Geneaid

**Instruction Manual**
Ver. 05.08.17
For Research Use Only

# Geneius™ Micro gDNA Extraction Kit

**GMB004** (4 Preparation Sample Kit)
**GMB100** (100 Preparation Kit)
**GMB300** (300 Preparation Kit)

## Advantages

**Small Volume Samples:** blood, dried blood spots, urine, saliva
**Yield:** Up to 300 ng of pure genomic DNA from 6 mm dried blood spots (Whatman® FTA® Cards)
**Format:** gDNA spin columns
**Time:** 20 minutes
**Elution Volume:** 30-100 µl
**Kit Storage:** dry at room temperature (15-25°C)

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# Introduction

The Geneius™ Micro gDNA Extraction Kit provides an efficient method for purifying DNA (including genomic and mitochondrial DNA) from small volumes of whole blood, dried blood spots (Whatman® FTA® Cards), urine and saliva. Proteinase K and chaotropic salt are used to lyse cells and degrade protein, allowing DNA to bind to the glass fiber matrix of the spin column. Contaminants are removed using W1 Buffer and Wash Buffer (containing ethanol) and the purified genomic DNA is eluted by a low salt Elution Buffer, TE or water. The entire procedure can be completed in as little as 20 minutes without phenol/chloroform extraction or alcohol precipitation, with an average DNA yield of 150-200 ng from 6 mm dried blood spots. Purified DNA, with approximately 20-30 kb, is suitable for use in Real-Time PCR or other enzymatic reactions.

# Quality Control

The quality of the Geneius™ Micro gDNA Extraction Kit is tested on a lot-to-lot basis by isolating genomic DNA from 10 µl of whole blood. A minimum of 300 ng of purified DNA (A260/A280 ratio of 1.8-2.0) is quantified with a spectrophotometer and analyzed by electrophoresis on a 0.8% agarose gel.

# Kit Components

| Component | GMB004 | GMB100 | GMB300 |
|---|---|---|---|
| S1 Buffer | 3 ml | 30 ml | 75 ml |
| S2 Buffer | 4 ml | 30 ml | 75 ml |
| Carrier RNA[1]<br>(Add Elution Buffer) | 1 mg<br>(1 ml) | 1 mg<br>(1 ml) | 1 mg<br>(1 ml) |
| Proteinase K[2]<br>(Add $ddH_2O$) | 1 mg<br>(0.10 ml) | 11 mg x 2<br>(1.10 ml) | 65 mg<br>(6.50 ml) |
| W1 Buffer | 2 ml | 45 ml | 130 ml |
| Wash Buffer[3]<br>(Add Ethanol) | 1 ml<br>(4 ml) | 25 ml<br>(100 ml) | 50 ml<br>(200 ml) |
| Elution Buffer | 6 ml | 75 ml | 75 ml x 2 |
| GD Columns | 4 | 100 | 300 |
| 2 ml Collection Tubes | 8 | 200 | 600 |

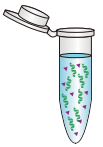
[1]Add 1 ml of Elution Buffer to Carrier RNA then vortex to ensure it is completely dissolved to obtain a working solution of 1 µg/µl. Check the box on the bottle. Once it is dissolved completely, centrifuge for a few seconds to spin the mixture down. Divide the Carrier RNA solution into convenient volumes in several RNase-free 1.5 ml microcentrifuge tubes. The Carrier RNA solution should be stored at -20ºC. Do not freeze and thaw the Carrier RNA solution more than 3 times.

[2]Add $ddH_2O$ pH7.0-8.5 (see the bottle label for volume) to Proteinase K then vortex to ensure it is completely dissolved. Check the box on the bottle. Once it is dissolved completely, centrifuge for a few seconds to spin down the mixture. For extended periods, the $ddH_2O$ and Proteinase K mixture should be stored at 4ºC. Use only fresh $ddH_2O$ as ambient $CO_2$ can quickly cause acidification.

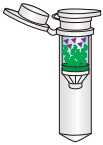
[3]Add absolute ethanol (see the bottle label for volume) to Wash Buffer then mix by shaking for a few seconds. Check the box on the bottle. Be sure and close the bottle tightly after each use to avoid ethanol evaporation.

**During the procedure, always wear a lab coat, disposable gloves, and protective goggles.**

## Quick Protocol Diagram



Sample preparation and cell lysis



DNA binding to membrane while contaminants remain suspended

Wash (removal of contaminants while DNA remains bound to membrane)

Elution of pure genomic DNA which is ready for subsequent reactions

# Geneius™ Micro gDNA Extraction Kit Protocol

Please read the entire instruction manual prior to starting the Protocol Procedure.

## IMPORTANT BEFORE USE!

1. Add 1 ml of Elution Buffer to Carrier RNA then vortex to ensure it is completely dissolved to obtain a working solution of 1 µg/µl. Check the box on the bottle. Once it is dissolved completely, centrifuge for a few seconds to spin the mixture down. Divide the Carrier RNA solution into convenient volumes in several RNase-free 1.5 ml microcentrifuge tubes. The Carrier RNA solution should be stored at -20ºC. Do not freeze and thaw the Carrier RNA solution more than 3 times.

2. Add $ddH_2O$ pH7.0-8.5 (see the bottle label for volume) to Proteinase K then vortex to ensure it is completely dissolved. Check the box on the bottle. Once it is dissolved completely, centrifuge for a few seconds to spin down the mixture. For extended periods, the $ddH_2O$ and Proteinase K mixture should be stored at 4ºC. Use only fresh $ddH_2O$ as ambient $CO_2$ can quickly cause acidification.

3. Add absolute ethanol (see the bottle label for volume) to Wash Buffer then mix by shaking for a few seconds. Check the box on the bottle. Be sure and close the bottle tightly after each use to avoid ethanol evaporation.

### Additional Requirements

RNase-free 1.5 ml microcentrifuge tubes, 1.5 ml microcentrifuge tubes, single hole paper punch (dried blood spot protocol only)

# Whole Blood Protocol Procedure

## 1. S2 Buffer Preparation

Transfer **1 µl of Carrier RNA solution and 200 µl of S2 Buffer** per sample to a RNase-free 1.5 ml microcentrifuge tube and vortex shortly to mix. The mixture is for use in the Lysis step.

## 2. Cell Lysis

Transfer 1-100 µl of whole blood to a 1.5 ml microcentrifuge tube. Add **S1 Buffer to a final volume of 200 µl and 20 µl of Proteinase K (make sure $ddH_2O$ was added)** then mix by vortex. Incubate at 60ºC for 5 minutes to lyse the sample. **Add 200 µl of S2 Buffer (make sure Carrier RNA solution was added)** and mix by vortex. Incubate at 60ºC for 5 minutes (invert the tube every 2 minutes). During incubation, transfer the required volume of Elution Buffer (200 µl/sample) to a 1.5 ml microcentrifuge tube and heat to 60ºC (for Step 5 Elution).

## 3. DNA Binding

Add **200 µl of absolute ethanol** to the sample lysate, mix thoroughly by vortex for 10 seconds. If precipitate appears, break it up as much as possible with a pipette. Place a **GD Column** in a 2 ml Collection Tube. **Transfer all of the mixture (including any insoluble precipitate) to the GD Column**. Centrifuge at 14-16,000 x g for 1 minute. Discard the 2 ml Collection Tube containing the flow-through and place the **GD Column** in a new 2 ml Collection tube.

## 4. Wash

Add **400 µl of W1 Buffer** to the **GD Column**. Centrifuge at 14-16,000 x g for 30 seconds. Discard the flow-through then place the **GD Column** back in the 2 ml Collection Tube. Add **600 µl of Wash Buffer (make sure absolute ethanol was added)**. Centrifuge at 14-16,000 x g for 30 seconds then discard the flow-through. Place the **GD Column** back in the 2 ml Collection Tube. Centrifuge again for 3 minutes at 14-16,000 x g to dry the column matrix.

## 5. Elution

Standard elution volume is 100 µl. If less sample is to be used, reduce the elution volume (30-100 µl) to increase DNA concentration.

Transfer the dried **GD Column** to a clean 1.5 ml microcentrifuge tube. Add **100 µl of pre-heated Elution Buffer**[1], TE Buffer[2] or water[3] into the **CENTER** of the column matrix. Let stand for at least 3 minutes to allow Elution Buffer, TE Buffer or water to be completely absorbed. Centrifuge at 14-16,000 x g for 1 minute to elute the purified DNA.

[1]Ensure that Elution Buffer (10 mM Tris-HCl, pH8.5 at 25ºC) is added into the center of the GD Column matrix and is completely absorbed.

[2]Using TE (10 mM Tris-HCl, 1 mM EDTA, pH8.0) for elution is beneficial as EDTA preserves DNA for long term storage. However, EDTA will affect PCR and other sensitive downstream applications. Ensure that TE is added into the center of the GD Column matrix and is completely absorbed.

[3]If using water for elution, ensure the water pH is between 7.0 and 8.5. $ddH_2O$ should be fresh as ambient $CO_2$ can quickly cause acidification. Ensure that water is added into the center of the GD Column matrix and is completely absorbed. DNA eluted in water should be stored at -20ºC to avoid degradation.

# Dried Blood Spot Protocol Procedure

## 1. S2 Buffer Preparation

Transfer **1 µl of Carrier RNA solution and 200 µl of S2 Buffer** per sample to a RNase-free 1.5 ml microcentrifuge tube and vortex shortly to mix. The mixture is for use in the Lysis step.

## 2. Cell Lysis

Cut out a 6 mm (1/4 inch) diameter circle from a dried blood spot (Whatman® FTA® Card) with a single-hole paper punch then transfer to a 1.5 ml microcentrifuge tube. Add **200 µl of S1 Buffer and 20 µl of Proteinase K (make sure $ddH_2O$ was added)** then mix by vortex (be sure the FTA® Card is completely immersed in the buffer). Incubate at 60ºC for 30 minutes to lyse the sample. During incubation, vortex the tube every 10 minutes. Add **200 µl of S2 Buffer (make sure Carrier RNA solution was added)** then mix by vortex. Incubate at 60ºC for 20 minutes. During incubation, vortex the tube every 10 minutes and transfer the required volume of Elution Buffer (200 µl/sample) to a 1.5 ml microcentrifuge tube then heat to 60ºC (for Step 5 DNA Elution). After incubation, briefly centrifuge the tube and transfer the supernatant to a new 1.5 ml microcentrifuge tube.

## 3. DNA Binding

Add **200 µl of absolute ethanol** to the sample lysate then mix thoroughly by vortex for 10 seconds. If precipitate appears, break it up as much as possible with a pipette. Place a **GD Column** in a 2 ml Collection Tube. **Transfer all of the mixture (including any insoluble precipitate) to the GD Column**. Centrifuge at 14-16,000 x g for 1 minute. Discard the 2 ml Collection Tube containing the flow-through and place the **GD Column** in a new 2 ml Collection tube.

## 4. Wash

Add **400 µl of W1 Buffer** to the **GD Column**. Centrifuge at 14-16,000 x g for 30 seconds then discard the flow-through. Place the **GD Column** back in the 2 ml Collection Tube. Add **600 µl of Wash Buffer (make sure absolute ethanol was added)**. Centrifuge at 14-16,000 x g for 30 seconds then discard the flow-through. Place the **GD Column** back in the 2 ml Collection Tube. Centrifuge again for 3 minutes at 14-16,000 x g to dry the column matrix.

## 5. Elution

Standard elution volume is 100 µl. If less sample is to be used, reduce the elution volume (30-100 µl) to increase DNA concentration.

Transfer the dried **GD Column** to a clean 1.5 ml microcentrifuge tube. Add **100 µl of pre-heated Elution Buffer**[1], TE Buffer[2] or water[3] into the **CENTER** of the column matrix. Let stand for at least 3 minutes to allow Elution Buffer, TE Buffer or water to be completely absorbed. Centrifuge at 14-16,000 x g for 1 minute to elute the purified DNA.

[1]Ensure that Elution Buffer (10 mM Tris-HCl, pH8.5 at 25ºC) is added into the center of the GD Column matrix and is completely absorbed.

[2]Using TE (10 mM Tris-HCl, 1 mM EDTA, pH8.0) for elution is beneficial as EDTA preserves DNA for long term storage. However, EDTA will affect PCR and other sensitive downstream applications. Ensure that TE is added into the center of the GD Column matrix and is completely absorbed.

[3]If using water for elution, ensure the water pH is between 7.0 and 8.5. dd$H_2O$ should be fresh as ambient $CO_2$ can quickly cause acidification. Ensure that water is added into the center of the GD Column matrix and is completely absorbed. DNA eluted in water should be stored at -20ºC to avoid degradation.

# Urine Protocol Procedure

## 1. S2 Buffer Preparation

Transfer **1 µl of Carrier RNA solution and 200 µl of S2 Buffer** per sample to a RNase-free 1.5 ml microcentrifuge tube and vortex shortly to mix. The mixture is for use in the Lysis step.

## 2. Sample Preparation and Cell Lysis

Transfer **1 ml of urine** to a 1.5 ml microcentrifuge tube then centrifuge at 6,000 x g for 2 minutes. Discard the supernatant then add **500 µl of Elution Buffer** to the pellet and vortex for 5 seconds.

NOTE: If using 2-10 ml of urine samples, transfer to a 15 ml centrifuge tube and centrifuge at 6,000 x g for 2 minutes. Discard the supernatant; add 500 µl of Elution Buffer then vortex for 5 seconds. Transfer the sample to a 1.5 ml microcentrifuge tube.

Centrifuge at 6,000 x g for 2 minutes, discard the supernatant. Add **200 µl of S1 Buffer and 20 µl of Proteinase K (make sure dd$H_2O$ was added)** then mix by vortex for 10 seconds.

NOTE: To increase DNA yield from male urine samples containing sperm cells, add 20 µl of 1M DTT. If DTT (DTT001) is required, it can be purchased directly from Geneaid.

Incubate at 60ºC for 30 minutes to lyse the sample. During incubation, vortex the tube every 10 minutes. Add **200 µl of S2 Buffer (make sure Carrier RNA solution was added)** then mix by vortex. Incubate at 60ºC for 20 minutes. During incubation, vortex the tube every 10 minutes and transfer the required volume of Elution Buffer (200 µl/sample) to a 1.5 ml microcentrifuge tube then heat to 60ºC (for Step 5 DNA Elution).

## 3. DNA Binding

Add **200 µl of absolute ethanol** to the sample lysate, mix thoroughly by vortex for 10 seconds. If precipitate appears, break it up as much as possible with a pipette. Place a **GD Column** in a 2 ml Collection Tube. **Transfer all of the mixture (including any insoluble precipitate) to the GD Column**. Centrifuge at 14-16,000 x g for 1 minute. Discard the 2 ml Collection Tube containing the flow-through and place the **GD Column** in a new 2 ml collection tube.

## 4. Wash

Add **400 µl of W1 Buffer** to the **GD Column**. Centrifuge at 14-16,000 x g for 30 seconds then discard the flow-through. Place the **GD Column** back in the 2 ml Collection Tube. **Add 600 µl of Wash Buffer (make sure absolute ethanol was added)**. Centrifuge at 14-16,000 x g for 30 seconds then discard the flow-through. Place the **GD Column** back in the 2 ml Collection Tube. Centrifuge again for 3 minutes at 14-16,000 x g to dry the column matrix.

## 5. Elution

Standard elution volume is 100 µl. If less sample is to be used, reduce the elution volume (30-100 µl) to increase DNA concentration.

Transfer the dried **GD Column** to a clean 1.5 ml microcentrifuge tube. Add **100 µl of pre-heated Elution Buffer**[1], TE Buffer[2] or water[3] into the **CENTER** of the column matrix. Let stand for at least 3 minutes to allow Elution Buffer, TE Buffer or water to be completely absorbed. Centrifuge at 14-16,000 x g for 1 minute to elute the purified DNA.

[1]Ensure that Elution Buffer (10 mM Tris-HCl, pH8.5 at 25ºC) is added into the center of the GD Column matrix and is completely absorbed.

[2]Using TE (10 mM Tris-HCl, 1 mM EDTA, pH8.0) for elution is beneficial as EDTA preserves DNA for long term storage. However, EDTA will affect PCR and other sensitive downstream applications. Ensure that TE is added into the center of the GD Column matrix and is completely absorbed.

[3]If using water for elution, ensure the water pH is between 7.0 and 8.5. dd$H_2O$ should be fresh as ambient $CO_2$ can quickly cause acidification. Ensure that water is added into the center of the GD Column matrix and is completely absorbed. DNA eluted in water should be stored at -20ºC to avoid degradation.

# Saliva Protocol Procedure

## 1. S2 Buffer Preparation

Transfer **1 µl of Carrier RNA solution and 200 µl of S2 Buffer** per sample to a RNase-free 1.5 ml microcentrifuge tube and vortex shortly to mix. The mixture is for use in the Lysis step.

## 2. Cell Lysis

Transfer **1-100 µl of saliva** into a 1.5 ml microcentrifuge tube. Add **S1 buffer to a final volume of 200 µl and 20 µl Proteinase K**. Add **200 µl of S2 Buffer (make sure Carrier RNA solution was added)** then mix by vortex. Incubate the tube at 60ºC for 10 minutes (vortex the tube every 3 minutes). During incubation, transfer the required volume of Elution Buffer (200 µl/sample) to a 1.5 ml microcentrifuge tube and heat to 60ºC (for Step 5 Elution).

## 3. DNA Binding

Add **200 µl of absolute ethanol** to the sample lysate, mix thoroughly by vortex for 10 seconds. If precipitate appears, break it up as much as possible with a pipette. Place a **GD Column** in a 2 ml Collection Tube. **Transfer all of the mixture (including any insoluble precipitate) to the GD Column**. Centrifuge at 14-16,000 x g for 1 minute. Discard the 2 ml Collection Tube containing the flow-through and place the **GD Column** in a new 2 ml Collection tube.

## 4. Wash

Add **400 µl of W1 Buffer** to the **GD Column**. Centrifuge at 14-16,000 x g for 30 seconds then discard the flow-through. Place the **GD Column** back in the 2 ml Collection Tube. **Add 600 µl of Wash Buffer (make sure absolute ethanol was added)**. Centrifuge at 14-16,000 x g for 30 seconds then discard the flow-through. Place the **GD Column** back in the 2 ml Collection Tube. Centrifuge again for 3 minutes at 14-16,000 x g to dry the column matrix.

## 5. Elution

Standard elution volume is 100 µl. If less sample is to be used, reduce the elution volume (30-100 µl) to increase DNA concentration.

Transfer the dried **GD Column** to a clean 1.5 ml microcentrifuge tube. Add **100 µl of pre-heated Elution Buffer**[1], TE Buffer[2] or water[3] into the **CENTER** of the column matrix. Let stand for at least 3 minutes to allow Elution Buffer, TE Buffer or water to be completely absorbed. Centrifuge at 14-16,000 x g for 1 minute to elute the purified DNA.

[1]Ensure that Elution Buffer (10 mM Tris-HCl, pH8.5 at 25ºC) is added into the center of the GD Column matrix and is completely absorbed.

[2]Using TE (10 mM Tris-HCl, 1 mM EDTA, pH8.0) for elution is beneficial as EDTA preserves DNA for long term storage. However, EDTA will affect PCR and other sensitive downstream applications. Ensure that TE is added into the center of the GD Column matrix and is completely absorbed.

[3]If using water for elution, ensure the water pH is between 7.0 and 8.5. dd$H_2O$ should be fresh as ambient $CO_2$ can quickly cause acidification. Ensure that water is added into the center of the GD Column matrix and is completely absorbed. DNA eluted in water should be stored at -20ºC to avoid degradation.

# Troubleshooting

## Low Yield

**Incomplete buffer preparation.**

1. Add 1 ml of Elution Buffer to Carrier RNA then vortex to ensure Carrier RNA is completely dissolved to obtain a working solution of 1 µg/µl. Check the box on the bottle. Once it is dissolved completely, centrifuge for a few seconds to spin the mixture down. Divide the Carrier RNA solution into convenient volumes in several RNase-free 1.5 ml microcentrifuge tubes. Carrier RNA solution should be stored at -20ºC. Do not freeze and thaw the Carrier RNA Solution more than 3 times.

2. Add $ddH_2O$ pH7.0-8.5 (see the bottle label for volume) to Proteinase K then vortex to ensure Proteinase K is completely dissolved. Check the box on the bottle. Once it is dissolved completely, centrifuge for a few seconds to spin down the mixture. For extended periods, the $ddH_2O$ and Proteinase K mixture should be stored at 4ºC. Use only fresh $ddH_2O$ as ambient $CO_2$ can quickly cause acidification.

3. Add absolute ethanol (see the bottle label for volume) to Wash Buffer then mix by shaking for a few seconds. Check the box on the bottle. Be sure and close the bottle tightly after each use to avoid ethanol evaporation.

**Incorrect lysis.**

Ensure dried blood spot sample is completely immersed in the buffer. Be sure Carrier RNA solution was added to S2 Buffer. To increase DNA yield, add 20 µl of 1M DTT to male urine samples which contain sperm cells.

**Incorrect DNA elution step.**

Ensure that Elution Buffer, TE or water is added into the **CENTER** of the GD Column matrix and is completely absorbed. Use pre-heated Elution Buffer, TE, or water (60~70ºC). If using water for elution, ensure the water pH is between 7.0 and 8.5. $ddH_2O$ should be fresh as ambient $CO_2$ can quickly cause acidification.

## Eluted DNA Does Not Perform Well In Downstream Applications

**Residual ethanol contamination.**

Following the wash step, dry the GD Column with additional centrifugation at 14-16,000 x g for 5 minutes to ensure the GD Column membrane is completely dry.

## The Geneius™ Micro gDNA Extraction Kit Real-Time PCR Data

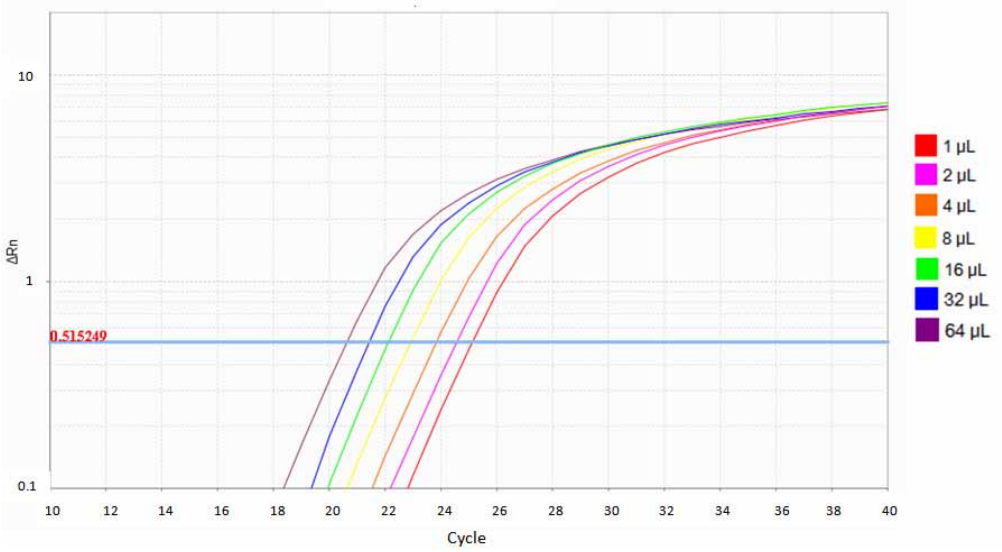



**Figure 1.** DNA was purified from blood samples (1–64 µl) using the Geneius™ Micro gDNA Extraction Kit. DNA was eluted in 30 µl of Elution Buffer followed by a Real-time PCR assay performed with a 3 µl aliquot as template, primers (designed to amplify the ACTB gene), and Fast SYBR Green PCR Master Mix using the StepOnePlus™ Real-Time PCR system (Applied Biosystems). The results confirm the efficiency of DNA extraction from as low as 1 µl blood samples.

## Related DNA Extraction Products

| Plasmid DNA Purification | | |
|---|---|---|
| Product | Package Size | Catalogue Number |
| Presto™ Mini Plasmid Kit | 100/300 preps | PDH100/300 |
| Presto™ Endotoxin Free Mini Plasmid Kit | 100 preps | PEH100 |
| Presto™ Midi Plasmid Kit | 25 preps | PIF025 |
| Presto™ Midi Plasmid Kit (Endotoxin Free) | 25 preps | PIFE25 |
| Large Plasmid DNA Extraction Kit | 100/300 preps | PDL100/300 |
| Midiprep Spin Column Plasmid Kit | 25 preps | PA025 |
| Geneaid™ Midi Plasmid Kit | 25 preps | PI025 |
| Geneaid™ Midi Plasmid Kit (Endotoxin Free) | 25 preps | PIE25 |
| Presto™ Plasmid DNA Concentration Kit | 250/500/1000 preps | PC0250/500/1000 |
| Geneaid™ Maxi Plasmid Kit | 10/25 preps | PM010/25 |
| Geneaid™ Maxi Plasmid Kit (Endotoxin Free) | 10/25 preps | PME10/25 |
| Presto™ 96 Well Plasmid Kit | 4/10 x 96 preps | 96PDV04/10, 96PDC04/10 |

## Related DNA/RNA Extraction Products

| Post Reaction DNA Purification | | |
|---|---|---|
| Product | Package Size | Catalogue Number |
| GenepHlow™ Gel Extraction Kit | 100/300 preps | DFG100/300 |
| GenepHlow™ PCR Cleanup Kit | 100/300 preps | DFC100/300 |
| GenepHlow™ Gel/PCR Kit | 100/300 preps | DFH100/300 |
| GenepHlow™ DNA Cleanup Midi Kit | 100/300 preps | DFI100/300 |
| GenepHlow™ DNA Cleanup Maxi Kit | 10/25 preps | DFM010/025 |
| Small DNA Fragments Extraction Kit | 100/300 preps | DF101/301 |
| Large DNA Fragments Extraction Kit | 100/300 preps | DFL100/300 |
| Presto™ 96 Well PCR Cleanup Kit | 4/10 x 96 preps | 96DFH04/10 |
| Presto™ 96 Well Gel Extraction Kit | 4/10 x 96 preps | 96DFG04/10 |
| G-25 Gel Filtration Desalting Column | 50 rxns | CG025 |
| G-50 Gel Filtration Dye Terminator Removal Column | 50 rxns | CG050 |
| 96-Well G-50 Gel Filtration Plate | 4/10 x 96 rxns | CGP04/10 |
| **Genomic DNA Extraction** | | |
| Product | Package Size | Catalogue Number |
| Genomic DNA Mini Kit (Blood/Cultured Cell) | 100/300 preps | GB100/300 |
| Genomic DNA Maxi Kit (Blood/Cultured Cell) | 10/25 preps | GDM010/25 |
| Genomic DNA Mini Kit (Tissue) | 50/100/300 preps | GT050/100/300 |
| gSYNC™ DNA Extraction Kit | 50/100/300 preps | GS050/100/300 |
| Genomic DNA Mini Kit (Plant) | 100 preps | GP100 |
| Genomic DNA Maxi Kit (Plant) | 10/25 preps | GPM010/25 |
| GENEzol™ DNA Reagent Plant | 100/200 rxns | GR100/200 |
| Presto™ Mini gDNA Yeast Kit | 100/300 preps | GBYB100/300 |
| Presto™ Mini gDNA Bacteria Kit | 100/300 preps | GBB100/101/300/301 |
| Geneius™ Micro DNA Extraction Kit | 100/300 preps | GMB100/300 |
| Presto™ Buccal Swab gDNA Extraction Kit | 100/300 preps | GSK100/300 |
| Presto™ 96 Well Blood Genomic DNA Extraction Kit | 4/10 x 96 preps | 96GBP04/10 |
| Presto™ 96 Well Plant Genomic DNA Extraction Kit | 4/10 x 96 preps | 96GPP04/10 |
| **DNA RNA Purification** | | |
| Product | Package Size | Catalogue Number |
| Presto™ DNA/RNA Extraction Kit | 50/100 preps | DR050/100 |
| Presto™ DNA/RNA/Protein Extraction Kit | 50/100 preps | DRP050/100 |

For additional product information please visit www.geneaid.com. Thank you!

Geneaid

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UKAS QUALITY MANAGEMENT

Registration Number 046

CERTIFICATE NO. QAIC/TW/50077

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