FavorPrep™ Soil DNA Extraction HE Mini Kit

■ Kit Contents

Cat. No.	FASO1030 (4 Preps)	FASO1033 (50 Preps)	FASO1034 (100 Preps)
SDE1 Buffer	1.8 ml x 2	40 ml	70 ml
SDE2 Buffer	1.8 ml	15 ml	30 ml
SDE3 Buffer	1 ml	8 ml	15 ml
SDE4 Buffer (Concentrate)▲	4 ml	40 ml	80 ml
Wash Buffer (Concentrate)■	1.5 ml	15 ml	30 ml
Elution Buffer	0.5 ml	5 ml	7 ml
Proteinase K (Liquid)	150 µl x 2	1600 µl x 2	1600 µl x 4
Bead Tubes	4 pcs	50 pcs	100 pcs
HE Columns	4 pcs	50 pcs	50 pcs x 2
Collection Tubes	4 pcs x 3	50 pcs x 3	100 pcs x 3
Elution Tubes	4 pcs	50 pcs	100 pcs
User Manual	1	1	1
Preparation of **SDE4 Buffer** and **Wash Buffer** by adding 96~100% ethanol.			
Volume of Ethanol for SDE4 Buffer▲	4 ml	40 ml	80 ml
Volume of Ethanol for Wash Buffer■	6 ml	60 ml	120 ml

All kit components are shipped at room temperature and should be stored at room temperatures between 15~25°C.

■ Specification

Format/Principle	Spin Column (silica matrix)
Binding Capacity	≤125 µg DNA/Column
Operation Time	<50 mins
Sample Size	≤600 mg
DNA yield	≤15 µg
Elution Volume	30 µl

Procedure Overview

Soil sample

Centrifuge
18,000 xg, 2 mins

- Weigh soil sample and add 660 µl SDE1-PK mixture in a bead tube.
- Vortex for 5 mins.
- Incubate at 70˚C for 10 mins.

Centrifuge
18,000 xg, 3 mins

- Mix all the supernatant with 260 µl SDE2 Buffer in a 1.5 ml tube.
- Add 100 µl SDE3 Buffer and (Optional) 10 µl RNase A into the tube.
- Incubate on ice for 5 mins

HE Column

Centrifuge
18,000 xg, 1 min

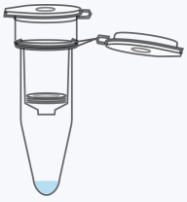
- Mix 700 µl supernatant with 1400 µl SDE4 Buffer (ethanol contained) in a Collection tube.
- Transfer 1000 µl of the mixture into HE Column, repeat this step.

Centrifuge
18,000 xg, 1 min

- Add 500 µl Wash Buffer (ethanol contained).

Centrifuge
18,000 xg, 2 mins

- Repeat wash step and drying the column membrane.



Centrifuge
18,000 xg, 1 min

- Elution (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, RNase A (Optional).
3. (Optional) For DNA long-term storage, the soil can be mixed with FavorPrep™ NApreserve Reagent (Cat. No. FNPR1084) at a ratio of 1:4 (Soil : NApreserve Reagent) by weight.
4. Set up a water bath or dry bath at 70˚C and preheat the Elution Buffer to 70˚C for elution step.
5. Check **SDE1 Buffer** before use. If precipitates are observed, warm-up SDE1 Buffer at 70˚C until precipitates are completely dissolved.
6. Vortex **SDE3 Buffer** evenly before use.
7. Fresh preparation of **SDE1-PK mixture**, premix 600 µl of SDE1 Buffer and 60 µl of Proteinase K per sample before executing DNA extraction.
8. (Optional) If RNA-free genomic DNA is required) premix 100 µl **SDE3 Buffer** with 10 µl RNase A (50 mg/ml) per sample before executing DNA extraction.
9. Add indicated volume of ethanol (96~100%) into **SDE4 Buffer** and **Wash Buffer**, mix well and store at room temperature.

■ General Protocol

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

1. Weigh soil sample (up to 600 mg) into a bead tube**.** Add 660 µl **SDE1-PK mixture** to the tube.
   - **Note**: If the soil sample is in liquid form or stored in FavorPrep™ NApreserve Reagent, centrifuge for 1 min to remove the supernatant before weighing the sample.
2. Vortex using horizontal agitation (Horizontal Tube adapter, full speed) or a homogenizer (2500 rpm) to grind the soil for 5 mins. Mix thoroughly and spin down.
3. Incubate mixture at 70˚C for 10 mins until the soil is lysed completely. Vortex occasionally during incubation.
4. Centrifuge for 2 mins, then transfer all supernatant carefully into a 1.5 ml tube (not provided).
5. Add 260 µl **SDE2 Buffer** and mix thoroughly by pulse-vortexing.
6. Add 100 µl **SDE3 Buffer** (Well-dispersed) and (Optional) RNase A. Mix thoroughly by pulse-vortexing and incubate sample on ice for 5 mins.
7. Centrifuge for 3 mins, then transfer supernatant (up to 700 µl) carefully into a new **Collection tube**.

8. Add 1400 µl **SDE4 Buffer** (ethanol contained) to the sample mixture, mix thoroughly by pipetting.
9. Place an **HE Column** into a new Collection Tube.
10. Transfer 1000 µl mixture carefully into the HE Column and centrifuge for 1 min. Discard flow-through
11. Repeat step 10.
12. Place the HE Column in a new Collection Tube.
13. Add 500 µl **Wash Buffer** (ethanol contained) to the HE Column. Centrifuge for 1 min then discard flow-through.
14. Add 500 µl Wash Buffer (ethanol contained) to the HE Column. Centrifuge for 2 mins to dry the membrane directly. Discard flow-through and Collection tube.
15. 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.
16. Centrifuge for 1 min to elute DNA.