



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.
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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.

* Recommended: 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.

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.

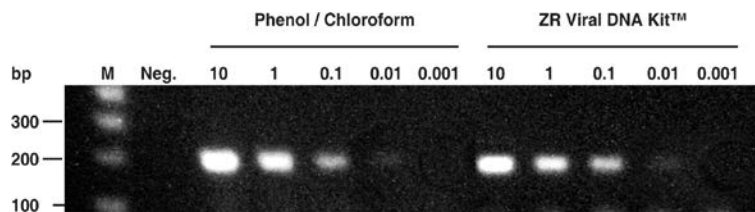
The **Genomic DNA Clean & Concentrator™ (D4010, D4011)** can be used to isolate large DNAs >200 kb (i.e., genomic, mitochondrial, viral, etc.) from crude cell lysates including those from Proteinase K digestions.

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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 µl 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 µg DNA/column), use the **ZR Viral DNA Kit™ (D3015, D3016)**.

Buffer Preparation

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

- ✓ 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.
- ✓ *Recommended:* 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 or 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.

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.

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 Products From Zymo Research

Product	Description	Kit Size (Preps)	Catalog No. (Format)
Fragment DNA Purification			
DNA Clean & Concentrator™-5	Clean and concentrate up to 5µg 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 & 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.	2x96 4x96	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.	2x96 4x96	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 2x96	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.	2x96 4x96 8x96	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).	50 100 400	D4036 D4019 D4020
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 (96-well) purification of DNA from whole blood, plasma, serum, body fluids, buffy coat, lymphocytes, tissue, swabs, or cultured cells in about 30 minutes.	2x96 4x96 10x96	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

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