HiYield DNA UltraPurification Kit

Cat. No.:	YUD100	YUD300
Product Name:	HiYield DNA UltraPurification Kit	
Reactions:	100	300
DNA Size Range:	100bp-20kb	
Recovery:	Up to 95%	
Format:	Spin Column	
Operation:	Centrifuge	
Operation Time:	Within 20 Minutes	

Introduction

HiYield DNA UltraPurification Kit is especially designed to recover or concentrate DNA fragments (100bp-20kb) from all enzymatic reactions. DNA fragments previously isolated with RBC kits in reagent format or with other isolation methods could be fast and easily concentrated with this kit. The unique UD Buffer and high yield UD column make this kit exceptional value. Salts, enzymes and unincorporated nucleotides can be effectively removed from the reaction mixtures without phenol extraction or alcohol precipitation. The average recovery is around 80-90%. The entire procedure can be completed in 20 minutes.

Features

1. High and reproducible recoveries for constant results.
2. Ready-to use highly concentrated DNA within 20 minutes.
3. Without phenol extraction or alcohol precipitation.

Contents

ITEM	YUD100	YUD300
UD Buffer	80ml	240ml
Wash Buffer*	25ml	50ml
Elution Buffer	6ml	30ml
UD Column	100pcs	300pcs
2ml Collection Tube	100pcs	300pcs

*Absolute ethanol shall be added to the Wash Buffer prior to the initial use. Please refer to the bottle label for details.

Applications

The highly concentrated DNA is suitable for direct use in applications such as: PCR, Fluorescent or Radioactive Sequencing, Restriction Enzyme Digestion, DNA Labeling and Ligation.

Quality Control

The quality of HiYield DNA UltraPurification 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.

Caution

UD 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.

Protocol

Additional Requirements:
Microcentrifuge tubes, absolute ethanol.

Things Before Starting:
1. For YUD100-Add 100ml of absolute ethanol to 25ml of Wash Buffer prior to the initial use.
   For YUD300-Add 200ml of absolute ethanol to 50ml of Wash Buffer prior to the initial use.
2. Preheat the Elution Buffer to 60℃ prior to the initial use.

Step 1 Sample Preparation	★Transfer up to 100 µl of a DNA product to a 1.5 microcentrifuge tube. ★Add **500ul of UD Buffer** to 100ul of the DNA product and shake vigorously. (The volume of UD Buffer is fivefold the volume of DNA products.)
Step 2 DNA Binding	★Place a **UD Column** in a **2 ml Collection Tube**. ★Transfer the sample mixture from the previous step into the **UD Column**. ★Centrifuge at full speed for 30 seconds. ★Discard the flow-through and place the **UD Column** back in the **2 ml Collection Tube**.
Step 3 Wash	★Add **600 µl of Wash Buffer** (ethanol added) into the center of the **UD Column**. ★Centrifuge at full speed for 30 seconds. ★Discard the flow-through and place the **UD Column** back in the **2 ml Collection Tube**. ★Centrifuge again for 3 minutes at full speed to dry the column matrix.
Step 4 DNA Elution	★Transfer the dried **UD Column** to a new 1.5 ml microcentrifuge tube. ★Add **15-50 µl of 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 full speed to elute the purified DNA.

Troubleshooting

Problem	Possible Reasons/Solution
Low Yield	**Incorrect DNA Elution Step** Ensure that the Elution Buffer is completely absorbed after being added to the center of the UD Column.
	Incomplete DNA Elution If the DNA fragments are larger than 10 Kb, use preheated Elution Buffer (60-70ºC) in the Elution Step to improve the elution efficiency.
Eluted DNA does not perform well in downstream applications.	**Residual ethanol contamination** Following the Wash Step, dry the UD Column with additional centrifugation at full speed for 5 minutes or incubate at 60ºC for 5 minutes.
	DNA was denatured (a smaller band appeared on gel analysis) Incubate the eluted DNA at 95ºC for 2 minutes, and then cool down slowly to re-anneal the denatured DNA.