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PCR DNA Purification Mini Spin Column Kit

Kit for the purification of single-
or double-stranded PCR products

Version: 20012012

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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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). | |

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.

Buffer 1.5 contains guanidine hydrochloride, which can form highly reactive compounds when combined with bleach.

If liquid containing these buffers is split, clean with suitable laboratory detergent and water. If the split liquid contains potentially infectious agents, clean the affected area first with laboratory detergent and water, and then with 1% (v/v) sodium hypochlorite.

Guanidine hydrochloride is harmful and irritant.

See risk and safety phrases R22-36/38, 13-23-26-36/37/39-46.

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Manual Contents

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Storage Conditions and Stability

All components of this **PCR Purification Mini Prep 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 **PCR Purification Mini Prep 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 **PCR Purification Mini Prep 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 PCR Purification Kit to enhance its performance and design.

This product is for research use only.

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 |
| | | |

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 | |
| Genomic DNA Blood & Cell Cultures Blood and cell culture | 50 reactions | |
| | 250 reactions | |

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Troubleshooting

| Observation | Possible cause | Suggestions |
|--|--|--|
| Poor or low recovery | Improper washing | Confirm the buffers were diluted with the specified volume of isopropanol and ethanol. Keep bottles tightly capped between uses to prevent evaporation. |
| | Elution buffer incorrectly dispensed | Add elution buffer to the center of the column membrane to ensure that the buffer completely covers the surface of the membrane. |
| | Poor elution | Repeat elution or increase elution volume. |
| 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 | If the system is overloaded low yields and impure DNA are attributable. Decrease the sample volume as necessary. |
| Enzymatic reactions using recovered DNA do not proceed | DNA concentration is too low | Precipitate the DNA with alcohol, then re-suspend DNA in a smaller volume of elution buffer. |
| | High salt content in the final genomic DNA | Precipitate the DNA using ethanol. |
| | Residual ethanol from the diluted wash solution | Centrifuge the column for 1 minute after the wash steps to remove any residual wash solution. |

Introduction

The **Genaxxon bioscience PCR Purification Mini Prep Kit** provide an easy, safe and reliable method for the direct purification of double- or single-stranded PCR products.

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 **ULTRAPrep®** spin columns. The advanced buffer system is optimized for efficient recovery of DNA and removal of contaminants. DNA is adsorbed to the uniquely-designed **ULTRAPrep®** 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 100µL.

Content of the kit

| Reactions | 4 | 50 | 250 |
|----------------------|--------|-------|-----------|
| Mini spins columns | 4 | 50 | 250 |
| Micro-Tubes 1.5mL | 4 | 50 | 250 |
| Receiver tubes 1.5mL | 4 | 50 | 250 |
| Receiver tubes 2.0mL | 4 | 50 | 250 |
| Buffer 1.5* | 1.2mL | 15mL | 5 x 15mL |
| Buffer 2.2 ** | 0.56mL | 7mL | 5 x 7mL |
| Buffer 3.2 | 0.2mL | 2.5mL | 5 x 2.5mL |
| Handbook | 1 | 1 | 1 |

* Add isopropanol see handbook page 5

** Add ethanol see handbook page 5

Additional Materials Required

- 96-100 % ethanol
- 96-100 % isopropanol
- microcentrifuge

PCR DNA Purification Mini Spin Column Kit

Notes before getting started:

Preparation of washing buffers

Buffers 1.5 and 2.2 are concentrates. Before using for the first time, add the appropriate amount of isopropanol and ethanol (96-100 %) as indicated on the bottle and in the table below:

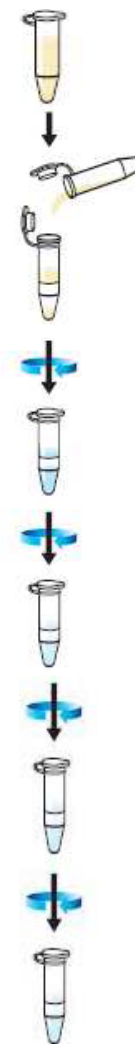
| Kit size | Buffer 1.5 | Isopropanol to be added | Final volume |
|----------|------------|-------------------------|--------------|
| 4 | 1.2mL | 0.8mL | 2mL |
| 50 | 15mL | 10mL | 25mL |
| 250 | 5 x 15mL | 5 x 10mL | 5 x 25mL |

| 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 purification of single- or double stranded DNA fragments from up to 100µL PCR-samples.

1. Add 5 volumes of **Buffer 1.5 (add isopropanol before use)** to 1 volume of the PCR sample and mix.
2. Place a spin column in a provided 2mL receiver tube.
3. To bind DNA, apply the sample to the column and centrifuge for 30-60 sec..
4. Discard flow-through. Place the column back into the same tube (Collection tubes are re-used to reduce plastic waste).
5. To wash, add 0.7mL **Buffer 2.2 (add ethanol before use)** to the column and centrifuge for 30-60 sec..
6. Discard flow-through and place the column back in the same tube. Centrifuge the column for additional 1 min.
7. Place column in a clean 1.5mL receiver tube.
8. To elute DNA, add 50µL **Buffer 3.2** and centrifuge the column for 1 min.



5 vol. **Buffer 1.5** + 1 vol. PCR sample
(Add isopropanol to buffer 1.5 before use)

apply the sample to the column

30-60 sec., 13 000 rpm

add 0.7mL **Buffer 2.2**

30-60 sec., 13 000 rpm

60 sec., 13 000 rpm

add 50µL **Buffer 3.2**

60 sec., 13 000 rpm

PCR product