FavorPrep™ Plant Genomic DNA Extraction HE Mini Kit

■ Kit Contents

Cat. No.	FAPG1030 (4 Preps)	FAPG1033 (50 Preps)	FAPG1034 (100 Preps)
PGB1 Buffer	5 ml	50 ml	100 ml
PGB2 Buffer	2 ml	25 ml	50 ml
Wash Buffer (Concentrate)▲	3 ml	17.5 ml	35 ml
Elution Buffer	0.5 ml	5 ml	7 ml
RNase A Solution	100 µl	900 µl	900 µl x 2
Micropestles	4 pcs	50 pcs	50 pcs x 2
Filter Columns	4 pcs	50 pcs	100 pcs
HE Columns	4 pcs	50 pcs	50 pcs x 2
HE Collection Tubes	8 pcs x 2	100 pcs x 2	100 pcs x 4
Elution Tubes	4 pcs	50 pcs	100 pcs
User Manual	1	1	1
Preparation of **Wash Buffer** by adding 96~100% ethanol.			
Volume of Ethanol for Wash Buffer▲	12 ml	70 ml	140 ml

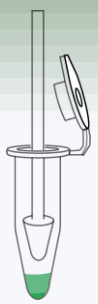
1. All kit components are shipped at room temperature and should be stored at room temperature between 15~25˚C upon receipt, **except RNase A Solution**.
2. Store RNase A Solution at -20˚C upon receipt.

■ Specification

Format/Principle	Spin Column (silica matrix)
Binding Capacity	≤125 µg DNA/Column
Operation Time	<50 mins
Sample Size	≤125 mg
DNA yield	≤40 µg
Elution Volume	30 µl

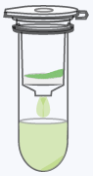
Procedure Overview

Plant sample



- Weigh plant sample and grind it into fine powder.
- Add 800 µl PGB1-RA mixture and vortex.
- Incubate at 65°C for 20 mins.

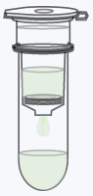
Filter Column



Centrifuge
18,000 xg, 3 mins

- Transfer entire mixture into Filter Column.

HE Column



Centrifuge
18,000 xg, 1 min

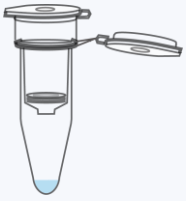
- Transfer all the supernatant of filtrate into an HE Collection Tube.
- Add 400 µl PGB2 Buffer and 700 µl ethanol (96~100%), mix well.
- Transfer 900 µl of the mixture into HE Column and centrifuge.
- Repeat for the remaining mixture.

Centrifuge
18,000 xg, 1 min

- Add 900 µl Wash Buffer (ethanol contained).

Centrifuge
18,000 xg, 2 mins

- Add 500 µl Wash Buffer (ethanol contained) and dry the column membrane.



Centrifuge
18,000 xg, 1 min

- Add 30 µl Elution Buffer.
- Stand the column for 5 mins.
- Obtain purified genomic DNA.

■ Preparation Before Starting

1. Buffers provided in this system contain irritants. Wear gloves and lab coat when handling these buffers.
2. Additional materials: 96~100% ethanol, β-Mercaptoethanol (β-ME).
3. (Optional) For long-term DNA storage, immerse the plant tissue in FavorPrep™ NApreserve Reagent (Cat. No. FNPR1084) as instructed in the user manual.
4. Set up a water bath or dry bath at 65°C and preheat the Elution Buffer to 65°C for elution step.
5. Check **PGB1 Buffer** before use. If precipitates are observed, vortex PGB1 Buffer until precipitates are completely dissolved.
6. Fresh preparation of **PGB1-RA mixture**, premix 800 µl of **PGB1 Buffer**, 16 µl of **RNase A Solution** and 2 µl β-ME per sample before executing DNA extraction.
7. Add indicated volume of ethanol (96~100%) into **Wash Buffer**, mix well and store at room temperature.
8. **Caution: β-ME is hazardous to human health. Always perform procedures involving β-ME in a fume hood.**

■ General Protocol

- **Note:** All centrifugation steps should be performed at **18,000 ×g** at room temperature.
- **Note:** Avoid disturbing the pellet or debris while transferring the supernatant.

1. Grind 50 mg of wet weight (up to 125 mg) plant tissue or 20 mg (up to 50 mg) dry weight of plant tissue under liquid nitrogen to a fine powder and transfer to a new microcentrifuge tube (not provided).
   - Do not allow the sample to thaw and continue immediately to step 2.
2. Add 800 µl **PGB1-RA mixture** to the tube and vortex thoroughly.
3. Incubate mixture at 65°C for 20 mins and vortex occasionally during incubation.
   - If the mixture gradually turns brown, stop the incubation process and proceed to step 4.
4. Place a **Filter Column** to an HE Collection Tube and transfer the entire mixture to the Filter Column.
5. Centrifuge for 3 mins, then transfer all the supernatant of filtrate carefully into a new **HE Collection Tube**.
6. Add 400 µl **PGB2 Buffer** and mix thoroughly by pipetting.
7. Add 700 µl ethanol (96~100%) and mix thoroughly by pipetting.

8. Place an **HE Column** in a new HE Collection Tube.
9. Transfer 900 µl mixture carefully into the HE Column and centrifuge for 1 min. Discard flow-through.
10. Repeat step 9 for the remaining mixture and place the HE Column in a new HE Collection Tube.
11. Add 900 µl **Wash Buffer** (ethanol contained) to the HE Column. Centrifuge for 1 min then discard flow-through.
12. Add 500 µl Wash Buffer (ethanol contained) to the HE Column. Centrifuge for 2 mins to dry the membrane directly. Discard flow-through and HE Collection Tube.
13. Place the HE Column in an **Elution Tube**, then add 30 µl prewarmed **Elution Buffer** or ddH_2O (pH 7.5~9.0) directly onto the membrane. Stand the HE Column for 5 mins.
    - **Important step!** For effective elution, ensure that the elution solution is dispensed onto the membrane center and absorbed completely.
14. Centrifuge for 1 min to elute DNA.