Cat.No.: FAPGK 000, 4 preps
FAPGK 001, 50 preps
FAPGK 001-1, 100 preps
FAPGK 001-2, 200 preps
FAPGK 001-3, 300 preps

For Research Use Only

FavorPrep™ Plant Genomic DNA Extraction Mini Kit

Kit Contents:

Cat.No.	FAPGK 000 (4 preps)	FAPGK 001 (50 preps)	FAPGK 001-1 (100 preps)	FAPGK 001-2 (200 preps)	FAPGK 001-3 (300 preps)
FAPG1 Buffer	2.0 ml	25 ml	55 ml	110 ml	165 ml
FAPG2 Buffer	1.0 ml	8 ml	15 ml	30 ml	45 ml
FAPG3 Buffer * (Concentrate)	1.5 ml	15 ml	30 ml	60 ml	90 ml
W1 Buffer * (Concentrate)	0.8 ml	13 ml	26 ml	52 ml	78 ml
Wash Buffer * (Concentrate)	1.5 ml	15 ml	30 ml	30 ml x 2	30 ml x 3
Elution Buffer	1.5 ml	15 ml	30 ml	30 ml x 2	30 ml x 3
RNase A Solution	50 µl	480 µl	960 µl	960 µl x 2	960 µl x 3
Filter Column	4 pcs	50 pcs	100 pcs	200 pcs	300 pcs
FAPG Column	4 pcs	50 pcs	100 pcs	200 pcs	300 pcs
Collection Tube	8 pcs	100 pcs	200 pcs	400 pcs	600 pcs
User Manual	1	1	1	1	1

* Preparation of FAPG1 Buffer, W1 Buffer and Wash buffer at the first use:

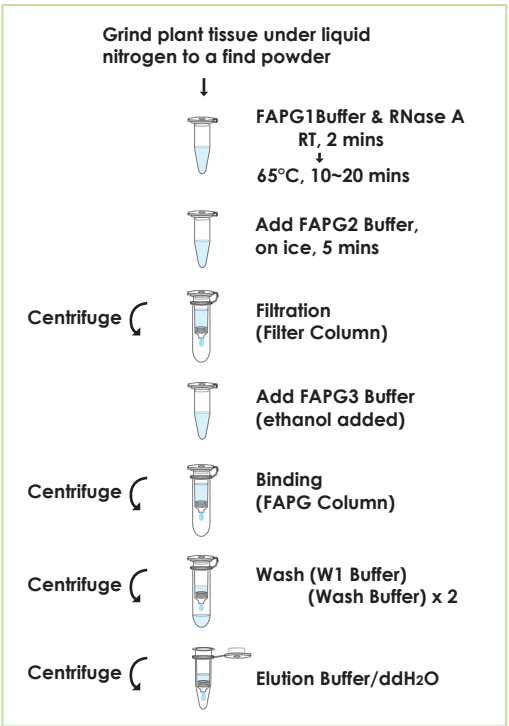
Cat. No:	FAPGK 000 (4 preps)	FAPGK 001 (50 preps)	FAPGK 001-1 (100 preps)	FAPGK 001-2 (200 preps)	FAPGK 001-3 (300 preps)
Ethanol for FAPG3 Buffer	3 ml	30 ml	60 ml	120 ml	180 ml
Ethanol for W1 Buffer	1.0 ml	17 ml	34 ml	68 ml	102 ml
Ethanol for Wash Buffer	6 ml	60 ml	120ml	120ml	120ml

Specification:

Principle: spin column (silica membrane)
Sample: wet weight ≤100 mg
dry weight ≤20 mg
Operation time: <60 mins
DNA yield: 5~40 µg

Important Notes:

1. Buffers provided in this system contain irritants. Wear gloves and lab coat when handling these buffers.
2. Check FAPG1 Buffer before use (warm FAPG1 Buffer at 60°C for 5 mins if any precipitate form).
3. Preheat dry baths or water baths to 65°C before the operation.
4. Add required ethanol (96~100%) to FAPG3 Buffer, W1 Buffer and Wash Buffer before use.
5. Store RNase A Solution at -20°C upon receipt of kit.



General Protocol:

HINT: Prepare a 65°C bath and a ice box for step 2 and 3.
Preheat Elution Buffer or ddH2O to 65°C for step 13 (elution step).

1. **Grind 50 mg of wet weight (up to 100 mg) plant tissue or 20 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 400 µl of FAPG1 Buffer and 8 µl of RNase A Solution to the tissue powder and vortex vigorously. Incubate the mixture at room temperature for 2 mins then at 65°C for 10~20 mins and invert 2~3 times during incubation.**

3. **Add 130 µl of FAPG2 Buffer to the mixture. Vortex to mix well and incubate the mixture on ice for 5 mins.**

4. **Place a Filter Column to a Collection Tube and transfer the entire mixture from previous step to the Filter Column. Centrifuge the Filter Column at full speed (~18,000 xg) for 3 mins.**

5. **Transfer the clarified lysate (supernatant) from the Collection Tube to a new microcentrifuge tube (not provided). Discard used Filter Column and Collection Tube. Adjust the volume of clarified lysate.**
   -Note! Do not aspirate any debris when transferring the clarified lysate.

6. **Add 1.5X volume of FAPG3 Buffer (ethanol added) to the clarified lysate and mix well by pipetting.**
   -If the clarified lysate volume is 500 µl, add 750 µl of FAPG3 Buffer to clarified lysate.
   -Make sure that ethanol (96~100%) has been added to FAPG3 Buffer at the first use.

7. **Place a FAPG Column to a new Collection Tube and transfer up to 750 µl of the sample mixture carefully to the FAPG Column. Centrifuge at at full speed (18,000 xg or 14,000 rpm) for 1 min. Discard the flow-through and place the FAPG Column back to the Collection Tube.**

8. **Repeat step 7 for the rest of the sample mixture.**

9. **Add 400 µl of W1 Buffer (ethanol added) to the FAPG Column. Centrifuge at full speed (18,000 xg or 14,000 rpm) for 30 secs. Discard the flow-through and place the FAPG Column back to the Collection Tube.**
   -Make sure that ethanol (96~100%) has been added into W1 Buffer at the first use.

10. **Add 650 µl of Wash Buffer (ethanol added) to FAPG Column. Centrifuge at full speed (18,000 xg or 14,000 rpm) for 30 secs. Discard the flow-through and place the FAPG Column back to the Collection Tube.**
    -Make sure that ethanol (96~100%) has been added into Wash Buffer at the first use.

11. **Repeat step 10.**

12. **Centrifuge at full speed (18,000 xg or 14,000 rpm) for an additional 3 mins to dry the FAPG column completely.**
    -**Important step!** This step will avoid the residual liquid to inhibit subsequent enzymatic reactions.

13. **Combine the FAPG Column with a Elution Tube, Add 50~200 µl of preheated Elution Buffer or ddH$_2$O to the membrane center of the FAPG Column. Stand the FAPG Column for 1 min at room temperature.**
    -**Important step!** For effective elution, make sure that the Elution Buffer is dispensed onto the membrane center and is absorbed completely.

14. **Centrifuge at full speed (18,000 xg or 14,000 rpm) for 1 min to elute purified DNA.**

Troubleshooting

Problems	Possible reasons	Solutions
Low or no yield of genomic DNA.		
	Incorrect preparation of FAPG3 Buffer or Wash Buffer.	
	FAPG3 Buffer is not mixed with ethanol before use.	Repeat the extraction procedure with a new sample.
	W1 Buffer and Wash Buffer is not mixed with ethanol before use.	Make sure that the correct volumes of ethanol (96~100%) is added into W1 Buffer and Wash Buffer at the first open. Repeat the extraction procedure with a new sample.
	The volume or the percentage of ethanol is not correct before adding into W1 Buffer and Wash Buffer.	Make sure that the correct volumes of ethanol (96~100 %) is added into W1 Buffer and Wash Buffer at the first use. Repeat the extraction procedure with a new sample.
	Elution of genomic DNA is not efficient	
	pH of water (ddH$_2$O) for elution is acidic.	Make sure the pH of ddH$_2$O is between 7.5~9.0.
		Use Elution Buffer (provided) for elution.
	Elution Buffer or ddH$_2$O is not completely absorbed by column membrane.	After Elution Buffer or ddH$_2$O is added, stand the PAPG Column for 5 mins before centrifugation.
Column is clogged.		
	Sample is too viscous.	Reduce the sample volume.
Degradation of elutated DNA.		
	Sample is old.	Always use fresh or well-conserved sample for genomic DNA extraction.
	Buffer for gel electrophoresis contaminated with DNase.	Use fresh running buffer for gel electrophoresis.