

DNA Pure Kit

For research use only

Sample	: up to 100 µl of DNA products
Recovery	: up to 95%
Format	: spin column
Operation time	: 20 minutes
Elution volume	: 20-50 µl

Geneaid



www.geneaid.com

Introduction

The DNA Pure Kit was designed to purify or concentrate DNA products which have been previously isolated using Geneaid's Reagents (Tri-Total Nucleic Acid Isolation Reagent, Tri-Plant Genomic DNA Reagent Kit and Reagent Genomic DNA Kit) or various other DNA isolation methods. The unique DNA Pure Buffer ensures easy binding of DNA to the glass fiber matrix of the spin column (1). Contaminants are removed with a Wash Buffer (containing ethanol) and the ultra pure DNA is eluted by a low salt Elution Buffer or TE. Salts, enzymes and unincorporated nucleotides can be effectively removed from the reaction mixture without phenol extraction or alcohol precipitation. Typically, recoveries are 80-90% from DNA samples. The entire procedure can be completed in 20 minutes and the purified DNA is ready for use in PCR, Fluorescent or Radioactive Sequencing, Restriction Enzyme Digestion, DNA Labeling and Ligation.

Quality Control

The quality of the DNA Pure Kit is tested on a lot-to-lot basis by purifying DNA of various sizes from aqueous solutions. The purified DNA is checked by electrophoresis.

Kit Contents

Name	DP004	DP100	DP300
DNA Pure Buffer	3 ml	80 ml	240 ml
Wash Buffer* (Add Ethanol)	1 ml (4 ml)	25 ml (100 ml)	50 ml (200 ml)
Elution Buffer (10 mM Tris-HCl, pH 8.5 at 25°C)	1 ml	6 ml	30 ml
DP Column	4 pcs	100 pcs	300 pcs
2 ml Collection Tube	4 pcs	100 pcs	300 pcs

Order Information

Product Name	Package Size	Cat. No.
RNA Pure Kit	100/300 preps	PR100/300
DNA Pure Kit	100/300 preps	DP100/300
G-25 Mini Column	50 preps	CG025
G-50 Mini Column	50 preps	CG050
96-Well G-50 Plate	4/10 x 96 Wells	CGP04/10

*Add absolute ethanol (see the bottle label for volume) to the Wash Buffer prior to initial use

Caution

DNA Pure Buffer contains guanidine thiocyanate which is a harmful irritant. During operation, always wear a lab coat, disposable gloves, and protective goggles.

References

(1) Vogelstein, B., and Gillespie, D. (1979) Proc. Natl. Acad. Sci. USA 76, 615

Additional requirements

microcentrifuge tubes, absolute ethanol

DNA Pure Protocol

- Add absolute ethanol (see the bottle label for volume) to the Wash Buffer prior to initial use
- Pre-heat the Elution Buffer to 60°C prior to use

Step 1 Sample Prep.	<ul style="list-style-type: none"> ● 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 and shake vigorously.
Step 2 DNA Binding	<ul style="list-style-type: none"> ● Place a DP Column in a 2 ml Collection Tube. ● Transfer the sample mixture from the previous step to the DP Column. ● Centrifuge at 14-16,000 x g for 30 seconds. ● Discard the flow-through and place the DP Column back in the 2 ml Collection Tube.
Step 3 Wash	<ul style="list-style-type: none"> ● Add 600 µl of Wash Buffer (ethanol added) into the center of the DP Column. ● Centrifuge at 14-16,000 x g for 30 seconds. ● Discard the flow-through and 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.
Step 4 DNA Elution	<ul style="list-style-type: none"> ● Transfer the dried DP Column to a new 1.5 ml microcentrifuge tube. ● Add 20-50 µl of Pre-Heated Elution Buffer or TE into the center of the column matrix. ● Let stand for 2 minutes or until the Elution Buffer or TE is completely absorbed by the matrix. ● Centrifuge for 2 minutes at 14-16,000 x g to elute the purified DNA.

Troubleshooting

Problem	Possible Reasons/Solution
Low Yield	<p>Incorrect DNA Elution Step</p> <ul style="list-style-type: none"> ● Ensure that the Elution Buffer is completely absorbed after being added to the center of the DP Column. <p>Incomplete DNA Elution</p> <ul style="list-style-type: none"> ● If the DNA fragments are larger than 10 Kb, use preheated Elution Buffer (60-70°C) in the Elution Step to improve the elution efficiency.
Eluted DNA does not perform well in downstream applications	<p>Residual ethanol contamination</p> <ul style="list-style-type: none"> ● Following the Wash Step, dry the DP Column with additional centrifugation at 14-16,000 x g for 5 minutes or incubate at 60°C for 5 minutes. <p>DNA was denatured (a smaller band appeared on gel analysis)</p> <ul style="list-style-type: none"> ● Incubate the eluted DNA at 95°C for 2 minutes, and then cool down slowly to re-anneal the denatured DNA.