



ZYMO RESEARCH

The Beauty of Science is to Make Things Simple

INSTRUCTION MANUAL

ZR-96 Viral DNA Kit™

Catalog Nos. **D3017 & D3018**

Highlights

- Quick (*25 minute*), high-throughput (96-well) recovery of viral DNA from a wide range of sample sources using *Fast-Spin* plate technology.
- Plate design allows DNA to be eluted at high concentrations into minimal volumes ($\geq 15 \mu\text{l}$) of elution buffer or water.
- Eluted DNA is ideal for use in PCR, arrays, and other sensitive downstream applications.

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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 Viral DNA Kit™ (Kit Size)	D3017 (2 x 96 well)	D3018 (4 x 96 well)	Storage Temperature
ZR Viral DNA Buffer*	2 x 100 ml	4 x 100 ml	Room Temp.
DNA Wash Buffer** (concentrate)	24 ml	48 ml	Room Temp.
DNA Elution Buffer	10 ml	10 ml	Room Temp.
Zymo-Spin™ I-96 Plate	2	4	Room Temp.
Collection Plate	2	4	Room Temp.
Elution Plate	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 maximal performance and reliability.

*For optimal performance, add beta-mercaptoethanol to 0.5%(v/v) i.e., 500 µl per 100 ml.

**Add 96 ml (192 ml for D3018) of 100% ethanol to the DNA Wash Buffer concentrate prior to use.

Specifications

- **Sample Sources** – Serum, plasma, tissue, or cells derived from humans, mice, rabbits, etc.
- **DNA Purity** – High quality DNA is eluted with **DNA Elution Buffer** making it perfect for PCR. $A_{260}/A_{280} > 1.8$
- **DNA Size Limits** – From 100 bp up to 50 kb.
- **DNA Recovery** – Typically, up to 5 µg total DNA is eluted into 10-15 µl **DNA Elution Buffer**. For DNA 75 bp to 10 kb, the recovery is 70-90%. For DNA 11 kb to 50 kb the recovery is 50-70%.
- **Equipment** – Centrifuge with microplate carriers.

The **Genomic DNA Clean & Concentrator™ (D4010, D4011)** can be used to isolate large DNAs >200 kb (i.e., genomic, mitochondrial, viral, etc.) from crude cell lysates including those from Proteinase K digestions.

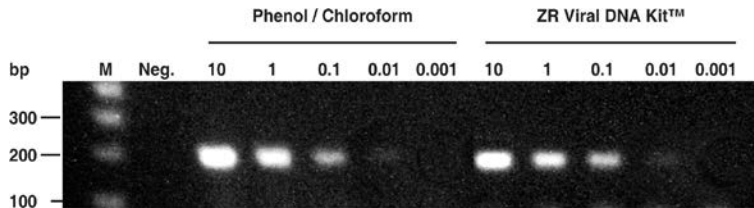
Note - ™ Trademarks of Zymo Research Corporation. This product is for research use only and should only be used by trained professionals. It is not intended for use in diagnostic procedures. Some reagents included with this kit are irritants. Wear protective gloves and eye protection. Follow the safety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

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Product Description

The **ZR-96 Viral DNA Kit™** provides a streamlined method for the rapid, high-throughput (96-well) isolation of high quality viral DNA from a wide range of biological sources. Denaturation of viral particles and recovery of DNA is accomplished using a unique **ZR Viral DNA Buffer** and **Zymo-Spin™ I-96 Plate**, respectively. Reagents in the kit are optimized for the recovery of viral DNA from whole blood (fresh and stored), tissue, ascites, cultured cells, and from liquid samples. DNA can be eluted with the supplied elution buffer or water. Eluted DNA is suitable for subsequent PCR, nucleotide blotting, and restriction endonuclease digestion procedures. The entire DNA isolation procedure typically takes about 25 minutes. The figures below show a schematic highlighting the Zymo-Spin™ I-96 Plate's design, the isolation procedure, and results from PCR of DNA isolated using the kit.



Human HBV DNA was isolated from 10 to 0.001 μ l of human serum using phenol/chloroform or Zymo Research's **Viral DNA Kit™**. The presence of HBV DNA is evidenced by an ~ 200 bp PCR product. Lane "M" is a 100 bp DNA Ladder and "Neg." the negative control for PCR.

For spin column purification (5 μ g DNA/column), use the **ZR Viral DNA Kit™ (D3015, D3016)**.

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

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 for larger volumes.

Buffer 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 optimal performance, add beta-mercaptoethanol (user supplied) to the **ZR Viral DNA Buffer** to a final dilution of 0.5%(v/v) i.e., 500 µl per 100 ml.

Protocol

The following protocol is designed for the recovery of viral DNA from ≤200 µl biological liquid (e.g., serum, plasma, CSF, etc.) or ≤200 µl cells in suspension at a concentration of ≤1x10⁵ cells/ml.

1. Add 4 volumes of **ZR Viral DNA Buffer** to each volume of sample (e.g., 800 µl **ZR Viral DNA Buffer** to 200 µl serum). Allow to stand at room temperature for 5-10 minutes.

It may be necessary to centrifuge the sample/ZR Viral DNA Buffer mixture before transferring the supernatant to a well of the Zymo-Spin™ I-96 Plate to remove particulate matter that may clog the matrix.

Longer incubation periods may be required for some samples.

2. Transfer sample mixtures to the wells of a **Zymo-Spin™ I-96 Plate** mounted on a **Collection Plate**. Centrifuge at ≥2,500 x g (5,000 x g max.) for 5 minutes until sample mixtures have been completely filtered. Discard the flow through.
3. Add 300 µl **DNA Wash Buffer** to each well of the **Zymo-Spin™ I-96 Plate**. Centrifuge at ≥2,500 x g for 5 minutes. Repeat wash step.
4. Add 10-15 µl **Elution Buffer** or water directly to the column matrix in each well. Transfer the **Zymo-Spin™ I-96 Plate** onto a **DNA Elution Plate** and centrifuge at ≥2,500 x g for 5 minutes to elute the DNA.

Elution of DNA from the column is dependent on pH and temperature. If water is used, ensure the pH is >6.0. Also, the total yield may be improved by eluting the DNA with Elution Buffer or water pre-equilibrated to 60-70°C.

Alternatively, for 96-well PCR, viral DNA can be eluted with water directly from the Zymo-Spin™ I-96 Plate into a 96-well PCR plate. Simply, mount your 96-well PCR plate between the Zymo-Spin™ I-96 Plate and an empty Collection Plate then elute the DNA as described above.

DNA is now ready for immediate use or storage.

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Ordering Information

Product Description	Catalog No.	Kit Size
ZR Viral DNA Kit™	D3015 D3016	50 preps. 200 preps.
ZR-96 Viral DNA Kit™	D3017 D3018	2 x 96 preps. 4 x 96 preps.

For Individual Sale	Catalog No.	Amount
ZR Viral DNA Buffer	D3015-1-50 D3016-1-100	50 ml 100 ml
DNA Wash Buffer (concentrate)	D4003-2-24 D4003-2-48	24 ml 48 ml
DNA Elution Buffer	D3004-4-10 D3004-4-16	10 ml 16 ml
Zymo-Spin™ I-96 Plate	C2004	2 plates
Collection Plate	C2002	2 plates
Elution Plate	C2003	2 plates

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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™ ZR Soil Microbe DNA MiniPrep™ ZR Soil Microbe DNA MidiPrep™ ZR-96 Soil Microbe DNA Kit™	Bead Bashing, Spin Column Format (up to 5 µg/prep.) Bead Bashing, Spin Column Format (up to 25 µg/prep.) Bead Bashing, Spin Column Format (up to 125 µg/prep.) Bead Bashing, 96-Well Format (up to 5 µg/well)	50 preps. 50 preps. 25 preps. 2x96 preps.	D6003 D6001 D6101 D6002
ZR Fungal/Bacterial DNA MicroPrep™ ZR Fungal/Bacterial DNA MiniPrep™ ZR Fungal/Bacterial DNA MidiPrep™ ZR-96 Fungal/Bacterial DNA Kit™	Bead Bashing, Spin Column Format (up to 5 µg/prep.) Bead Bashing, Spin Column Format (up to 25 µg/prep.) Bead Bashing, Spin Column Format (up to 125 µg/prep.) Bead Bashing, 96-Well Format (up to 5 µg/well)	50 preps. 50 preps. 25 preps. 2x96 preps.	D6007 D6005 D6105 D6006
ZR Fecal DNA MicroPrep™ ZR Fecal DNA MiniPrep™ ZR Fecal DNA MidiPrep™ ZR-96 Fecal DNA Kit™	Bead Bashing, Spin Column Format (up to 5 µg/prep.) Bead Bashing, Spin Column Format (up to 25 µg/prep.) Bead Bashing, Spin Column Format (up to 125 µg/prep.) Bead Bashing, 96-Well Format (up to 5 µg/well)	50 preps. 50 preps. 25 preps. 2x96 preps.	D6012 D6010 D6110 D6011
ZR Tissue & Insect DNA MicroPrep™ ZR Tissue & Insect DNA MiniPrep™ ZR Tissue & Insect DNA MidiPrep™ ZR-96 Tissue & Insect DNA Kit™	Bead Bashing, Spin Column Format (up to 5 µg/prep.) Bead Bashing, Spin Column Format (up to 25 µg/prep.) Bead Bashing, Spin Column Format (up to 125 µg/prep.) Bead Bashing, 96-Well Format (up to 5 µg/well)	50 preps. 50 preps. 25 preps. 2x96 preps.	D6015 D6016 D6115 D6017
ZR Plant/Seed DNA MicroPrep™ ZR Plant/Seed DNA MiniPrep™ ZR Plant/Seed DNA MidiPrep™ ZR-96 Plant/Seed DNA Kit™	Bead Bashing, Spin Column Format (up to 5 µg/prep.) Bead Bashing, Spin Column Format (up to 25 µg/prep.) Bead Bashing, Spin Column Format (up to 125 µg/prep.) Bead Bashing, 96-Well Format (up to 5 µg/well)	50 preps. 50 preps. 25 preps. 2x96 preps.	D6022 D6020 D6120 D6021

* Uncapped Spin Column Format

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