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A Geno Technology, Inc. (USA) brand name

OmniPrep™ Soil DNA

Isolate PCR Ready DNA from A Wide Variety of Environmental Samples

(Cat. # 786-469)

INTRODUCTION

The OmniPrep™ Soil DNA kit provides all the reagents necessary to isolate PCR ready DNA for a large variety of environmental samples. The kit is primarily designed for use with environmental samples containing a high humic acid content, including difficult soil samples such as compost, manure and sediment. A major issue with high humic acid samples is the humic acids, and metals and polysaccharides, inhibit subsequent PCR. OmniPrep™ Soil DNA SoilOUT™ columns remove this interfering agents allowing for successful PCR.

ITEMS SUPPLIED (Cat. # 786-469)

Part. #	Description	Size
068G-C	Genomic Lysis Buffer	30ml
073L	LongLife Proteinase K (5mg/ml)	0.5ml
189D-B	DNA Stripping Solution	4 x 0.5ml
344P-B	Precipitation Solution	3 x 2ml
257S-A	SoilOUT™ Columns	50
036T-A	TE Buffer	60ml

STORAGE CONDITIONS

The kit is shipped at ambient temperature. Upon arrival, store the kit components as recommended on the reagent label. This product is stable for 1 year at 4°C.

IMPORTANT INFORMATION

- Sample Source: Due to the wide variety of environmental samples compatible with this kit and the large variety of organic contaminants in these different samples a degree of optimization will be required. This will include the amount of sample used and volume of extract loaded on the SoilOUT™ columns.
- Sample Homogenization: This kit uses a strong lysis buffer to release the DNA, however improved DNA yields may be achieved with bead mill homogenization, ultra-sonication or grinding the samples under liquid nitrogen.

ADDITIONAL ITEMS REQUIRED

- Isopropanol
- 70% ethanol
- 2ml collection tubes/ centrifuge tubes

PREPARATION BEFORE USE

- Preheat water bath to 55-60°C

PROTOCOL

1. Transfer 100mg soli sample to a 2ml centrifuge tube and add 400µl Genomic Lysis Buffer and 4µl LongLife™ Proteinase K. Vigorously vortex to mix.
   NOTE: LongLife™ Proteinase K is an enzyme suspension. Vortex vigorously before adding to the sample.
2. Incubate the sample at 55°C for 30-60 minutes with end-over-end mixing.
   NOTE: *The OmniPrep™ Soil DNA kit uses a strong lysis buffer to release the DNA, however improved DNA yields may be achieved with bead mill homogenization, ultra-sonication or grinding the samples under liquid nitrogen. We also recommend our EZ-Grind™ product (Cat. # 786-139) for grinding the samples for improved DNA release.*
3. Add 40µl DNA Stripping Solution and invert the tube several times to mix. Incubate the samples at 55°C for 10 minutes.
4. Centrifuge at 14,000xg for 5 minutes to pellet the solid debris. Transfer 250µl of the supernatant to a clean tube.
5. Add 100µl Precipitation Solution and mix by inverting the tube several times. A white precipitate should be produced, if not add a further 50µl Precipitation Solution.
   NOTE: *In some cases the precipitate will be hard to see.*
6. Centrifuge the sample at 14,000g for 10 minutes.
7. In the meantime, snap off the tab on the SoilOUT™ column and place into a 2ml collection tube and centrifuge at 1,000xg for 2 minutes to remove the storage buffer. Add 0.5ml TE Buffer to the column and repeat the centrifugation. Discard the flow-through. Repeat the TE Buffer wash once more.
8. Place the column in a clean collection tube. Transfer 100µl supernatant from Step 6 to the SoilOUT™ column and centrifuge at 1,000xg for 2 minutes. The flow-through contains the genomic DNA.
   NOTE: *For samples high in humic acid and other contaminants the volume added to the SoilOUT™ column will need to be optimized. If a brown color passes through the column or inhibition of PCR occurs, load less onto the SoilOUT™ column or use multiple columns.*
9. Precipitate the DNA by adding 0.8 volumes isopropanol to the flow-through. Slowly invert the tube 10 times to precipitate the DNA.
10. Centrifuge at 14,000xg for 5 minutes to pellet the DNA. Remove and discard the supernatant.
11. Add 700µl 70% ethanol to the tube with the pellet and invert several times to wash excess salt from the pellet. Centrifuge at 14,000xg for 5 minutes to pellet the DNA
    NOTE: In some cases the pellet may be hard to see and be loosely attached to the tube. Take care when washing and removing supernatants.
12. Carefully decant or pipette off the 70% ethanol wash, invert the tube on a clean absorbent surface for several minutes to allow excess ethanol to drain off.

13. Add 50-100µl TE Buffer to the pellet and incubate at 55-60°C for at least 15 minutes to rehydrate the DNA.
    NOTE: *If required, RNase can be added at this stage to remove RNA.*
14. The DNA is now ready for PCR amplification.

RELATED PRODUCTS

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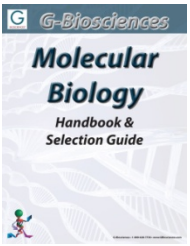

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