MB542MPF16 HiPurA® Pre- filled Plates for Soil DNA Purification

Kit Contents

Product Code	Reagents provided	MB542MPF16
		96 PR
PF16V1	Pre-Filled Plates for Soil DNA Purification	6 no
LA1118B	Magnetic Rod Tip	12 no
DS1005A	Magnetic Beads	2 ml
DS0015	Lysis Solution (AL)	73 ml
DS0066	Inhibitor Removal Solution (IRSH)	25 ml
DS0010	Lysis Solution (C1)	20 ml
DS0040	Elution Buffer (ET) [10 mM Tris-Cl, pH 8.5]	7 ml
DBCA04	HiBead Tubes	96 no

Intended Use

Recommended for isolation of DNA from Soil samples.

Introduction

HiPurA® Pre- filled Plates for Soil DNA Purification provides a fast and easy method for purification of total DNA from environmental samples containing a high humic acid content including difficult soil types such as compost, sediment, manure and other common soil types, for reliable applications in PCR and other downstream applications. HiPurA® Pre- filled Plates for Soil DNA Purification can be used for isolation of DNA from soil samples, but the performance may vary depending on the soil sample.

HiPurA® Pre- filled Plates for Soil DNA Purification

HiPurA® Pre- filled Plates for Soil DNA Purification simplifies isolation of DNA from soil using Magnetic beads. The kit is optimized to process 500-600 mg of soil sample. Soil samples possess typically many compounds that can inhibit downstream enzymatic reactions. The HiPurA® Pre- filled Plates for Soil DNA Purification effectively removes these inhibitory compounds during the extraction process. The sample is lysed using Lysis Solution (AL) and Lysis solution (C1) further the inhibitors are removed using the Inhibitor Removal Solution (IRSH), provided in the kit. The supernatant obtained on centrifugation is then mixed with a solution that enhances the binding of DNA to the magnetic particles. The magnetic particles are then carried forward to the washing step to remove trace contaminants. High quality DNA is eluted in the Elution Buffer (ET) provided in the pre-filled plate. The purified DNA can directly be used for PCR analysis and other downstream applications.

Elution

The yield of genomic DNA depends on the sample type and the number of microorganisms present in the sample. A single elution with 70 µl of Elution Buffer (ET) (DS0040) or Molecular Biology Grade Water (ML024) will provide sufficient DNA to carry out multiple amplification reaction. The eluted DNA is suitable for direct use in PCR, restriction digestion, and hybridization techniques.

ISO 9001-2015 CERTIFIED
WHO GMP CERTIFIED
ISO 13485-2016 CERTIFIED

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Storage

HiPurA® Pre- filled Plates for Soil DNA Purification can be stored at room temperature (15-25°C) for up to 2 year without showing any reduction in performance. We advise a certain storage temperature for the reagents listed below:

- On receipt store Magnetic Beads (DS1005A): at 2-8°C.

Materials needed but not provided

- Insta NX® Mag16 (LA1118)
- Vortex
- Flat-bed vortex
- Heating block preheated to 55°C
- Ice
- Tabletop Microcentrifuge [capable of at least 13,000 x g (≈14,000 rpm)]
- HiPer® Lock Microcentrifuge Tube, 2.0ml (Product Code: MBLA017)

General Preparation Instructions

1. **Thoroughly mix reagents**

   Examine the reagents for precipitation. If any kit reagent forms a precipitate (other than enzymes), warm at 55-65°C until the precipitate dissolves and allow cooling to room temperature (15-25°C) before use.

2. Ensure that clean & dry Nuclease-free tubes and tips are used for the procedure.

3. **Vigorously shake magnetic beads before use.**

   NOTE: Magnetic beads should form a homogenous suspension. No pellets should be observed. DNA extraction process might get affected if the solution is not homogenous.

4. Preheat the heating block to 55°C.

Specimen Handling and Collection

Collect soil sample in a sterile container and store the sample at 15-25°C for short term storage.

Types of Specimen
Samples: Soil, Mangrove soil

Procedure

1. **Lysis**
   To the HiBead Tube (DBCA04) provided, add 750 µl of Lysis Solution (AL) (DS0015) and 500-600 mg of soil sample (Sieve the soil sample before use). Mix by inverting the tube several times or by gentle vortexing.

2. Secure the HiBead tube horizontally on a flat-bed vortex pad using a tape and vortex at 1000rpm for 10 minutes.

   NOTE: Ensure that the HiBead tubes rotate freely in the centrifuge without rubbing.

3. Incubate the tubes at 55°C for 30 minutes.

4. Centrifuge the tube at 13,000 x g (≈14,000 rpm) for 1 minute at room temperature (15-25°C).
   NOTE: Make sure not to exceed the speed more than 13,000 x g or else the tubes may break.

5. Transfer the supernatant to a new capped 2.0 ml collection tube (not provided).

   NOTE: The supernatant may still contain some soil particles.

6. Add 200 µl Lysis solution(C1) (DS0010) to the supernatant obtained. Mix evenly by gentle vortexing.

7. Incubate the tubes at 55°C for 10 minutes. Mix the tube contents intermittently by inverting several times during incubation.

8. Add 250 µl of Inhibitor Removal Solution (IRSH) (DS0066), vortex for 5 seconds and incubate at 4°C for 5 minutes.

9. Centrifuge the tube at 13,000 x g (≈14,000 rpm) for 1 minute at room temperature (15-25°C).

10. The obtained supernatant is the **pre-processed sample**.

    NOTE: Approximately 500-550 µl supernatant is expected.

Set up processing plates as follows:

1. Switch on the UV light for 10 minutes prior to use.

2. Select **"MB542M16"** program. Open the door of the machine.

3. Remove the seal from the **Pre- filled Plates for Soil DNA Purification (PF16V1).**

   NOTE: Take care while peeling off the seal. Hold the plate firmly by one hand and then peel off the seal by holding it in your other hand without shaking the plate.

4. Add **50µl of Elution Buffer** (ET) [10mM Tris-Cl, pH8.5] into the **6th and 12th column of the Pre-filled Plates for Soil DNA purification (PF16V1).**

5. Add **500µl of the pre-processed sample in the 1st column and 7th column of Pre-filled Plates for Soil DNA Purification (PF16V1).**

6. Add **20µl of Magnetic beads (DS1005A) in the 1st column and 7th column** of Pre-filled Plates for Soil DNA Purification **(PF16V1).**

7. Place the Magnetic Rod Tip (LA1118B) onto the machine.

   NOTE: After placing the rods ensure that the rods are properly fixed on their place.

   NOTE: 16 samples can be processed in a single Pre- filled Plates for Soil DNA Purification (PF16V1).

8. Close the door and Click on the **RUN** option on the home screen.

9. After the run is complete discard the Magnetic Rod Tip (LA1118B). Remove the Pre-filled Plates for Soil DNA Purification (PF16V1) from the position. Dispense the eluted Genomic DNA from column 6 and column 12 to a new Collection Tube (not provided). The eluate contains pure nucleic acid.

   NOTE: A small amount of magnetic beads may be observed in the final eluate at the bottom of the plate. Avoid transferring these magnetic beads to your PCR reaction mixture.

Storage of the eluate with purified DNA: The eluate contains pure DNA. For short-term storage (24-48 hrs.) of the DNA, 2-8°C is recommended. For long-term storage, recommended to be stored at -20°C or lower temperature (-80°C). Avoid repeated freezing and thawing of the sample which may cause denaturing of DNA.

Warning

Not for Medicinal Use. Read the procedure carefully before beginning the protocol. Wear protective gloves/protective clothing/eye protection/face protection. Follow good clinical laboratory practices while handling clinical samples. Standard precautions should be followed as per established guidelines. Safety guidelines may be referred in safety data sheets of the product.

Limitations

The yield of DNA depends upon the type and the volume of starting material used.

Performance and Evaluation

The yield and efficiency of purification is determined by performing Real- Time PCR.

Quality Control

Each lot of HiMedia's Pre-filled Plates for Soil DNA Purification is tested against predetermined specifications to ensure consistent product quality.

Safety Information

The HiPurA® Pre-filled Plates for Soil DNA Purification is for laboratory use only, not for drug, household or other uses. Take appropriate laboratory safety measures and wear gloves when handling. Not compatible with disinfecting agents containing bleach. Please refer the Safety Data Sheet (SDS) for information regarding hazards and safe handling practices.

Disposal

User must ensure safe disposal by autoclaving and/ or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques.

Technical Assistance

At HiMedia, we pride ourselves on the quality and availability of our technical support. For any kind of technical assistance mail to mb@himedialabs.com.

Please refer disclaimer Overleaf.

Symbols

	Manufacturer		Do not use if package is damaged
	Catalogue number		Temperature limit
	Date of manufacture (YYYY-MM)		Consult instructions for use
	Use-by date (YYYY-MM)		
	Batch code		

Identification No.: PIMB542MPF16
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