DNA Cleanup Kit

For research use only

Catalogue Numbers	Quantity
DP100	100 preps
DP300	300 preps

Geneaid

CERTIFICATE NO. QAIC/TW/50077
ISO 9001:2008 QMS

Introduction

The DNA Cleanup Kit was designed to purify or concentrate 70 bp-20 kb DNA (e.g. plasmid (BAC/PAC), genomic, mitochondrial, viral, bacteriophage etc.) which was previously isolated using a variety of isolation methods as well as from enzymatic reactions, Proteinase K digestion or other contaminated preparations. The unique DNA Pure Buffer ensures easy binding of DNA to the glass fiber matrix of the spin column while contaminants are removed with a Wash Buffer (containing ethanol). The ultra pure DNA is eluted by a low salt Elution Buffer, TE or water. Salts, enzymes and unincorporated nucleotides are effectively removed from the reaction mixture without phenol extraction or alcohol precipitation. The purified DNA is ready for use in a variety of downstream applications such as PCR, Fluorescent or Radioactive Sequencing, Restriction Enzyme Digestion, DNA Labeling and Ligation.

Quality Control

The DNA Cleanup Kit is tested on a lot-to-lot basis according to Geneaid's ISO-certified quality management system. 4 µg genomic DNA samples are extracted from whole human blood and purified using the DNA Pure Kit. 10 µl aliquot of purified DNA from a 100 µl eluate is analyzed by electrophoresis on a 0.8% agarose gel.

Advantages

• Recover up to 90% of pure DNA within 10 minutes!
• Sample Volume: up to 100 µl of DNA [e.g. plasmid (BAC/PAC), genomic, mitochondrial, viral, bacteriophage etc.] which was previously isolated using a variety of isolation methods as well as from enzymatic reactions, Proteinase K digestion or other contaminated preparations
• Broad DNA Size Range: 70 bp–20 kb
• DNA glass fiber spin columns
• Storage: dry at room temperature (15-25ºC)

Applications

PCR, Fluorescent or Radioactive Sequencing, Restriction Enzyme Digestion, DNA Labeling, Ligation

Caution

The DNA Cleanup Kit contains irritants. During operation, always wear a lab coat, disposable gloves, protective goggles and (anti-fog) procedure mask.

Additional Requirements

1.5 ml microcentrifuge tubes, absolute ethanol

Components and Storage

Item	Volume	Product	Shipping	Storage
DNA Pure Buffer	3 ml	DP004	room temperature	dry at room temperature (15-25ºC)
	80 ml	DP100		
	240 ml	DP300		
Wash Buffer[1] (Add Ethanol)	1 ml (4 ml)	DP004	room temperature	dry at room temperature (15-25ºC)
	25 ml (100 ml)	DP100		
	50 ml (200 ml)	DP300		
Elution Buffer[2] (10 mM Tris-HCl, pH8.5 at 25°C)	1 ml	DP004	room temperature	dry at room temperature (15-25ºC)
	6 ml	DP100		
	30 ml	DP300		
DP Columns	4 pcs	DP004	room temperature	dry at room temperature (15-25ºC)
	100 pcs	DP100		
	300 pcs	DP300		
2 ml Collection Tubes	4 pcs	DP004	room temperature	dry at room temperature (15-25ºC)
	100 pcs	DP100		
	300 pcs	DP300		

[1]Add absolute ethanol (see the bottle label for volume) to Wash Buffer prior to initial use.

[2]Pre-heat the Elution Buffer to 60ºC prior to use.

DNA Cleanup Kit Protocol Procedure

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

1. Sample Preparation

Transfer up to 100 µl of a DNA product to a 1.5 microcentrifuge tube. **Add 5 volumes of DNA Pure Buffer to 1 volume of the sample** then shake vigorously.

2. DNA Binding

Place a **DP Column in a 2 ml Collection Tube** then transfer the sample mixture from the previous step to the **DP Column**. Centrifuge at 14-16,000 x g for 30 seconds and discard the flow-through then place the **DP Column** back in the **2 ml Collection Tube**.

3. Wash

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

4. Elution

Transfer the dried **DP Column** to a new 1.5 ml microcentrifuge tube. **Add 20-50 µl of Pre-Heated (60ºC) Elution Buffer**[1], TE[2] or water[3] into the center of the column matrix. Let stand for at least 2 minutes to allow Elution Buffer, TE or water to be completely absorbed. Centrifuge at room temperature for 2 minutes at 14-16,000 x g 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 DP 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 DP Column matrix and is completely absorbed.

[3]If using water for elution, ensure the water pH is ≥8.0. ddH_2O should be fresh as ambient CO_2 can quickly cause acidification. Ensure that water is added into the center of the DP Column matrix and is completely absorbed. DNA eluted in water should be stored at -20ºC to avoid degradation.

Troubleshooting

Problem	Cause	Solution
Low Yield	A. Incorrect DNA elution	A. Ensure that the Elution Buffer is completely absorbed after being added to the center of the DP Column. B. If the DNA fragments are larger than 10 kb, use pre-heated Elution Buffer (60-70ºC) in the Elution Step to improve the elution efficiency.
Eluted DNA does not perform well in downstream applications	A. Residual ethanol contamination B. DNA was denatured (a smaller band appeared on gel analysis)	A. Following the Wash Step, dry the DP Column with additional centrifugation at 14-16,000 x g for 5 minutes or incubate at 60ºC for 5 minutes. B. Incubate the eluted DNA at 95ºC for 2 minutes then cool down slowly to re-anneal the denatured DNA.

Related DNA Purification 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 Maxi Kit	10/25 preps	DFM010/025
Small DNA Fragments Extraction Kit	100/300 preps	DF101/301
Presto™ Max Gel/PCR Kit (Large DNA Fragments)	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
Presto™ PCR Cleanup Kit 96 Well Binding Plate	10 plates	96DBP01
DNA Cleanup Kit	100/300 preps	DP100/300
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
Gel Extraction Tool	25 pcs	GXT025

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