PowerSoil® DNA Isolation Kit

For isolating genomic microbial DNA of the highest quality and purity from most environmental samples

Description

The UltraClean® Fecal DNA Kit is a bead-beating method designed to isolate cellular, PCR quality genomic DNA from stool samples, dried fecal samples, droppings, forensic samples, and gut material. Simultaneous isolation of both host and microbial DNA is achieved. The kit also ensures removal of PCR inhibitors from the starting sample. Our Vortex Adapter is recommended for cell lysis. This fecal DNA kit has been used by numerous law enforcement agencies, zoologists and forensic scientists. The PowerSoil® DNA Isolation Kit* is our next generation soil DNA kit, which uses our novel, patented Inhibitor Removal Technology® to extract microbial DNA from all soil types and other environmental samples. The isolated DNA has the highest level of purity allowing for more successful PCR and QPCR amplification of organisms from the sample. The kit is ideal for processing all environmental samples including difficult types containing a high humic acid content such as compost, sediment, and manure. PCR analysis has been performed to detect a variety of organisms including both Gram-positive and Gram-negative bacteria (e.g. Bacillus subtilis, Bacillus anthracis), fungi (e.g. yeasts, molds), algae, and actinomycetes (e.g. Streptomyces), and nematodes.

The PowerSoil® DNA Isolation Kit distinguishes itself from other kits with a patented humic substance/brown color removal procedure that removes PCR inhibitors from even the most difficult soil types, promoting successful downstream PCR analysis. When choosing between the PowerSoil® DNA Isolation Kit and the UltraClean® Soil DNA Isolation Kit, use this kit for samples that are very high in humic content.

Do not let the name fool you. Our customers use this kit successfully on diverse sample types such as food (cheese, milk, meat, fruit), water, insects and fecal samples in a variety of applications including biodefense, agriculture and zoology. These soil kits are used by the USEPA, USDA, FBI and CDC for soil analysis.

Features

- Next generation method improves PCR inhibitor removal efficiency
- Processes all soil types, including difficult environmental samples
- Patented technology removes 100% of humic substances and PCR inhibitors
- Rapid protocol enables purification of DNA from 250 mg soil in 30 minutes
- Applications include biodefense, soil-borne pathogen detection, agriculture and zoology research

Storage Conditions

Store at room temperature for up to 2 years.

To order contact:
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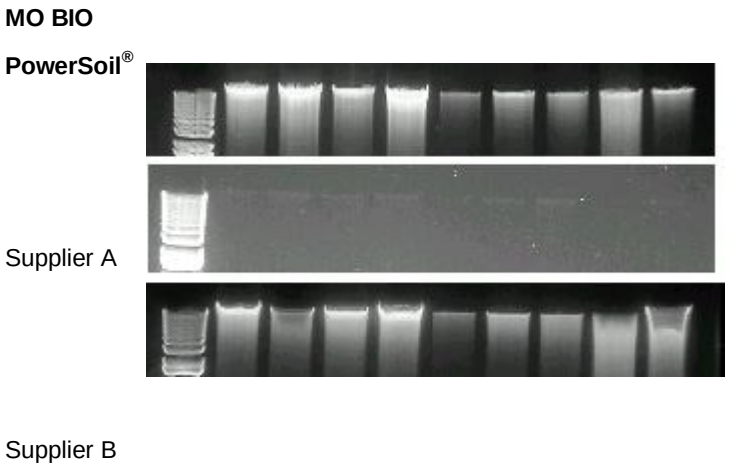
Kit Components

Component	12888-50	12888-100
PowerBead Tubes	50	100
Solution C1	1 x 3.3 ml	1 x 6.6 ml
Solution C2	1 x 14 ml	1 x 28 ml
Solution C3	1 x 11 ml	1 x 22 ml
Solution C4	1 x 72 ml	1 x 144 ml
Solution C5	1 x 27.5 ml	1 x 55 ml
Solution C6	1 x 6 ml	1 x 12 ml
Spin Filters In Tubes	50	100
Collection Tubes	200	400

Research and Development

The PowerSoil® DNA Isolation Kit is More Effective for Community Analysis by PCR

High Yield, Intact Genomic DNA



Total Genomic DNA was isolated from nine different sample types using the MO BIO PowerSoil® DNA Isolation Kit and soil DNA isolation kits from two other suppliers. All isolations were performed following the manufacturerís protocols. Eluted genomic DNA was displayed on a 0.8% TAE agarose gel (15 µl per lane).

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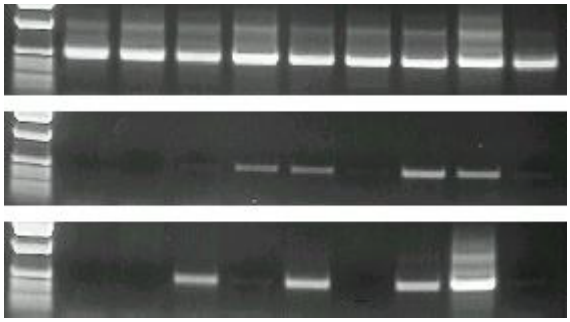
Confidence in Your PCR Analysis

MO BIO

PowerSoil®



Supplier A

Supplier B

7 8 6 5 4 3 2 1 M 9

PCR analysis using eubacterial primers was performed on 1 µl of the undiluted DNA eluate. PCR products were displayed on a 0.8% TAE agarose gel. Lane M is DNA Marker.

Lane 1 - Landfill 0-3 inches	**Lane 4 -** Coffee Compost	**Lane 7 -** Mud Sediment
Lane 2 - Landfill 3-6 inches	**Lane 5 -** Marine Sediment	**Lane 8 -** Horse Manure
Lane 3 - Late-stage Compost	**Lane 6 -** Lake Sediment	**Lane 9 -** Mulch Topsoil

Only DNA isolated with PowerSoil® yielded a PCR product for Landfill samples (lanes 1 and 2), Lake Sediment (lane 6) and Mulch Topsoil (lane 9). DNA isolated using other supplier kits failed to amplify products for these samples, most likely due to high levels of humic acid substances remaining in the final DNA eluate. Positive PCR amplification using PowerSoil® was observed with 100% of the samples. PCR analysis resulted in only 44% positive amplification with supplier kits tested.

Related Products

PowerClean™ DNA Clean-Up Kit

PowerMax™ Soil DNA Isolation Kit

PowerSoil™ –htp 96 Well Soil DNA Isolation Kit

RNA PowerSoil Total RNA Isolation Kit

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