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- Forschungsprodukte & Biochemikalien
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Weitere Information auf den folgenden Seiten!
See the following pages for more information!

Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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ZYMO RESEARCH

DNA Purification Made Simple™

DNA Clean & Concentrator® MagBead Kit

For recovery of ultra-pure DNA from PCR, enzymatic reactions, and other sources.

Highlights

- Rapid and scalable protocol for low to high-throughput purification and concentration of DNA from PCR, enzymatic reactions, library preparations, post-labeling reactions, nucleic acid extractions, etc.
- Ultra-Pure DNA is immediately ready for downstream applications such as sequencing, PCR, microarrays, etc.
- Compatible with a wide variety of liquid handlers and magnetic bead transfer systems

Catalog Numbers:
D4012

Scan with your smart-phone camera to view the online protocol/video.

tech@zymoresearch.com www.zymoresearch.com Toll Free: (888) 882-9682

Table of Contents

Product Contents

DNA Clean & Concentrator® MagBead Kit	D4012 100 preps	Storage Temperature
DNA MagBinding Buffer	50 ml	Room Temp.
DNA Wash Buffer[1]	24 ml (concentrate)	Room Temp.
DNA Elution Buffer	10 ml	Room Temp.
MagBinding Beads	2 ml	Room Temp.
Instruction Manual	1	Room Temp.

Important: Magnetic stand or plate is required and must be purchased separately.
Recommended: ZR-96 MagStand (Cat. No. P1005)

1 Prior to use, add 96 ml 100% ethanol (104 ml 95% ethanol) to the 24 ml DNA Wash Buffer concentrate.

Specifications

- **Sample Sources –** DNA from enzymatic reactions (e.g., PCR, restriction endonuclease digestions), library preparations, impure extractions, and other sources.

- **Size –** Total DNA (≥ 25 bp), including high molecular weight DNA up to 150 kb

Size Range	Recovery
≥ 100 bp	> 90%
25-100 bp	> 50%

- **Purity –** A260/A280 & A260/A230 ≥ 1.8. DNA is ready for Next-Generation Sequencing, PCR, and other downstream applications.

- **Binding Capacity –** 4 µg DNA per 20 µl MagBinding Beads

  Note: Large Fragment DNA (>50 kb) has a binding capacity of 2 µg DNA per 20 µl MagBinding Beads

- **Materials Needed** (user provided) – Molecular biology grade ethanol (95 – 100%), magnetic stand or plate, nuclease-free tubes or 96-well plates

- **Recommended Materials** (materials sold separately):

Component Name	Cat. No.
ZR-96 MagStand	P1005
Collection Plate (capacity 1.2 ml/well)	C2002
96-Well Block (capacity 2 ml/well)	P1001
Elution Plate (capacity 0.35 ml/well)	C2003
96-Well Plate Cover Foil (2, 4 pack)	C2007
DNase/RNase-Free Tubes (100 pack)	C2001

Product Description

The **DNA Clean & Concentrator® MagBead Kit** provides a rapid and scalable magnetic bead-based clean-up of DNA from PCR, enzymatic reactions, impure extractions, and other sources. The workflow can be adapted for low to high-throughput automated processing.

The procedure begins by adding **DNA MagBinding Buffer** and **MagBinding Beads** to the sample. Then simply wash and elute high-quality DNA. This single buffer system and magnetic bead technology provides a method for purification and concentration of DNA that is compatible with automated platforms for high-throughput processing.

DNA Clean & Concentrator® MagBead Kit can purify and concentrate DNA with high recovery from enzymatic reactions such as PCR (shown in Figure A).

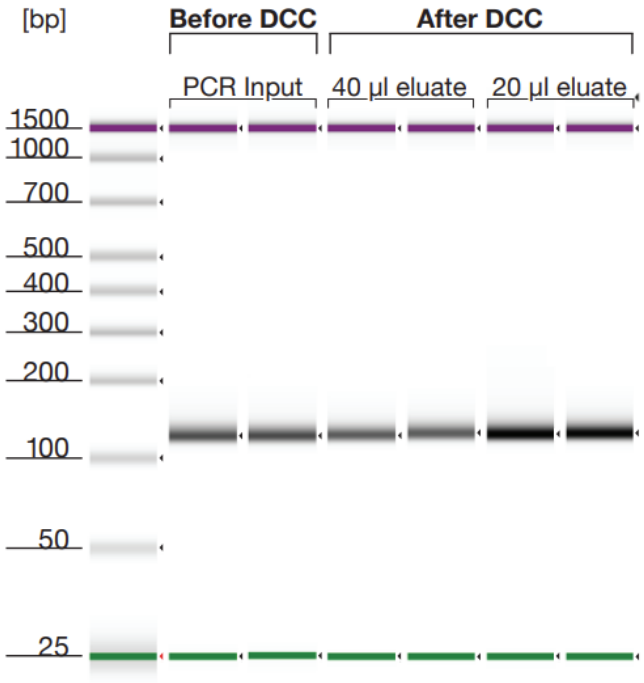

Figure A. Gel image of human DNA amplicons purified from PCR reaction mixture using DNA Clean & Concentrator® MagBead Kit. (Agilent 4200 TapeStation®)

High Recovery of DNA from Impure Extractions

Genomic DNA purified from a crude lysate with high protein contamination using **DNA Clean & Concentrator® MagBead Kit** compared to other commercially available magnetic bead-based DNA clean-up.

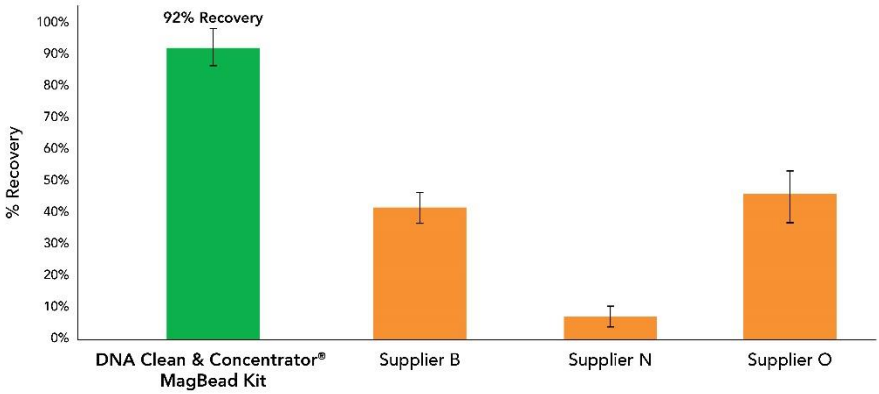

Figure B. 2 µg of genomic DNA recovered from salmon sperm lysed by sonication (n=4). DNA quantified using Nanodrop™ 2000.

Compatible with Automation Instruments

DNA Clean & Concentrator® MagBead Kit is compatible with any open liquid handler or magnetic bead mover. Automation support and resources readily available for any instrument. Reference scripts available for wide array of common instruments. Contact us at automation@zymoresearch.com for more information (See Appendix).

Protocol

The protocol consists of: (I) Buffer Preparation and (II) Total DNA Clean-up.

(I) Buffer Preparation

- ✓ Prior to use, add 96 ml 100% ethanol (104 ml 95% ethanol) to the 24 ml **DNA Wash Buffer** concentrate.

(II) Total DNA Clean-up

- ✓ DNA ≥ 25 bp will be recovered.
- ✓ Perform all steps at room temperature (20-30°C).
- ✓ For all buffer additions and incubation steps, mix well by pipetting up and down and/or by shaking (vortexing) ~1,200 rpm for 1 minute. Optimization may be required.

1. Add 4 volumes of **DNA MagBinding Buffer** to each sample[1] and mix well.

2. Add 20 µl **MagBinding Beads** and mix well for 10 minutes.

   Important: **MagBinding Beads** settle quickly, ensure that beads are kept in suspension throughout the entire mixing and dispensing process.

3. Separate the beads from contaminants using a magnet[2] for 1 – 2 minutes, then aspirate and discard the supernatant.[3]

4. Add 500 µl of **DNA Wash Buffer** and mix well. Separate the beads from contaminants using a magnet[2] for 1 – 2 minutes, then aspirate and discard the supernatant.[3]

5. Repeat Step 4 once then proceed to Step 6.

6. Dry the beads at room temperature for 10 minutes or until dry.

   Important: Alternatively, a heat block can be used to accelerate drying (25-55°C). Do not exceed 10 minutes if heating.

7. To elute DNA from the beads, add 30 - 50 µl[4] **DNA Elution Buffer** and mix well for 5 minutes.

8. Transfer the plate/tube to the magnet[2] until beads have pelleted, then aspirate and dispense the eluted DNA to a new plate/tube.

   The eluted DNA can be used immediately or stored frozen at ≤ -20ºC.

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1 To minimize pipetting error, adjust the sample volume to 50 µl (minimum).
2 Use a strong-field magnetic stand or separator (e.g., ZR-96 MagStand, P1005; sold separately) until beads have pelleted.
3 Some beads will adhere to the sides of the well (or tube). When removing the supernatant, aspirate slowly to allow these beads to be pulled to the magnet as the liquid level is lowered.
4 Elution volume can be adjusted based on desired final concentration. For automated platforms, a minimum of 50 µl elution volume is recommended.

Appendix

Automation Scripts

DNA Clean & Concentrator™ Magbead Kit is compatible with automated platforms. For automation scripts and related technical support, email automation@zymoresearch.com. In the subject line, please include "Automation Scripts," instrument used and the product catalog number (D4012).

Isolated DNA Stored in DNA/RNA Shield™

For previously isolated/purified DNA stored in DNA/RNA Shield™, use the following protocol.

1. If frozen, thaw samples[1] at room temperature (20 - 30°C).
2. Add an equal volume of ethanol (95-100%) to the sample and mix well.
3. Continue with step 2 of the Total DNA Clean-Up protocol on page 5.

Magnetic Bead Handling Recommendations

Step	Recommendations
Mixing	MagBinding Beads should be continually and thoroughly mixed throughout the entire time interval for optimal performance. We recommend: • Low throughput processing: orbital tube shaker or over-top rotator • High throughput processing: orbital plate shaker or 96-well pipette head Visually ensure MagBinding Beads are fully in suspension and no MagBinding Beads have pelleted at the bottom. If pellet is visible, increase mixing speed, invert tube, and/or pipette mix to break up pellet.
Drying	MagBinding Beads should change from a glossy to a matte when dry. If MagBinding Beads are not completely dry, we recommend the following: • Ensure all residual buffer has been removed before drying. • Dry on heat block (25-55 °C). Do not exceed 10 minutes if heating. • Increase drying time at room temperature.

1 To minimize pipetting error, adjust the sample volume to 50 µl (minimum).

Ordering Information

Product Description	Catalog No.	Size
DNA Clean & Concentrator™ MagBead Kit	D4012	100 Preps.

Individual Kit Components	Catalog No.	Amount
DNA MagBinding Buffer	D4012-1-50	50 ml
DNA Wash Buffer (concentrate)	D4003-2-24	24 ml
DNA Elution Buffer	D3004-4-10	10 ml
MagBinding Beads	D4100-5-2	2 ml

Complete Your Workflow

High-Throughput Automated Solutions

✓ For high-throughput, magnetic bead-based DNA and/or RNA extraction from any sample type:

Nucleic Acid Purification	
Quick-DNA™ MagBead Plus kit Cat. No. D4081, D4082	Total DNA from any sample
Quick-RNA™ MagBead kit Cat. No. R2132, R2133	Total RNA from any sample
Quick-DNA/RNA™ MagBead kit Cat. No. R2130, R2131	Total DNA and RNA from any sample
Quick-DNA/RNA™ Viral MagBead kit Cat. No. R2140, R2141	Viral DNA and RNA from plasma, serum, urine, blood, saliva, swab, feces, biopsy samples, etc.
Quick-DNA™ Fecal/Soil Microbe 96 Magbead Kit Cat. No. D6010-FM, D6011-FM, D6012-FM	Total DNA from feces, soil, fungal/bacterial cells, water, etc.

✓ For automation-friendly microbial DNA and/or RNA extraction from any sample that is ready for microbiome or metagenome analyses:

Microbiomics	
ZymoBIOMICS™ 96 MagBead DNA kit Cat. No. D4302, D4306, D4308	Total microbial DNA from any sample
ZymoBIOMICS™ MagBead RNA kit Cat. No. R2137, R2138	Total microbial RNA from any sample
ZymoBIOMICS™ MagBead DNA/RNA kit Cat. No. R2135, R2136	Total DNA and RNA from any sample

✓ For automation-ready DNA clean-up and size selection for next generation sequencing:

DNA Size Selection	
Select-a-Size DNA Clean & Concentrator™ MagBead Kit Cat. No. D4085, D4085	Size selection from purified DNA samples

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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.

This product is for research use only and should only be used by trained professionals. It is not 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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