	Room Temp.
DNA Pre-Wash Buffer**	15 ml	Room Temp.
g-DNA Wash Buffer	50 ml	Room Temp.
DNA Elution Buffer	1 ml	Room Temp.
ZRC GF™ Filter	20	Room Temp.
Zymo-Spin™ IC Columns	20	Room Temp.
Collection Tubes	20	Room Temp.
Instruction Manual	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.

* For optimal performance, add beta-mercaptoethanol to 0.5%(v/v) i.e., 250 µl per 50 ml.

** 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

- **Sample Sources** – Urine. Also, compatible with other liquids containing cells or biological sediment. The porosity of the ZRC GF™ Filter membrane is 1.6 µm.
- **Sample Size** – Thirty (30) ml per standard preparation. The sampled volume can be scaled up or down if required.
- **DNA Purity** – High quality DNA for PCR, bisulfite treatment/methylation detection, array, etc., is eluted with DNA Elution Buffer or water. ($A_{260}/A_{280} \geq 1.8$)
- **DNA Size** – Capable of recovering DNA fragments from 100 bp to ≥ 40 kb.
- **DNA Yield** – Female urine will typically yield 14-200 ng DNA/ml. Male urine will yield 4-60 ng DNA/ml. The DNA binding capacity of the Zymo-Spin™ IC Column is 5 µg.
- **Equipment** – Syringe (30 ml, 1 ml) and Microcentrifuge

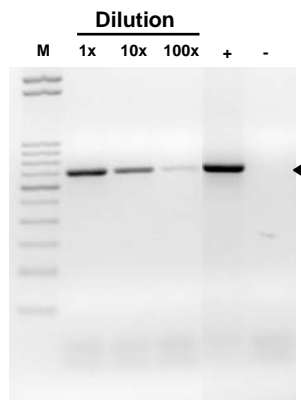
Note - ™ Trademarks of Zymo Research Corporation. This product is for research use only and should only be used by trained professionals. It is not intended for use in diagnostic procedures. Some reagents included with this kit are irritants. Wear protective gloves and eye protection. Follow the safety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

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For purification of RNA from urine use the **ZR Urine RNA Isolation Kit™** (R1038).

Product Description

The **ZR Urine DNA Isolation Kit™** is an innovative product designed for the easy, reliable, and rapid isolation of total DNA from cells and biological sediment in urine samples. The product enables isolation of cells from urine using a syringe fitted with a uniquely-designed syringe filter. Following separation, cells are lysed and the collected lysate can be processed immediately or at a later time following transportation and/or storage. The DNA isolation procedure is simple and can be performed in less than 10 minutes with the technologies featured in the kit. Total DNA isolated with the **ZR Urine DNA Isolation Kit™** is ideal for PCR, array, methylation detection¹, etc.



High yield/quality DNA purified from human urine using the **ZR Urine DNA Isolation Kit™** is ideal for use in PCR. The gel image above shows the results of PCR amplification of 15 ng, 1.5 ng, and 0.15 ng total DNA (1x, 10x 100x dilutions, respectively) isolated from human urine using primers specific for the human β -actin gene. (M) is a 50 bp DNA ladder (Zymo Research) and amplicons are indicated (\blacktriangleleft). The (+) and (-) are positive and negative controls, respectively.

Notes:

¹ Zymo Research offers the following for rapid, precise DNA methylation detection...

- 1.) **EZ DNA Methylation™ Kit** (D5001, D5002, D5003)
- 2.) **EZ DNA Methylation-Gold™ Kit** (D5005, D5006, D5007, D5008)
- 3.) **EZ DNA Methylation-Direct™ Kit** (D5020, D5021, D5022, D5023)
- 4.) **EZ DNA Methylation-Startup™ Kit** (D5024)

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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., 250 µl per 50 ml.

The following protocol is designed for the isolation of DNA from a 30 ml urine sample¹.

1. Take up fresh urine into a 30 ml syringe. Attach a provided **ZRC GF™ Filter** to the syringe and push the urine completely through the filter into an appropriate waste container². Remove residual urine from the filter by pushing through several volumes of air.
2. Using a 1 ml syringe, push 1 ml of **Genomic Lysis Buffer** through the filter and collect the flow-through into a **Zymo-Spin™ IC Column** in a **Collection Tube**³. Cap the column and invert assembly gently several times. Centrifuge at $\geq 10,000 \times g$ for 1 minute. Discard the flow-through from the **Collection Tube**.
3. Add 200 µl of **DNA Pre-Wash Buffer** to the spin column. Centrifuge at $\geq 10,000 \times g$ for 1 minute. Discard flow-through.
4. Add 500 µl **g-DNA Wash Buffer** to the column and centrifuge at $\geq 10,000 \times g$ for 1 minute.
5. Transfer the spin column to a 1.5 ml microcentrifuge tube. Add $\geq 6 \mu\text{l}$ **DNA Elution Buffer** or water directly to the column matrix. Wait for 1 minute then centrifuge at $\geq 10,000 \times g$ to elute the DNA.

The eluted DNA can be used immediately or stored at $\leq -20^\circ\text{C}$ for future use.

For small DNA fragment isolation, add 300 µl isopropanol to the flow-through prior to transfer to the Zymo-Spin™ column

Notes:

¹ The sampled volume of urine can be scaled up or down if required. Depending on the consistency of the sample, up to 200 ml of urine can be filtered through a single **ZRC GF™ Filter**.

² Stop filtering when urine is no longer able to be manually pushed through the filter.

³ Alternatively, the flow-through can be collected in a 1.5 ml microcentrifuge tube for transport or storage, since DNA is stable in Genomic Lysis Buffer for several weeks at room temperature.

Ordering Information

Product Description	Catalog No.	Kit Size
ZR Urine DNA Isolation Kit™	D3060	20 Preps.

For Individual Sale	Catalog No.	Amount
Genomic Lysis Buffer	D3004-1-50	50 ml
	D3004-1-100	100 ml
DNA Pre-Wash Buffer	D3004-5-15	15 ml
	D3004-5-30	30 ml
	D3004-5-50	50 ml
g-DNA Wash Buffer	D3004-2-50	50 ml
	D3004-2-100	100 ml
DNA Elution Buffer	D3004-4-S	1 ml
	D3004-4-4	4 ml
	D3004-4-10	10 ml
	D3004-4-50	50 ml
ZRC GF™ Filter	C1009-20	20 filters
	C1009-50	50 filters
Zymo-Spin™ IC Columns	C1004-50	50 columns
	C1004-250	250 columns
Collection Tubes	C1001-50	50 tubes
	C1001-500	500 tubes
	C1001-1000	1,000 tubes

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Popular DNA Purification Products from Zymo Research

Product	Format	Kit Size	Cat No.
Fragment DNA Clean-up, Concentration & Recovery			
DNA Clean & Concentrator™-5	Spin Column Format (up to 5 µg/prep.)	50 preps. 200 preps.	D4003*, D4013 D4004*, D4014
DNA Clean & Concentrator™-25	Spin Column Format (up to 25 µg/prep.)	50 preps. 200 preps.	D4005*, D4033 D4006*, D4034
DNA Clean & Concentrator™-100	Spin Column Format (up to 100 µg/prep.)	25 preps. 50 preps.	D4029 D4030
DNA Clean & Concentrator™-500	Spin Column Format (up to 500 µg/prep.)	10 preps. 20 preps.	D4031 D4032
ZR-96 DNA Clean & Concentrator™-5	96-Well Format (up to 5 µg/well; deep well)	2x96 preps. 4x96 preps.	D4023 D4024
Genomic DNA Clean & Concentrator™	Spin Column Format (up to 10 µg/prep.)	25 preps. 100 preps.	D4010 D4011
ZR-96 DNA Clean-up Kit™	96-Well Format (up to 5 µg/well; shallow well)	2x96 preps. 4x96 preps.	D4017 D4018
ZR DNA Sequencing Clean-up Kit™	Spin Column Format (up to 5 µg/prep.)	50 preps. 200 preps.	D4050 D4051
ZR-96 DNA Sequencing Clean-up Kit™	96-Well Format (up to 5 µg/well)	2x96 preps. 4x96 preps.	D4052 D4053
OneStep™ PCR Inhibitor Removal Kit	Spin Column Format (up to 25 µg/prep.)	50 preps.	D6030
OneStep-96™ PCR Inhibitor Removal Kit	96-Well Format (up to 5 µg/well)	2x96 preps.	D6035
Zymoclean™ Gel DNA Recovery Kit	Spin Column Format (up to 5 µg/prep.)	50 preps. 200 preps.	D4001 D4002
ZR-96 Zymoclean™ Gel DNA Recovery Kit	96-Well Format (up to 5 µg/well)	2x96 preps. 4x96 preps.	D4021 D4022
Zymoclean™ Large Fragment DNA Recovery Kit	Spin Column Format (up to 10 µg/prep.)	25 preps. 100 preps.	D4045 D4046
Plasmid DNA Isolation			
Zyppy™ Plasmid Miniprep Kit	Pellet Free, Spin Column Format	50 preps. 100 preps. 400 preps. 800 preps.	D4036 D4019 D4020 D4037
Zyppy™ Plasmid Midiprep Kit	Pellet Free, Spin Column Format	25 preps. 50 preps.	D4025 D4026
Zyppy™ Plasmid Maxiprep Kit	Spin/Vacuum Column Format	10 preps. 20 preps.	D4027 D4028
ZR Plasmid Miniprep™-Classic	Spin Column Format	100 preps. 400 preps. 800 preps.	D4015 D4016 D4054
ZR BAC DNA Miniprep Kit	BAC/PAC plasmid DNA Isolation. Spin Column Format	25 preps. 100 preps.	D4048 D4049
Environmental DNA Isolation			
ZR Soil Microbe DNA MicroPrep™	Bead Bashing, Spin Column Format (up to 5 µg/prep.)	50 preps.	D6003
ZR Soil Microbe DNA MiniPrep™	Bead Bashing, Spin Column Format (up to 25 µg/prep.)	50 preps.	D6001
ZR Soil Microbe DNA MidiPrep™	Bead Bashing, Spin Column Format (up to 125 µg/prep.)	25 preps.	D6101
ZR-96 Soil Microbe DNA Kit™	Bead Bashing, 96-Well Format (up to 5 µg/well)	2x96 preps.	D6002
ZR Fungal/Bacterial DNA MicroPrep™	Bead Bashing, Spin Column Format (up to 5 µg/prep.)	50 preps.	D6007
ZR Fungal/Bacterial DNA MiniPrep™	Bead Bashing, Spin Column Format (up to 25 µg/prep.)	50 preps.	D6005
ZR Fungal/Bacterial DNA MidiPrep™	Bead Bashing, Spin Column Format (up to 125 µg/prep.)	25 preps.	D6105
ZR-96 Fungal/Bacterial DNA Kit™	Bead Bashing, 96-Well Format (up to 5 µg/well)	2x96 preps.	D6006
ZR Fecal DNA MicroPrep™	Bead Bashing, Spin Column Format (up to 5 µg/prep.)	50 preps.	D6012
ZR Fecal DNA MiniPrep™	Bead Bashing, Spin Column Format (up to 25 µg/prep.)	50 preps.	D6010
ZR Fecal DNA MidiPrep™	Bead Bashing, Spin Column Format (up to 125 µg/prep.)	25 preps.	D6110
ZR-96 Fecal DNA Kit™	Bead Bashing, 96-Well Format (up to 5 µg/well)	2x96 preps.	D6011
ZR Tissue & Insect DNA MicroPrep™	Bead Bashing, Spin Column Format (up to 5 µg/prep.)	50 preps.	D6015
ZR Tissue & Insect DNA MiniPrep™	Bead Bashing, Spin Column Format (up to 25 µg/prep.)	50 preps.	D6016
ZR Tissue & Insect DNA MidiPrep™	Bead Bashing, Spin Column Format (up to 125 µg/prep.)	25 preps.	D6115
ZR-96 Tissue & Insect DNA Kit™	Bead Bashing, 96-Well Format (up to 5 µg/well)	2x96 preps.	D6017
ZR Plant/Seed DNA MicroPrep™	Bead Bashing, Spin Column Format (up to 5 µg/prep.)	50 preps.	D6022
ZR Plant/Seed DNA MiniPrep™	Bead Bashing, Spin Column Format (up to 25 µg/prep.)	50 preps.	D6020
ZR Plant/Seed DNA MidiPrep™	Bead Bashing, Spin Column Format (up to 125 µg/prep.)	25 preps.	D6120
ZR-96 Plant/Seed DNA Kit™	Bead Bashing, 96-Well Format (up to 5 µg/well)	2x96 preps.	D6021

* Uncapped Spin Column Format

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