FavorPrep™ MicroElute Gel Extraction Kit

-For extraction of DNA fragments from agarose gel

Cat. No.: FAMGK 000B
FAMGK 001B
FAMGK 001-1B
(For Research Use Only)

Kit Contents:

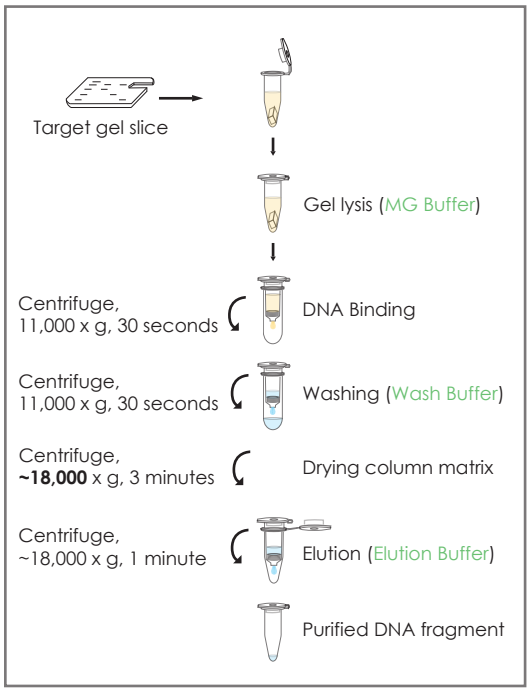
Cat. No:	FAMGK 000B (4 preps)	FAMGK 001B (50 preps)	FAMGK 001-1B (200 preps)
MG Buffer	1.5 ml × 2	65 ml	260 ml
Wash Buffer (Concentrate)[a]	1 ml	12.5 ml	50 ml
Elution Buffer	0.5 ml	5 ml	5 ml
MG Column (Blister packaging)*	4 pcs	10 pcs × 5	10 pcs × 20
Collection Tube	4 pcs	50 pcs	200 pcs
User Manual	1	1	1
Preparation of Wash Buffer by adding ethanol (96~100%)			
Ethanol volume for Wash Buffer[a]	4 ml	50 ml	200 ml

*Store the MG Columns to 4~8°C upon receipt.

Specification:

Principle: spin column (silica matrix)
DNA Binding capacity of spin column: 5 µg
Sample size: up to 200 mg of agarose gel
DNA size: 65 bp~10 kbp
Recovery: 80%~90%
Operation time: 20 minutes
Minimum Elution volume: 10 µl

Brief procedure:



Important Notes:

1. Buffer provided in this kit contain irritants. Wear gloves and lab coat when handling these buffer.
2. Add the required volume of ethanol (96~100%) to Wash Buffer before use.
3. For gel DNA extraction, excising the extra agarose gel to minimize the size of the gel (up to 200 mg).
4. Centrifugation steps are done by a microcentrifuge capable of the speed at 11,000~18,000 x g.

Protocol

Please Read Important Notes Before Starting Following Steps.

Hint: Prepare a 55°C dry bath or water bath for step 4.

1. **Excise the agarose gel with a clean scalpel.**
   -Remove the extra agarose gel to minimize the size of the gel slice.
2. **Transfer up to 200 mg of the gel slice into a microcentrifuge tube** (not provided).
   -The maximum volume of the gel slice is 200 mg. If the excised gel is more than 200 mg, separate it into multiple tubes.
3. **Add 3X volumes of MG Buffer to 1X volume of gel and mix by vortexing.**
   -For example, add 600 µl MG Buffer to 200 mg agarose gel.
   -For >2% agarose gel, add 6X volumes of MG Buffer.
4. **Incubate at 55°C for 5~10 minutes and vortex the tube every 3 minutes until the gel slice dissolved completely.**
   -During incubation, interval vortexing can accelerate the gel dissolved.
   -Make sure that the gel slice has been dissolved completely before proceeding the next step.
5. **Add 1X gel volume of isopropanol to the sample and mix.**
   -For example, if the gel is 200 mg, add 200 µl isopropanol to the sample.
6. **Place a MG Column into a Collection Tube. Transfer 600 µl of the sample mixture to the MG Column. Centrifuge at 11,000 x g for 30 seconds, then discard the flow-through.**
   -If the sample mixture is more than 700 µl, repeat this step for the rest of the sample mixture.
7. **Add 600 µl of Wash Buffer (ethanol added) to the MG Column. Centrifuge at 11,000 x g for 30 seconds, then discard the flow-through.**
   -Make sure that ethanol (96~100%) has been added into Wash Buffer at the first use.

8. Centrifuge again at full speed (~ 18,000 x g) for an additional 3 minutes to dry the column matrix.
-**Important step!** The residual liquid should be removed thoroughly on this step.
9. Place the MG Column to a new microcentrifuge tube (not provided).
10. Add ≥10 µl of Elution Buffer or ddH_2O to the membrane center of the MG Column. Stand the MG Column for 2 minute.
-**Important step!** For effective elution, make sure that the elution solution is dispensed onto the membrane center and is absorbed completely.
-**Important :** Do not elute the DNA using less than suggested volume (10 µl). It will lower the final yield.
-The average eluate volume is 10 µl from 12 µl elution buffer volume.
11. Centrifuge at full speed (~ 18,000 x g) for 1 minute to elute DNA.

Troubleshooting

Problems	Possible reasons	Solutions
The gel slice is hard to dissolve	Agarose gel of high percentage (>2%) is used.	Add 6X volumes of MG Buffer to 1X volume of the gel slice.
	The size of the gel slice is too large.	If the gel slice is more than 200 mg, separate it into multiple tubes.
Low or none recovery of DNA fragment	The column is loaded with too much agarose gel.	The maximum volume of the gel slice is 200 mg per column.
	Elution of DNA fragment is not efficient.	Make sure the pH of Elution Buffer or ddH_2O is between 7.0~8.5.
		Make sure that the elution solution has been completely absorbed by the membrane before centrifuge.
	The size of DNA fragment is larger than 5 Kb.	Preheat the elution solution to 60°C before use.
Eluted DNA contains non-specific DNA fragment	Contaminated scalpel.	Using a new or clean scalpel.
	DNA fragment is denatured.	Incubate eluted DNA at 95°C for 2 min, then cool down slowly to reanneal denatured DNA.
Poor performance in the downstream applications	Salt residue remains in eluted DNA fragment.	Wash the column twice with Wash Buffer.
	Ethanol residue remains in eluted DNA fragment.	Discard the flow-through after washing with Wash Buffer and centrifuge for an additional 3 minutes.