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Agarose Gel Extraction Purification Mini Spin Column Kit

Kit for the extraction of DNA fragments from
standard or low-melt agarose gels

Version: 22012012

Genaxxon bioscience GmbH is a leading provider of innovative and high qualitative Life Science products. We assist scientists from sample preparation to further processes. Genaxxon bioscience is a supplier for:

- Chemicals
- Biochemicals
- Cell Culture Products
- Antibodies and Cytokines
- Molecular Biology Products
- PCR
- Proteins and Enzymes
- Consumables

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Related Products

Mini Spin Column DNA Purification Kit	Contents	Cat. No.
Plasmid DNA Kit Purification of plasmid DNA	50 reactions	S5369.0050
	250 reactions	S5369.0250
GEL Extraction Gel extraction of fragments and plasmids	50 reactions	S5374.0050
	250 reactions	S5374.0250
JustSpin GEL Extraction Gel extraction of fragments and plasmids	50 reactions	S5337.0050
	250 reactions	S5337.0250
PCR Kit Purification of PCR products	50 reactions	S5368.0050
	250 reactions	S5368.0250
PSI Clone High Throughput PCR Kit Purification of PCR products	50 reactions	S5303.0050
	250 reactions	S5303.0250
Genomic DNA Blood & Cell Cultures Blood and cell culture	50 reactions	S5375.0050
	250 reactions	S5375.0250

Coming Soon - Related Products

Mini Spin Column DNA Purification Kit	Contents	Cat. No.
Genomic DNA BAC Gram-positive and gram-negative bacteria	50 reactions	
	250 reactions	
Genomic DNA Plant Plants and soil	50 reactions	
	250 reactions	
Genomic DNA Food Food and feed of plant or animal origin	50 reactions	
	250 reactions	
Genomic DNA Tissue Tissue including mouse tail	50 reactions	
	250 reactions	

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Storage Conditions and Stability

All components of the **Genaxxon Agarose Gel Extraction Kit** should be stored dry at room temperature (15-25 °C). Under these conditions the kit can be stored for at least 12 months. Guarantee for full performance of the kit as specified in this handbook is only valid if storage conditions are followed.

Limited License

The purchase price paid for the **Agarose Gel Extraction Kit** by end users grants them a non-transferable, non-exclusive license to use the kit and/or its separate and included components (as listed in the Kit Contents section). This kit is intended for internal research only by the purchaser. Furthermore, research only use means that the **Agarose Gel Extraction Kit** and all of its contents are excluded, without limitation, from resale, repackaging, or use for the making or selling of any commercial product or service without written approval of the manufacturer.

Separate licenses are available from the manufacturer for the express purpose of non-research use and applications. To inquire about such licenses, or to obtain permission to transfer or use the enclosed material, please contact your local distributor.

Limitations of Product Use

The use of this kit is strictly limited to research purposes. They are not to be applied for any diagnostic, including human, or drug purposes. This also excludes administration to humans unless expressly cleared for that purpose by the Food and Drug Administration in the USA or the regulatory authorities in the country of use. All due care and attention should be exercised in handling of the materials described in this handbook.

Before using a PCR Purification Kit, customers and other users should make their own determination that the product is suitable for intended use. They should ensure that they can use the PCR Purification Kit product safely and legally. This document does not constitute a warranty or assume any liabilities on behalf of the manufacturer except in writing signed by the manufacturer. Unless otherwise agreed in writing, the exclusive remedy for all claims is replacement of the product or refund of the purchase price at manufacturer's option, and in no event shall the manufacturer be liable for special, consequential, incidental, punitive or exemplary damages.

Quality Control

Genaxxon bioscience is dedicated to your success and every batch of this product is tested with an extensive routine procedure to make sure that it meets all your needs. However, it has neither been developed nor tested for a specific application.

We reserve the right to change, alter, or modify our Agarose Gel Extraction Kit to enhance its performance and design.

This product is for research use only.

Tips and Tricks

Increase of recovery	
Add elution buffer to column. INCUBATE for 1-2 minutes! Centrifuge.	
Increase of recovery for DNA-fragments >4kbp.	
Warm up elution buffer to 70°C. Add 50µL of pre-warmed buffer to column and wait for 2-3 minutes. Then centrifuge. Alternatively: Warm column up to 50°C, add 50µL elution buffer and incubate together with elution buffer for 2-3 minutes at 50°C. Then centrifuge.	
Increase of recovery for DNA-fragments >4kbp.	
Use flow-through after the binding step and apply again on top of column. Centrifuge and proceed (discard flow-through and wash).	

Manual Contents

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Safety Information

It is strongly recommended to wear a lab coat, disposable gloves and protective goggles when working with chemicals. More detailed information is available in the material safety data sheets, which can be requested from the manufacturer.

Caution: Do not add bleach or acidic solutions to the waste of sample preparation.

Risk and safety phrases with relevance:

Buffer 3.0 Contains guanidine hydrochloride, which is harmful and an irritant. See risk and safety phrases R22-36/38, 13-23-26-36/37/39-46.

Guanidine hydrochloride can form highly reactive compounds in combination with bleach. When spilt, clean with suitable detergent and water. Areas affected with spilt infectious agents-containing liquids should be decontaminated with laboratory detergent and water, afterwards with 1% (v/v) sodium hypochloride.

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Troubleshooting

Observation	Possible cause	Suggestions
Clogged column	Incomplete lysis	If using more than 100mg of agarose gel sample, increase volumes of buffers and ethanol in proportion. Avoid overloading the spin columns. Mix by vortexing every 2-3 minutes during the 50°C incubation to ensure complete lysis of the agarose gel slice.
Poor or low recovery	Improper washing Poor elution	Confirm the wash solution concentrates were diluted with the specified volume of ethanol. Keep bottles tightly capped between uses to prevent evaporation. Repeat elution or increase elution volume. High recovery can only be obtained from ≤100mg gel slice per Spin column.
Poor or low recovery of DNA-fragments >4kbp	Poor elution	Warm up elution buffer to 70°C. Add 50µL of pre-warmed buffer to column and wait for 2-3 minutes. Then centrifuge. Alternatively: Warm up column to 50°C and incubate together with elution buffer for 2-3 minutes at 50°C.
Low A260/280 ratio	Purification is incomplete due to column overloading or inadequate lysis	Reduce sample volume. Low yields and impure DNA are attributable if the system is overloaded. Ensure the gel slice has been completely solubilized in step 3.
Enzymatic reactions using recovered DNA do not proceed	High salt concentration in the eluate Residual ethanol from the diluted wash solution	Precipitate the DNA using ethanol. Centrifuge the column for 1 minute after the wash steps to remove any residual wash solution.

Introduction

The **Genaxxon Agarose Gel Extraction** kit provides an easy, safe and reliable method for extraction of DNA fragments from standard or low-melt agarose gels in TAE or TBE buffer.

The rapid and efficient procedure requires no expensive equipment and completely avoids the usage of toxic and hazardous reagents such as phenol or chloroform. The procedure is based on optimized buffers and the use of our specially designed spin columns. The advanced buffer system is optimized for efficient recovery of DNA and removal of contaminants. DNA is adsorbed to the uniquely-designed membrane and all impurities are efficiently removed by centrifugation. The pure DNA is directly eluted in a special buffer.

The components of this kit are sufficient for processing samples of up to 100mg agarose gel.

Contents

Reactions	4	50	250
Mini spins columns	4	50	250
Microtubes 1.5	4	50	250
Receiver tubes 1.5mL	4	50	250
Receiver tubes 2.0mL	4	50	250
Buffer 1.4	1,2mL	2 x 15mL	2 x 75mL
Buffer 2.2 *	0.56mL	2 x 7mL	2 x 35mL
Buffer 3.2	0.2mL	2.5mL	12.5mL
Handbook	1	1	1

* Add ethanol, see handbook page 2

Additional Material Required

- 96-100 % ethanol
- Thermoblock or water bath
- Microcentrifuge

Note before starting:

Preparation of washing buffers

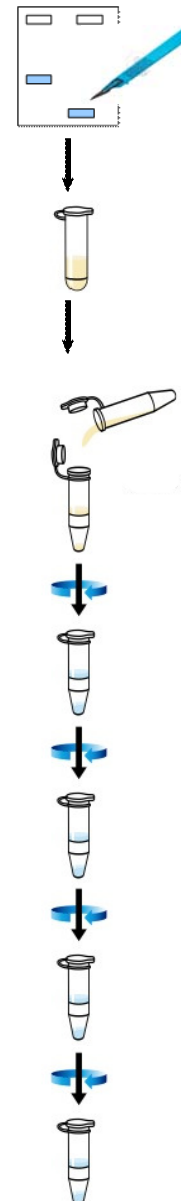
Wash buffer 2.2 is concentrated. Before using for the first time, add the appropriate amount of ethanol (96-100 %) as indicated on the bottle and in the table below:

Kit size	Buffer 2.2	Ethanol to be added	Final volume
4	0.56mL	2.24mL	2.8mL
50	7mL	28mL	35mL
250	5 x 7mL	5 x 28mL	5 x 35mL

Protocol

This protocol is designed for the extraction and purification of DNA from up to 100mg standard or low-melt agarose gel per spin.

1. Excise the DNA fragment up to 100mg from the agarose gel.
2. Weigh the gel slice in a colourless tube (microtube). Add 2-3 volumes of **Buffer 1.4** to 1 volume of gel.
3. Incubate at 50 °C for 10 min (or until the gel slice has completely dissolved).
4. Place a spin column in a provided 2mL receiver tube.
5. To bind DNA, apply the sample to the column and centrifuge for 1 min.
6. Discard flow-through and place column back in the same collection tube (receivertube).
7. To wash, add 0.7mL of **Buffer 2.2 (add ethanol before use)** to column and centrifuge for 1 min.
8. Discard the flow-through and centrifuge the column for an additional 1 min. at 13,000 rpm.
9. Place column into a clean 1.5mL microtube.
10. To elute DNA, add 50µL of **Buffer 3.2** to column and centrifuge the column for 1 min.



excise DNA fragment up to 100mg

add 2-3 vol. **Buffer 1.4**
50°C, 10 min

apply the sample to the column

13 000 rpm, 1 min

wash, add 0.7mL **Buffer 2.2**

13 000 rpm, 1 min

dry, 13 000 rpm, 1 min

elute, add 50µL **Buffer 3.2**

13 000 rpm, 1 min

eluted DNA