For general laboratory use

Gene Transfer Pioneers
(GTP)

Plant Total DNA Extraction Kit

Kit for 100 purifications

Catalogue Number: DP070100

Store the kit at +15 to +25°C.

Introduction

The **Plant Total DNA Extraction Kit** provides a quick and easy method for purifying total DNA (including genomic DNA, mitochondrial and chloroplast DNA) from various plant species. Homogenized samples are treated with RNase A. In the presence of the binding buffer, coupled with chaotropic salt, genomic DNA in the lysate binds to the glass fiber matrix of the spin column. Contaminants are removed using a Wash Buffer (containing ethanol) and the purified genomic DNA is eluted by a low salt Elution Buffer, TE or water. DNA phenol extraction or alcohol precipitation is not required and can be completed in less than 30 minutes. The purified genomic DNA is ready for use in PCR, Real-time PCR, Southern Blotting and RFLP.

Quality Control

The quality of the **Plant Total DNA Extraction Kit** is tested on a lot-to-lot basis according to Gene Transfer Pioneers quality management system. Genomic DNA is isolated from 50 mg young leaf samples. More than 10 µg of genomic DNA is quantified with a spectrophotometer and analyzed by electrophoresis.

Kit Contents

All solutions are clear. If any solution contains a precipitate, do not use it. Instead, warm the solution at room temperature or in a 37°C water bath to dissolve the precipitate.

Vial	Label	Contents
1. White Cap	DP1 Buffer	40 ml
2. White microtube	RNase A	50 µl
3. Red Cap	DP2 Buffer	40 ml
4. Brown Cap	DP3 Buffer	50 ml
5. Blue Cap	Wash Buffer	12 ml; add 48 ml ethanol
6. Black Cap	Elution Buffer	20 ml
7. Colorless Bag	DNA Spin Column	100 Columns

Storage and Stability

Store the **Plant Total DNA Extraction Kit** components at +15 to +25°C. Kit components are guaranteed to be stable date printed on the label.

After adding RNase A, store the DP1 Buffer at +2 to +8°C, where it will be stable for 6 months.

Application

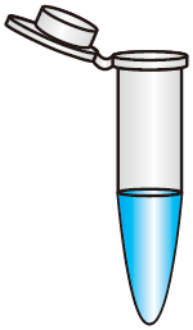
Isolation of up to 20 µg purified DNA from Plant, which may be used directly in downstream applications such as restriction enzyme digestion, PCR, sequencing, *in vitro* transcription or labeling reactions.

Before You Begin: Preparation of Working Solutions

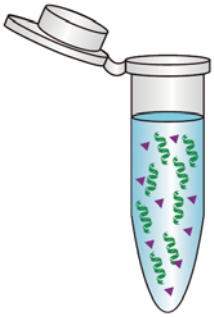
Beside the ready-to-use solutions supplied with this kit, you will need to prepare the following working solution:

Content	Preparation	Storage/ Stability
RNase A / DP1 Buffer (White Cap)	Add all 50 µl of RNase A into the DP1 Buffer bottle. * Label bottle accordingly after adding RNase A.	Store the mixture at +2 to +8°C. Stable for 6 months.
Wash Buffer (Blue Cap)	Add 48 ml absolute ethanol to Wash Buffer. * Label bottle accordingly after adding ethanol.	Store at +15 to +25°C. Stable through expiration date printed on kit label.

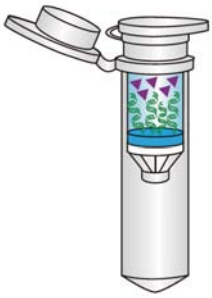
Quick Protocol Diagram



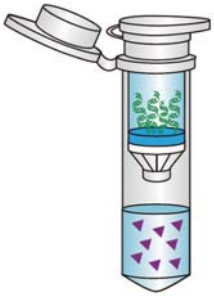
Plant powder suspension



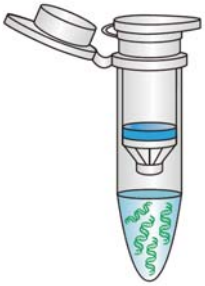
Lysis



DNA Binding



Wash



Elution

Total DNA Extraction from Plant Protocol

1. First, the plant leaf or seed should be powdered. 0.1 – 0.2 gram of plant powder should be added to the microtube.

2. Add 250 µl **DP1 Buffer** (**White Cap**) with RNase A to the plant powder. Resuspend the plant powder by vortex for 15 s.

3. Add 250 µl **DP2 Buffer** (**Red Cap**) and 400 µl **chloroform** to the mixture and vortex for 30 s.

4. Centrifuge at 12000 g for 5 min. Transfer 400 µl of **supernatant** into the new microtube.

5. Add 400 µl **DP3 Buffer** (**Brown Cap**) to supernatant and mix gently by inverting the tube (4-6 times).

6. Transfer the solution into a **DNA spin column** assembled in a clean collection tube (provided). Centrifuge at 10000 g for 1 min at room temperature.

7. Disconnect the **DNA spin column** from collection tube and discard the flow through solution. Reconnect the **DNA spin column** to the same collection tube.

8. Add 500 µl **Wash Buffer** (**Blue Cap**) to DNA spin column and centrifuge at 10000 g for 1 min. Discard flow through.

9. Centrifuge the **DNA spin column** at 10000 g for 1 min to remove residual ethanol.

10. Place the **DNA spin column** into the clean new microtube. Add 30 µl of pre-warmed **Elution Buffer** (**Black Cap**) or sterile DDW directly onto column membrane and stand for 3 min.

11. Centrifuge at 10000 g for 1 min.

12. Add another 30 µl pre-warmed **Elution Buffer** (**Black Cap**) or sterile DDW directly onto column membrane and stand for 3 min.

13. Centrifuge at 10000 g for 1 min.

14. Check 5-10 µl of extracted DNA by 1% agarose gel electrophoresis.

15. Store DNA at 4˚C or -20˚C.

Related DNA Extraction Products

Product	Package Size	Catalogue Number
Plasmid DNA Isolation Kit	25 preps	DV01025
Plasmid DNA Isolation Kit	50 preps	DV01050
Plasmid DNA Isolation Kit	100 preps	DV01100
DNA Gel Recovery Kit (PCR Purification Kit)	25 prep	DR02025
DNA Gel Recovery Kit (PCR Purification Kit)	50 preps	DR02050
Genomic DNA Extraction Kit from Gram Negative Bacteria	25 prep	DM04025
Genomic DNA Extraction Kit from Gram Negative Bacteria	50 prep	DM04050
Genomic DNA Extraction Kit from Gram Positive Bacteria	25 prep	DM05025
Genomic DNA Extraction Kit from Gram Positive Bacteria	50 prep	DM05050
Genomic Yeast DNA Extraction Kit	25 prep	DY06025
Genomic Yeast DNA Extraction Kit	50 prep	DY06050
Plant Total DNA Extraction Kit	50 prep	DP07050
Plant Total DNA Extraction Kit	100 prep	DP07100
Genomic DNA Extraction Kit from Seed	50 prep	DS08050
Genomic Fungi DNA Extraction Kit	25 prep	DF09025
Genomic Fungi DNA Extraction Kit	50 prep	DF09050
Blood DNA Extraction Kit	25 prep	DB10025
Blood DNA Extraction Kit	50 prep	DB10050
Blood DNA Extraction Kit	100 prep	DB10100
Tissue & Cells DNA Isolation Kit	50 prep	DT11050

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