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Soil Genomic DNA Extraction Kit

Cat No.: EXD0210

Package: 50T/100T

Storage: At room temperature(15℃-25℃) in dry place for 1 year.

Kit Contents

Component	50T	100T
Solution A	25 ml	50 ml
Solution B	3 ml	6 ml
Solution C	5 ml	10 ml
Solution D	10 ml	20 ml
Washing Buffer	15 ml	15 ml × 2
Elution Buffer	15 ml	15 ml × 2
Adsorption Column	50 Units	100 Units
Collection Tube	50 Units	100 Units
PCR Enhancer	500 ul	1 ml
Instruction	1 Piece	1 Piece

Note: Once opened, Solution A, B, C, D should be kept at 2-8℃. PCR Enhancer should be kept at -20℃.

Product Description

Soil Genomic DNA Extraction Kit is suitable for extracting of microbial DNA from extreme soil environment such as cinnamon soil, mud, volcanic ash, etc. This kit has a good lysis effect on bacteria and fungi from soil to preserve microbial DNA diversity to the utmost.

With unique humus adsorption material, this kit can efficiently and specifically remove a variety of humus components, at the same time, it won't affect yield, and purity is several times higher than that of phenol-chloroform extraction method.

The extracted DNA is large yield and good integrity, it can be directly used for a variety of routine operations, including enzyme digestion, PCR, library construction, Southern blot, etc.

Protocol

Add fresh opened absolute ethanol in Washing Buffer before use, volume is based on the label of bottle as a reference. Put cap back on bottle and shake well. All centrifuge steps are performed at room temperature(15℃-25℃).

1. Method A: Weigh soil sample 0.1-0.5g, add soil into mortar, pour proper amount of liquid nitrogen, grind immediately, repeat three times. When soil turns into powder, add 450ul Solution A, keep shaking for 1-2min until solute is completely suspended.

   Method B: Weigh soil sample 0.1-0.5g in centrifuge tube(it is better to use 2ml round bottom),

add 450ul Solution A, keep shaking for 1-2min until solute is completely suspended.
Note: The effect of grinding with liquid nitrogen will be better.

2. Add 50ul Solution B, invert tube several times to mix fully(don't shake violently). Incubate at 65°C water bath for 6min, invert and mix each 2 min.
3. Add 100ul Solution C, invert tube several times to mix fully(don't shake violently). Centrifuge at 12000rpm for 10min.
4. Transfer supernatant to a new centrifuge tube, centrifuge at 12000rpm for 10min.
5. Add 200ul Solution D in Adsorption Column, add supernatant centrifuged from step 4 to Adsorption Column, mixed fully by pipette. Centrifuge at 12000rpm for 1min.
6. Mix filtrate in Collection Tube fully, add it into Adsorption Column, centrifuge at 12000rpm for 1min.
7. Remove waste liquid in Collection Tube, add 500ul Washing Buffer in Adsorption Column, centrifuge at 12000rpm for 1min.
8. Repeat step 7 twice(wash three times in total).
9. Remove waste liquid in Collection Tube, put Adsorption Column back Collection Tube, centrifuge at 12000rpm for 2min.
10. Dry Adsorption Column at room temperature(15°C-25°C) for a few minutes or at 50°C for 1min.
11. Put Adsorption Column in a new centrifuge tube, add 50-100ul Washing Buffer (preheat at 65°C before use), centrifuge at 12000rpm for 1min.
12. Add filtrate in the centrifuge tube to the Adsorption Column, centrifuge at 12000rpm for 1min. Liquid in centrifuge tube is soil genomic DNA extraction solution.
13. If PCR effect of DNA is not good, properly dilute DNA concentration or add 1/10 volume of PCR enhancer.

Notes

1. Fresh soil samples will get a higher yield. And it is better to refer to proper preservation conditions for different samples.
2. If solution shows precipitation, redissolve at 37°C water bath for a moment, precipitation will disappear, it does not affect DNA extraction.
3. When taking supernatant, it should avoid taking precipitation, otherwise it will block Adsorption Column and affect purity of product.
4. Volume of Elution buffer shouldn't be less than 50ul, if volume is too small, it will affect recovery efficiency. It is suggested to use Elution buffer provided with kit, using water as Elution buffer will lose a part of DNA. Extracted DNA should be stored at -20°C and avoid repeated freeze-thaw cycles to prevent DNA degradation.
5. If product contains residual humus, it will seriously affect DNA absorbance, so it should be identified by a combination of electrophoresis detection and spectrophotometer detection.
6. Avoid touching liquid reagents, in case of accidental contact, rinse immediately with plenty of water.