

96-Well Plant DNabsolute

For research use only

Sample	: fresh or dry plant tissue
Format	: 96-well plates (centrifugation)
Yield	: up to 80 µg
Operation time	: 90 minutes
Efficiency	: High yield DNA ideal for Polymerase Chain Reaction (PCR)

Geneaid



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Introduction

96-Well Plant DNabsolute provides an efficient method for isolating total DNA (genomic, mitochondrial and chloroplast DNA from plant tissue and cells) that is ideal for use in Polymerase Chain Reaction. This unique reagent is able to lyse most common plant samples and also samples high in polysaccharides. DNA phenol extraction is not required and the entire procedure can be completed in 90 minutes. The isolated total DNA is ready for use in PCR, Real-time PCR, Southern Blotting, mapping and RFLP.

Quality Control

The quality of 96-Well Plant DNabsolute is tested on a lot-to-lot basis by isolating total DNA from 100 mg plant samples. A minimum of 20 µg of DNA is quantified with a spectrophotometer and checked by electrophoresis.

Kit Contents

Name	GRP02	GRP04	GRP10
Plant DNabsolute*	80 ml	160 ml	400 ml
RNase A (50 mg/ml)** (store at -20°C before use)	50 µl	100 µl	250 µl
2 ml Collection Plate***	4 pcs	8 pcs	20 pcs

*If Plant DNabsolute contains sediment, incubate at 65°C for 10 minutes to dissolve.

**Add RNase A to Plant DNabsolute immediately prior to use (0.5 µl of RNase A/1 ml of Plant DNabsolute)

*** Each preparation requires 2 collection plates

Order Information

Product Name	Reactions	Cat. No.
Reagent Genomic DNA Kit	100/1000 rxns	GE100/01K
DNabsolute	100 rxns	NR100
Plant DNabsolute	100 rxns	GR100
RNabsolute	100 rxns	RAR100
Plant RNabsolute	100 rxns	RPR100
96-Well DNabsolute	4/10 x 96 rxns	NRP04/10
96-Well Plant DNabsolute	4/10 x 96 rxns	GRP04/10

Caution

Plant DNabsolute contains irritant agents. During operation, always wear a lab coat, disposable gloves, and protective goggles.

96-Well Plant DNabsolute Protocol

The standard protocol uses Plant DNabsolute for lysis of plant samples. For most common plant species, the reagent system ensures isolated DNA with high yield and good quality.

- Add RNase A to Plant DNabsolute immediately prior to use (0.5 µl of RNase A/1 ml of Plant DNabsolute)
- Additional requirements: centrifugation system for 96-well plates, absolute EtOH for preparing 70% EtOH in H₂O, isopropanol, TE or ddH₂O

Sample Preparation	<ul style="list-style-type: none"> ● Harvest young green leaf samples. Process the samples and freeze in liquid nitrogen. ● Grind the samples under liquid nitrogen to a fine powder. ● Add 50 mg of the plant powder to each well of a 2 ml Collection Plate.
Step 1 Lysis	<ul style="list-style-type: none"> ● Add RNase A (50 mg/ml) to Plant DNabsolute immediately prior to use. (0.5 µl of RNase A/1 ml of Plant DNabsolute). ● Add 400 µl of the Plant DNabsolute mixture to each well. Mix and let float in a water bath at 65°C for 50 minutes. ● Centrifuge at 3,000 x g for 15 minutes. During centrifugation, add 300 µl of isopropanol to each well of a new 2 ml Collection Plate. ● Following centrifugation, transfer 300 µl of the supernatant to the new 2 ml Collection plate containing 300 µl of isopropanol/well.
Step 2 DNA Precipitation	<ul style="list-style-type: none"> ● Mix the sample gently and let stand for at least 5 minutes at room temperature (standing time can be increased to improve DNA precipitation). ● Centrifuge at 14-16,000 x g for 45 minutes. ● Pour off the supernatant and wash the pellet with 200-300 µl of 70% EtOH. ● Remove the 70% EtOH by pipetting and let air dry to allow the 70% EtOH to evaporate completely. ● Resuspend the pellets in 50-100 µl of 1 x TE buffer or ddH₂O.

Troubleshooting

Problem	Possible Reasons/Solution
Low Yield	<ul style="list-style-type: none"> ● Too much plant powder was added to the well. <p>Incomplete Lysis</p> <ul style="list-style-type: none"> ● Extend water bath incubation time in the Lysis Step. <p>Incomplete DNA Precipitation</p> <ul style="list-style-type: none"> ● Extend standing time in the DNA Precipitation Step.