Magnetic Beads Plant gDNA Extraction Plate Kit

96 Well Plant gDNA Extraction Plates (MPP096)

Sample : 10-50 mg of fresh or frozen plant tissue
Format : 96 well extraction plates
Equipment : Geneaid SYNC Nucleic Acids Extraction System
Operation time : 60 minutes/ 32 tests (including tissue lysis)
Elution volume : 100 µl

Introduction

Geneaid Magnetic Beads gDNA Extraction Plate Kit (Plant) was designed for high-throughput purification of high-quality of genomic DNA from plant tissues. Genomic DNA is bound to the surface of the magnetic beads and released using a proprietary buffer system. The 96 well gDNA extraction plates can be easily adapted to Geneaid SYNC Nucleic Acids Extraction System (S032) and other similar automated extractors. The purified DNA can be used in qPCR and a variety of other downstream applications.

Quality Control

The quality of Magnetic Beads gDNA Extraction Plate Kit (Plant) is tested on a lot-to-lot basis according to Geneaid's ISO-certified quality management system by isolating genomic DNA from *Arabidopsis* samples.

Kit Contents

Component	MPP096	Description
Extraction Plates	6	96 well plate with reagent buffers
Proteinase K[1]	11mg x2	Preparing 10mg/ml Proteinase K
RNase A (10 mg/ml)	550µl	For RNA removal
MP1 Buffer	50ml	For plant tissue lysis
MPN2 Buffer	15ml	For cell debris removal
Strip	12	8-channel strip
Protocol	1	Instruction manual for user

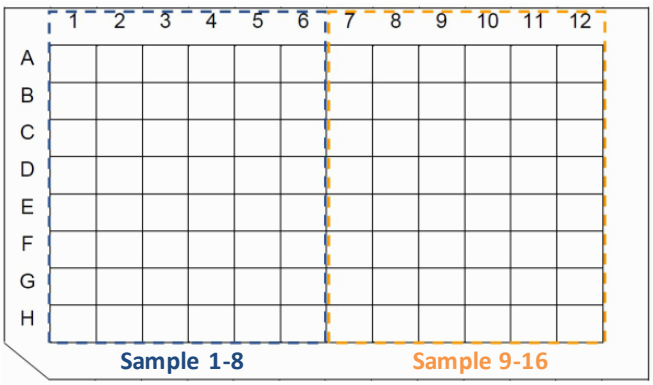
[1]Add 1.1 ml of sterile ddH_2O to each Proteinase K tube then vortex to ensure it is completely dissolved. For extended periods, the Proteinase K solution should be stored at 4ºC.

Storage conditions

- Components under room temperature (15~35°C) can be stored until the expiration date labeled on the box.
- The Proteinase K is shipped at room temperature. After adding ddH_2O to dissolve Proteinase K powder, store the Proteinase K solution at 4ºC.
- The RNase A is shipped at room temperature. Store the RNase A at 4ºC upon receipt.

Extraction Plate Contents

Column	Buffer	Volume
# 1/7	Lysis Buffer	600 µl
# 2/8	Wash Buffer 1	800 µl
# 3/9	Wash Buffer 1	800 µl
# 4/10	Wash Buffer 2 with Magnetic Beads	800 µl
# 5/11	Wash Buffer 2	800 µl
# 6/12	Elution Buffer	100 µl



Important before use

1. Inspect the completeness of the Extraction Plates and Strips.
2. Do not shake the Extraction Plates vigorously to avoid the excess foam formation.
3. Remove the aluminum foil carefully to avoid splashing of the reagent solution.
4. After removing the aluminum foil, do not expose plates to air for a long time to avoid evaporation and changing pH then affecting purification efficiency.
5. Buffers contain chaotropic salt. During operation, always wear a lab coat, disposable gloves, protective goggles and (anti-fog) procedure mask. Guanidine salts can form highly reactive compounds when combined with bleach. **DO NOT** add bleach directly to the sample-preparation waste.

Magnetic Beads gDNA Extraction Plate Kit (Plant) Protocol

Sample Preparation	• Cut off 10-50 mg of fresh or frozen plant tissue. Do not use more than 50 mg of plant tissue per reaction. Homogenize plant tissue samples using one of the following methods: **A.** Transfer plant tissue to a 2 ml centrifuge tube containing stainless steel beads then cool the tube in liquid nitrogen. Homogenize the sample with a TissueLyser, Disruptor Genie or similar. **B.** Add the plant sample and liquid nitrogen to a mortar and grind thoroughly using a pestle. Transfer the powder to a new 1.5 ml microcentrifuge tube. • Add **400 µl of MP1 Buffer** and **20 µl of Proteinase K**, mix well by vortex. Incubate the lysate at 60°C for 15 minutes. During incubation, invert the tube occasionally. Add **5 µl of RNase A (10mg/ml)** and mix well by vortex. Incubate at room temperature for 5 minutes. • Add **100 µl of MPN2 Buffer** then vortex for 10 seconds. Centrifuge at 8,000 x g for 2 minutes to remove the insoluble debris and take 300 µl of the clear supernatant as the sample for the following process.
Automatic gDNA Extraction	• Carefully remove the aluminum foil from Extraction Plate. • Transfer **300 µl of supernatant** into column #1/#7 of Extraction Plate. • Turn on the **Geneaid SYNC Nucleic Acids Extraction System**. • Place the Extraction Plates on the plate rack of the **Geneaid SYNC Nucleic Acids Extraction System** and push the plate rack back into the extraction system. Note: Make sure that the missing corner of Extraction Plate faces toward the door panel. • Push strips completely to the bottom of strip rack frame. • Close the door panel. • Select the program "**MPP**". Please see the program below. • Once the program has ended, buzzer shall alarm. Take out Extraction Plate carefully. • Transfer the purified nucleic acid from column #6/ #12 to clean tubes. The purified nucleic acid can be used for subsequent experiments such as real-time PCR immediately or store at -20°C for long time. • The used Extraction Plates and Strips should be regarded as medical waste with risk of biological infection and properly disposed of in accordance with national regulations.

MPP Program

Run	Well No. (0-6)	Name	Standby (0-30Min)	Mix (1-30Min)	Volume (100-1000µl)	Mix Speed (1-3)	Mag (0-120Sec)	Temp. (40-80°C)	Pause
☑	4	Bead Transfer	0	1	800	2	30	40	☐
☑	1	Binding	0	8	900	2	60	40	☐
☑	2	Wash 1	0	3	800	2	30	40	☐
☑	3	Wash 2	0	3	800	2	30	40	☐
☑	4	Wash 3	0	2	800	2	30	40	☐
☑	5	Wash 4	0	2	800	2	30	40	☐
☑	6	Elution	5	5	100	2	60	60	☐
☑	5	End	0	1	800	2	0	0	☐

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