

Plant Genomic DNA Reagent Kit

For research use only

Sample	: 100 mg fresh plant tissue
Yield	: up to 80 µg
Operation time	: 90 minutes

Geneaid



CERTIFICATE NO. QAIC/TW/50077

www.geneaid.com

Introduction

The Plant Genomic DNA Reagent Kit provides a fast and simple method to isolate total DNA (genomic DNA, mitochondrial and chloroplast) from plant tissues and cells. Samples are broken down by both grinding in liquid nitrogen and by lysis buffer incubation. The lysate is treated with RNase A to degrade the RNA. The protocol does not require DNA phenol extraction and the entire procedure can be completed in 1.5 hours. The purified genomic DNA is ready for PCR, real-time PCR, southern blotting, mapping and RFLP.

Quality Control

The quality of the Plant Genomic DNA Reagent Kit is tested on a lot-to-lot basis. The kits are tested by isolation of genomic DNA from 100 mg plant samples. A minimum of 5 µg of genomic DNA can be quantified with a spectrophotometer and checked by agarose gel analysis.

Kit Contents

Name	GR004	GR100
GR Buffer*	4 ml	100 ml
RNase A (50 mg/ml)** (store at -20°C before use)	Added	50 µl

*If GR buffer contains sediment, incubate at 65°C for 10 minutes to dissolve it.

**Do not add RNase A to GR Buffer prior to use.

Order Information

Product Name	Package Size	Cat. No.
Reagent Genomic DNA Kit	100 ml/1 L Blood	GE100/01K
Nucleic Acid Isolation Reagent	100 ml	NR 100
Plant Genomic DNA Reagent Kit	100 ml Plant	GR100
Genomic DNA Mini Kit (Tissue)	50/100/300 preps	GT050/100/300
Genomic DNA Mini Kit (Blood/Cultured Cell)	100/300 preps	GB100/300
Genomic DNA Midi Kit (Blood/Cultured Cell)	25 preps	GDI25
Genomic DNA Maxi Kit (Blood/Cultured Cell)	10/25 preps	GDM10/25
Genomic DNA Mini Kit (Plant)	100 preps	GP100
Genomic DNA Maxi Kit (Plant)	10/25 preps	GPM10/25
96-Well Genomic DNA Kit	2/4/10 x 96 Wells	GBP02/04/10
96-Well Plant Genomic DNA Reagent Kit	2/4/10 x 96 Wells	GRP02/04/10
Vacuum Manifold (Accessories)	1 set	ZFV04

Caution

The components contain irritants. During operation, always wear a lab coat, disposable gloves, and protective goggles.

Additional requirements

Microcentrifuge tubes, Absolute Ethanol, 70% Ethanol in water, Chloroform, Isopropanol, Mortar and Pestle

Plant Genomic DNA Reagent Kit 3 Step Protocol

The standard protocol uses GR Buffer for lysis of plant samples. For most common plant species, the buffer system ensures purified DNA with high yield and good quality.

Step 1 Tissue Dissociation	<ul style="list-style-type: none">● Cut off 100 mg of fresh plant tissue or 50 mg of dry plant tissue.● Grind the sample under liquid nitrogen to a fine powder using a mortar and pestle.
Step 2 Lysis	<ul style="list-style-type: none">● Add 800 µl of GR Buffer and 0.5 µl of RNase A to the sample in the mortar and grind the sample until it is completely dissolved.● Transfer the dissolved sample to a 1.5 ml microcentrifuge tube.● Incubate at 65°C for 50 minutes.● Centrifuge at full speed for 10 minutes.● Transfer the supernatant to a new 1.5 ml microcentrifuge tube containing 600 µl of chloroform.● Shake vigorously and centrifuge at full speed for 10 minutes.● Carefully remove the upper layer and transfer it to a new 1.5 ml microcentrifuge tube containing 800 µl of isopropanol.
Step 3 DNA Precipitation	<ul style="list-style-type: none">● Mix the sample by inverting gently and let stand for 5 minutes at room temperature (DNA precipitation can be increased with extended standing time).● Centrifuge at full speed (13,000 rpm) for 20 minutes.● Pour off the supernatant and wash the pellets with 70% Ethanol and air dry.● Resuspend the pellets in 50-200 µl of 1 x TE buffer or water.● Centrifuge at full speed for 10 minutes.● Carefully transfer the supernatant to a new 1.5 ml microcentrifuge tube.

Troubleshooting

Problem	Possible Reasons/Solution
Incomplete Lysis	Too much sample was used. <ul style="list-style-type: none">● Reduce sample volume or separate into multiple tubes.
Low Yield	Precipitate was formed at Step 3. <ul style="list-style-type: none">● Reduce the sample material.● Increase standing time to improve DNA precipitation.