Presto™ Soil DNA Extraction Kit Quick Protocol

For research use only

Catalogue Number

SLD004, SLD050, SLD100

Instruction Manual Download

When using this product for the first time, or if you are unfamiliar with the procedure, please scan the QR code and download the complete instruction manual.

Instruction Manual Download

IMPORTANT BEFORE USE!

1. If precipitates have formed in SL1 Buffer, warm in a 37ºC water bath, followed by gentle shaking to dissolve.

2. Add absolute ethanol (see the bottle label for volume) to Wash Buffer then mix by shaking for a few seconds. Check the box on the bottle. Be sure and close the bottle tightly after each use to avoid ethanol evaporation.

1. Sample Lysis

Transfer **250-500 mg of soil to a Beadbeating Tube**. Add **750 µl of SL1 Buffer** then vortex briefly. **Very dry soil samples** soak up large amounts of SL1 Buffer. In this case, either reduce the soil amount or add additional SL1 Buffer. For **wet soil samples**, after transferring to a Beadbeating Tube, centrifuge at 8,000 x g for 1 minute. Remove as much liquid as possible with a pipette before adding SL1 Buffer. For **frozen soil samples**, incubate the Beadbeating Tube at 70ºC for 10 minutes. Attach the **Beadbeating Tubes** horizontally to a vortex by taping or using an adapter. Vortex at maximum speed for 10 minutes at room temperature. Centrifuge the Beadbeating Tubes at 8,000 x g for 2 minutes at room temperature to eliminate the foam caused by detergents present in SL1 Buffer. Preheat Elution Buffer (100 µl per sample) to 60ºC for DNA elution.

2. PCR Inhibitor Removal

Add **150 µl of SL2 Buffer to the Beadbeating Tube** and vortex for 5 seconds. Incubate at 0-4ºC for 5 minutes. Centrifuge at 8,000 x g for 1 minute at room temperature to precipitate insoluble particles and PCR inhibitors. Place an **Inhibitor Removal Column (purple ring) in a 2 ml Centrifuge Tube**. Transfer **500-600 µl of clear supernatant** from the Beadbeating Tube to the Inhibitor Removal Column. Centrifuge at 16,000 x g for 1 minute at room temperature then discard the column. Save the flow-through in the 2 ml Centrifuge Tube for DNA Binding. If a pellet is in the flow-through, transfer the clear supernatant to a new 1.5 ml microcentrifuge tube (not provided).

3. DNA Binding

Add **900 µl of SL3 Buffer** to the flow-through then mix IMMEDIATELY by shaking vigorously for 5 seconds. Place a **GD Column (green ring) in a 2 ml Collection Tube**. Transfer **750 µl of sample mixture** to the **GD Column**. Centrifuge at 16,000 x g for 1 minute at room temperature then discard the flow-through. Place the **GD Column** back in the **2 ml Collection Tube**. Transfer the remaining sample mixture to the **GD Column**. Centrifuge at 16,000 x g for 1 minute at room temperature. Discard the flow-through then place the **GD Column** back in the **2 ml Collection Tube**.

4. Wash

Add **400 µl of SL3 Buffer** to the **GD Column**. Centrifuge at 16,000 x g for 30 seconds at room temperature. Discard the flow-through then place the **GD Column** back in the **2 ml Collection Tube**. Add **600 µl of Wash Buffer (make sure absolute ethanol was added)** to the **GD Column**. Centrifuge at 16,000 x g for 30 seconds at room temperature. Discard the flow-through then place the **GD Column** back in the **2 ml Collection Tube**. Add **600 µl of Wash Buffer (make sure absolute ethanol was added)** to the **GD Column** again. Centrifuge at 16,000 x g for 30 seconds at room temperature. Discard the flow-through then place the **GD Column** back in the **2 ml Collection Tube**. Centrifuge at 16,000 x g for 3 minutes at room temperature to dry the column matrix.

5. Elution

Transfer the dry **GD Column** to a new 1.5 ml microcentrifuge tube. Add **30-100 µl of preheated Elution Buffer**[1], TE[2] or water[3] into the CENTER of the column matrix. Let stand for at least 2 minutes to allow **Elution Buffer**, TE or water to be completely absorbed. Centrifuge at 16,000 x g for 2 minutes at room temperature to elute the purified DNA.

[1]If a higher DNA concentration is required, use 30 µl of Elution Buffer (10 mM Tris-HCl, pH8.5) then repeat the Elution step by adding the same 30 µl of Elution Buffer (which now contains the eluted DNA) to the center of the column matrix again. If maximum DNA yield is required, use 100 µl of Elution Buffer (DNA concentration will be diluted). Ensure that Elution Buffer is added into the center of the GD Column matrix and is completely absorbed.

[2]Using TE (10 mM Tris-HCl, 1 mM EDTA, pH8.0) for elution is beneficial as EDTA preserves DNA for long term storage. However, EDTA will affect PCR and other sensitive downstream applications. Ensure that TE is added into the center of the GD Column matrix and is completely absorbed.

[3]If using water for elution, ensure the water pH is between 7.0 and 8.5. ddH_2O should be fresh as ambient CO_2 can quickly cause acidification. Ensure that water is added into the center of the GD Column matrix and is completely absorbed. DNA eluted in water should be stored at -20ºC to avoid degradation.

Components

Component	SLD004	SLD050	SLD100
SL1 Buffer[1]	2 ml x 2	50 ml	85 ml
SL2 Buffer	1 ml	15 ml	30 ml
SL3 Buffer	10 ml	45 ml x 2	160 ml
Wash Buffer[2] (Add Ethanol)	1 ml (4 ml)	25 ml (100 ml)	25 ml (100 ml)
Elution Buffer	1 ml	6 ml	30 ml
Inhibitor Removal Columns	4 pcs	50 pcs	100 pcs
GD Columns	4 pcs	50 pcs	100 pcs
Beadbeating Tubes (Type C)	4 pcs	50 pcs	100 pcs
2 ml Centrifuge Tubes	4 pcs	50 pcs	100 pcs
2 ml Collection Tubes	4 pcs	50 pcs	100 pcs

[1]If precipitates have formed in SL1 Buffer, warm the buffer in a 37ºC water bath, followed by gentle shaking to dissolve.

[2]Add absolute ethanol (see the bottle label for volume) to Wash Buffer then mix by shaking for a few seconds. Check the box on the bottle. Be sure and close the bottle tightly after each use to avoid ethanol evaporation.

Storage

Dry at room temperature (15-25ºC)