FavorPrep™ Soil DNA Plus Extraction Mini Kit

■ Kit Contents

Cat. No.	FASO2020 (4 Preps)	FASO2023 (50 Preps)	FASO2024 (100 Preps)
SDE1 Buffer	1.8 ml x 2	30 ml	60 ml
SDE2 Buffer	1.8 ml	15 ml	30 ml
SDE3 Buffer	1 ml	4 ml	8 ml
SDE4 Buffer (Concentrate) ▲	3 ml	30 ml	60 ml
Wash Buffer (Concentrate) ■	1.5 ml	15 ml	30 ml
Elution Buffer	0.5 ml	8 ml	15 ml
Proteinase K (Liquid)	150 µl x 2	1050 µl 1600 µl	1050 µl x 2 1600 µl x 2
Bead Tubes	4 pcs	50 pcs	100 pcs
SDE Mini Columns	4 pcs	50 pcs	50 pcs x 2
Collection Tubes	8 pcs	100 pcs	100 pcs x 2
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 ▲	3 ml	30 ml	60 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 temperature between 15~25°C.

■ Specification

Format/Principle	Spin Column (silica matrix)
Binding Capacity	≤60 µg DNA/Column
Operation Time	<50 mins
Sample Size	≤600 mg
DNA yield	≤10 µg
Elution Volume	50~100 µl

Procedure Overview

Soil sample

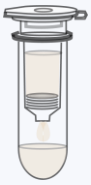
- Weigh soil sample and add 550 µl SDE1-PK mixture in a Bead Tube.
- Vortex for 5 mins.
- Incubate at 60°C for 10 mins.

Centrifuge
18,000 xg, 2 mins

- Mix all the supernatant with 260 µl SDE2 Buffer in a 1.5 ml tube.
- Add 50 µl SDE3 Buffer and (Optional) 5 µl RNase A into the tube.
- Incubate on ice for 5 mins.

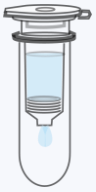
Centrifuge
18,000 xg, 3 mins

SDE Mini Column



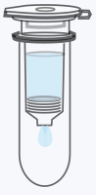
- Mix 500 µl supernatant with 1000 µl SDE4 Buffer (ethanol contained) in a 1.5 ml tube.
- Transfer 750 µl of the mixture into SDE Mini Column.
- Repeat for the remaining mixture.

Centrifuge
18,000 xg, 1 min



- Add 500 µl Wash Buffer (ethanol contained).

Centrifuge
18,000 xg, 1 min



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

Centrifuge
18,000 xg, 2 mins

- Add 50~100 µl Elution Buffer.
- Stand the column for 2 mins.
- Obtain purified genomic DNA.

Centrifuge
18,000 xg, 1 min

■ 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 (Cat. No. FARA2093; optional).
3. (Optional) For DNA long-term storage, mix soil sample with FavorPrep™ NApreserve Reagent (Cat. No. FNPR1084) at a volume ratio of 1:4 (soil : reagent).
4. Set up a water bath or dry bath at 60°C and preheat the Elution Buffer to 60°C for elution step.
5. Check **SDE1 Buffer** before use. If precipitates are observed, warm-up SDE1 Buffer at 60°C until precipitates are completely dissolved.
6. Vortex **SDE3 Buffer** evenly before use.
7. Fresh preparation of **SDE1-PK mixture**, premix 500 µl of SDE1 Buffer and 50 µl of Proteinase K per sample before executing DNA extraction.
8. (Optional) If RNA-free genomic DNA is required) premix 50 µl **SDE3 Buffer** with 5 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.
10. All centrifugation steps should be performed at **18,000 ×g**.

■ 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. Weigh soil sample (up to 600 mg) into a **Bead Tube.** Add 550 µl **SDE1-PK mixture** to the tube.
   - 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 60°C for 10 mins until the soil is lysed completely. Vortex the sample twice during the 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 50 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 500 µl) carefully into a 1.5 ml or 2.0 ml tube (not provided).

8. Add 1000 µl **SDE4 Buffer** (ethanol contained) to the sample mixture, mix thoroughly by pulse-vortexing.
9. Place a **SDE Mini Column** into a new **Collection Tube**.
10. Transfer 750 µl mixture carefully into the SDE Mini Column and centrifuge for 1 min. Discard flow-through.
11. Repeat step 10 for the rest of mixture and place the SDE Mini Column in a new Collection Tube.
12. Add 500 µl **Wash Buffer** (ethanol contained) to the SDE Mini Column. Centrifuge for 1 min then discard flow-through.
13. Add 500 µl Wash Buffer (ethanol contained) to the SDE Mini Column. Centrifuge for 2 mins to dry the membrane directly. Discard flow-through and Collection Tube.
    - **Important step!** Don't let the tip of the column touch the flow-through. If in doubt, spin again to remove all residual ethanol.
14. Place the SDE Mini Column in an **Elution Tube**, then add 50~100 µl prewarmed **Elution Buffer** or ddH_2O (pH 7.5~9.0) directly onto the membrane. Stand the HE Column for 2 mins.
    - **Important step!** For effective elution, ensure that the elution solution is dispensed onto the membrane center and absorbed completely.
15. Centrifuge for 1 min to elute DNA.