



GENETIX BRAND

HANDBOOK

 **Nucleo-pore[®]**

Nucleo-pore[®] Quick Gel Recovery Kit **50 Preps**

Nucleo-pore[®] Quick Gel Recovery Kit

NP-7004D



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 **Nucleo-pore[®]**

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COMPONENTS

Kit contents

Nucleo-pore® Quick Gel Recovery Kit

Cat #	NP-7004D
No. of Preps	(50 preps.)
Dissolving Buffer (DB)	50 ml
Wash Buffer Concentrate*(DWB)	6 ml
Elution Buffer (DEB)	1 ml
Spin Columns	50
Collection Tubes	50
Handbook	1

*Please see "Preparation and Storage of reagents"

STORAGE

Nucleopore® Quick Gel Recovery Kit should be stored dry at room temperature (18–26°C). Kits can be stored for up to 12 months without showing any reduction in performance and quality.

Reagents, consumables and equipments not provided with the kit

- Ethanol
- Microcentrifuge

SAFETY INSTRUCTIONS

When working with chemicals, always wear a suitable lab coat, disposable gloves, and protective goggles. For more information, please consult the appropriate material safety data sheets (MSDS).

INTRODUCTION

Principle and Procedure

Nucleopore® Quick Gel Recovery Kit provides a hassle-free method for high yield recovery of pure DNA from agarose gels. Simply add the specially formulated Dissolving Buffer (DB) to the gel slice containing your DNA sample, let dissolve, and then transfer to the supplied Spin Column. There is no need for organic denaturants or chloroform. Instead, the product utilizes advanced Spin column technology to yield high-quality DNA in just 15 minutes. DNA purified using the Quick Gel DNA Recovery Kit is perfectly suited for use in DNA ligation reactions, sequencing, DNA labeling reactions, PCR, etc.

Specifications of Nucleopore® Quick Gel Recovery Kit

- DNA Purity – High-quality, purified DNA is especially well suited for sequencing and ligation reactions.
- DNA Size Limits ranges from ~50 bp to 23 kb.
- Typical DNA recovery is up to 5 µg total DNA per column into as little as 6 µl of low salt DNA Elution Buffer. For DNA 50 bp to 10 kb, the recovery is 70-90%. For DNA 11 kb to 23 kb, the recovery is 50-70%.
- Product Detergent Tolerance – ≤ 5% Triton X-100, ≤ 5% Tween-20, ≤ 5% Sarkosyl, ≤ 0.1% SDS.

Preparation and Storage of reagents

Add 24 ml 100% ethanol (26 ml 95% ethanol) to the 6 ml Wash Buffer concentrate DWB.

PROTOCOL FOR PURIFICATION OF GENOMIC DNA FROM AGAROSE GEL

Things to do before starting

- Check if wash buffer is prepared as per instructions
- All centrifugation steps should be performed between 10,000 - 16,000 x g.

Protocol

1. Excise the DNA fragment from the agarose gel using a razor blade, scalpel or other device and transfer it into a 1.5 ml microcentrifuge tube.
2. Add 3 volumes of Dissolving Buffer DB to each volume of agarose excised from the gel (e.g. for 100 mg of agarose gel slice add 300 µl of DB).
3. Incubate at 37-55 °C for 5-10 minutes until the gel slice is completely dissolved.

Note: For DNA fragments > 8 kb, following the incubation step, add one additional volume (equal to that of the gel slice) of water to the mixture for better DNA recovery (e.g., 100 mg agarose, 300 µl DB, and 100 µl water).

4. Transfer the melted agarose solution to a Spin Column in a Collection Tube.
5. Centrifuge for 30-60 seconds. Discard the flow-through.
6. Add 200 µl of DNA Wash Buffer DWB to the column and centrifuge for 30 seconds. Discard the flow-through. Repeat the wash step.
7. Add ≥ 6 µl DNA Elution Buffer DEB directly to the column matrix. Place column into a 1.5 ml tube and centrifuge for 30-60 seconds to elute DNA. Ultra-pure DNA is now ready for use.

Note: To increase the yield, preheat the Elution Buffer DEB at 60-70°C prior to use.

TROUBLESHOOTING GUIDE

Low Yield

Possible cause

- Ensure Agarose is Fully Dissolved

Suggestions

- There may be small globules of undissolved agarose in the sample that can interfere with DNA recovery by clogging the column and leeching salts into the eluate.

Possible cause

- Gel Dissolved at Temperatures Above 60 °C

Suggestions

- If dissolved at a higher temperature, DNA may be denatured affecting recovery. For optimal results, dissolve the gel slice between 37-55 °C.

Possible cause

- Improperly Prepared/Stored DNA Wash Buffer

Suggestions

- Make sure ethanol has been added to the DNA Wash Buffer concentrate. Cap the bottle tightly to prevent evaporation over time.

Possible cause

- Addition of DNA Elution Buffer

Suggestions

- Add elution buffer directly to the column matrix, not to the walls of the column. Elution buffer requires contact with the matrix for at least 1 minute for large DNA ≥ 10 kb.

Possible cause

- Incomplete Elution

Suggestions

- DNA elution is dependent on pH, temperature, and time. For large genomic DNA (≥ 50 kb), apply heated elution buffer (60-70 °C) to the column and incubate for several minutes prior to elution.
- Sequential elutions may be performed for quantitatively higher recovery but lower final DNA concentration. This is recommended for DNA ≥ 10 kb.

Low A260/A230 ratio

Possible cause

- Column tip contaminated

Suggestions

- When removing the column from the collection tube, be careful that the tip of the column does not come into contact with the flowthrough. Trace amounts of salt from the flowthrough can contaminate a sample resulting in a low A260/A230 ratio. Ethanol contamination from the flowthrough can also interfere with DNA elution. Spin columns are designed for complete elution with no buffer retention or carryover.

Following Clean-up, Multiple Bands Appear in an Agarose Gel

Possible cause

- Acidification of DNA Loading Dye

Suggestions

- Most loading dyes do not contain EDTA and will acidify ($\text{pH} \leq 4$) over time due to some microbial growth. This low pH is enough to cause DNA degradation. Therefore, if water is used to elute the DNA, 6X Loading Dye containing 1 mM EDTA is recommended.

ORDERING INFORMATION

Description	Pack Size	Cat. No.
* DNASure Tissue Mini Kit	50 preps	NP-61305
* DNASure Plant Mini Kit	50 preps	NP-79105
* DNASure Plant Mini Kit	250 preps	NP-79107
* DNASure Plant Midi Kit	20 preps	NP-78153
* DNASure Plant Maxi Kit	10 preps	NP-78164
* DNASure Blood Mini Kit	50 preps	NP-61105
* DNASure Blood Mini Kit	250 preps	NP-61107
* DNASure Blood Midi Kit	20 preps	NP-61184
* DNASure Blood Maxi Kit	10 preps	NP-61193
* DNASure Blood FastPure Kit	50 preps	NP-62205
* DNASure Blood FastPure Kit	250 preps	NP-62207
* SureSpin Plasmid Mini Kit	50 preps	NP-37105
* SureSpin Plasmid Mini Kit	250 preps	NP-37107
* SureSpin Plasmid FastPrep Kit	50 preps	NP-47105
* SureSpin Plasmid FastPrep Kit	250 preps	NP-47107
* SureSpin Buffer Set*	1	37107-BS
* SurePrep Plasmid Mini Kit	20 preps	NP-15123
* SurePrep Plasmid Mini Kit	100 preps	NP-15125
* SurePrep Plasmid Midi Kit	20 preps	NP-15143
* SurePrep Plasmid Midi Kit	100 preps	NP-15145
* SurePrep Plasmid Maxi Kit	10 preps	NP-15161
* SurePrep Plasmid Maxi Kit	25 preps	NP-15162
* SurePrep Plasmid Mega Kit	5 preps	NP-15183
* SurePrep Plasmid Giga Kit	5 preps	NP-15191

*SureSpin® Buffer Set

For the isolation of low-copy plasmids, buffers PA1, PA2, PA3, RNase A, sufficient for 300 preps

ORDERING INFORMATION

Description	Pack Size	Cat. No.
SurePrep® Buffer Set**	1	15143-BS
SurePrep® Plasmid Endofree Maxi Kit	10 preps	NP-15363
SurePrep Plasmid Endofree Mega Kit	5 preps	NP-15365
SurePrep® Plasmid Endofree Giga Kit	5 preps	NP-15367
SureSpin® 96 PCR Kit	4x96	NP-38151
SureTrap® Gel Extraction Kit	50 preps	NP-38705
SureTrap® Gel Extraction Kit	250 preps	NP-38707
SureTrap® PCR Cleanup Kit	50 preps	NP-38105
SureTrap® PCR Cleanup Kit	250 preps	NP-38107
SureExtract® Spin PCR/Gel Extraction Kit	50 preps	NP-36105
SureExtract® Spin PCR/Gel Extraction Kit	250 preps	NP-36107
SureSEQ® Cleanup Kit	50 preps	NP-73205
RNASure® Mini Kit	50 preps	NP-84105
RNASure® Mini Kit	250 preps	NP-84107
RNASure® Plant Kit	50 preps	NP-84905
RNASure® Plant Kit	250 preps	NP-84907
miRNASure® Mini Kit	50 preps	NP-71002
SureTrap® mRNA Mini Kit	12 preps	NP-80033
SureTrap® mRNA Midi Kit	12 preps	NP-80043
RNASure® Virus Kit	50 preps	NP-67705
RNASure® Virus Kit	250 preps	NP-67707

**SureSpin® Buffer Set

For isolation of low-copy plasmids, cosmids, BACs, PACs, and P1 constructs, only applicable with SurePrep® Plasmid kits, sufficient for 10 SurePrep Maxi Columns (Maxi preps), 20 SurePrep® Midi Columns (Midi preps), set incl. RNase A

ORDERING INFORMATION

Description	Pack Size	Cat. No.
Nucleo-pore® Stool DNA Mini Kit	50	NP-7011D
Nucleo-pore® gRNA Blood Kit	50	NP-0201R
Nucleo-pore® gDNA Urine Kit	20	NP-6030D
Nucleo-pore® Yeast Transformation Kit	120	NP-1002T
Nucleo-pore® DNA Methylation Kit	50	NP-6006D
Nucleo-pore® gDNA Clean-up Kit	200	NP-4304D
Nucleo-pore® Bisulphite DNA Clean-up Kit	50	NP-5205D
Nucleo-pore® gDNA Fungal/Bacterial Mini Kit	50	NP-7006D

Product Warranty

Nucleo-pore® Quick Gel Recovery Kit components are intended for research purposes only. They are suitable for *in vitro* uses only. The purchaser must determine the suitability of the product for its particular use. Should any product fail to perform satisfactorily due to any reason other than misuse, Genetix will replace it free of charge or refund the purchase price. Genetix reserve the right to change, alter, or modify any product to enhance its performance and design. It is the responsibility of the user to verify the use of the Nucleo-pore® Quick Gel Recovery Kit for a specific application range as the performance characteristic of this kit has not been verified to a specific organism. No claim or representation is intended for its use to identify any specific organism or for clinical or therapeutic use.

Genetix does not warrant against damages or defects arising in shipping and handling (transport insurance for customers excluded), or out of accident or improper or abnormal use of this product.

In accordance with Genetix ISO-certified Quality Management System, each lot of Nucleo-pore® Quick Gel Recovery Kit is tested against predetermined specifications to ensure consistent product quality.

In no event shall Genetix be liable for claims for any other damages, whether direct, indirect, incidental, compensatory, foreseeable, consequential, or special (including but not limited to loss of use, revenue or profit), whether based upon warranty, contract, tort (including negligence) or strict liability arising in connection with the sale or the failure of Genetix products to perform in accordance with the stated specifications.

Product claims are subject to change. Therefore please contact our Technical Support Department for updated information on Genetix products.

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