MB562PC16 HiPurA® Pre-filled Cartridges for Food DNA Extraction

Kit Contents

Product Code	Reagents provided	MB562PC16
		48 PR
PF16E1	Pre-filled Cartridges for Food DNA Extraction	48 no
LA1118B	Magnetic Rod Tip	12 no
DS0010	Lysis Solution (C1)	35 ml
DS0040	Elution Buffer (ET) [10 mM Tris-Cl, pH 8.5]	4.5 ml
DS0013	Proteinase K	1 ml
DS0003	RNase A (20mg/ml)	1 ml
DS1005A	Magnetic Beads	1 ml

Intended Use

Recommended for isolation of DNA from Food samples.

Introduction

HiPurA® Pre- filled Cartridges for Food DNA Extraction for Insta NX® Mag16 provides the fastest and easiest way to purify DNA for reliable use in amplification technologies. HiPurA® Pre- filled Cartridges for Food DNA Extraction can be used for isolation of DNA from various samples, but the performance may vary depending on the sample type. The DNA Extraction procedure comprises of three steps viz. adsorption of DNA to the magnetic beads, removal of residual contaminants and elution of pure DNA. The magnetic beads have a high binding capacity and high-quality DNA is obtained from sample. The purified DNA can directly be used for PCR analysis and other downstream applications.

HiPurA® Pre-filled Cartridges for Food DNA Extraction

This kit carries out efficient extraction of genomic DNA from wide range of samples. Sample is first lysed under the highly denaturing conditions provided by Lysis Solution to inactivate DNases and to ensure isolation of intact genomic DNA. The DNA purification procedure comprises of three steps viz. adsorption of DNA to the magnetic beads, removal of residual contaminants and elution of pure genomic DNA. The magnetic beads have a high binding capacity and high-quality genomic DNA is obtained from various species. The DNA obtained is compatible with downstream applications such as restriction enzyme digestion, PCR and Southern blotting.

Elution

The yield of genomic DNA depends on the sample type and the number of cells in the sample. A single elution with Elution buffer will provide sufficient nucleic acid to carry out multiple amplification reactions.

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

Registered Office
HiMedia Laboratories Pvt Ltd.
Plot No. C-40, Road No. 21Y, MIDC, Wagle Industrial Estate,
Thane, (West) 400604, Maharashtra, INDIA.
Customer Care No.: 00-91-22-6116 9797
Tel : 00-91-22-6147 1919, 6903 4800

Fax : 6147 1920
Web : www.himedialabs.com
Email : info@himedialabs.com
mb@himedialabs.com

Storage

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

- **On receipt store Proteinase K (DS0013): at -20°C**
- **On receipt store RNase A (DS0003): at 2-8°C**
- **On receipt store Magnetic Beads (DS1005A): at 2-8°C**

Materials needed but not provided

- 65°C water bath or heating block
- Tabletop Microcentrifuge (with rotor for 2.0 ml tubes)
- Mortar and pestle
- Liquid nitrogen
- HiPer® Lock Microcentrifuge Tube, 2.0 mL (Product Code: MBLA017)
- Insta NX® Mag16 (LA1118)
- Insta NX® Mag32 (LA1096)
- Vortex

General Preparation Instructions

1. Preheat a water bath or heating block to 65°C.

2. **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. The reagent should be at room temperature (15-25°C) before use.

3. Ensure that clean & dry tubes and tips are used for the procedure.

RNase A enzyme treatment

RNase A is a type of RNase that is commonly used in research. RNase A (e.g. bovine pancreatic ribonuclease A) is one of the sturdiest enzymes in common laboratory usage. It cleaves 3' end of unpaired C and U residues.

Unit Definition for RNase A
One unit of the enzyme causes an increase in absorbance of 1.0 at 260 nm when yeast RNA is hydrolyzed at 37°C and pH 5.0. Fifty units are approximately equivalent to 1 Kunitz unit. It is completely free of DNases and proteases. The specific activity is 90 U/mg.
The product as supplied is stable at room temperature (15-25°C).

Specimen Collection and Handling

For Food
Collect food sample in a sterile container and freeze the sample at -20°C for short term storage or -80°C for long term storage.

Types of Specimen

Samples: Food

Procedure

1. **Sample Preparation and cell lysis**

a) Solid Sample: Grind the sample to fine powder using commercial homogenizer or liquid nitrogen in a mortar and pestle.

NOTE: Lysis is more efficient when the sample is well homogenized. Homogenization is not needed; however, complete suspension is required for efficient lysis).

Transfer 25-200mg of ground sample into a clean 2.0ml capped microcentrifuge tube (not provided). Add 700µl Lysis Solution C1 (DS0010) and 20µl of the Proteinase K (DS0013). Vortex for 10-15 seconds to ensure thorough mixing. Incubate at 65°C for 30 minutes with occasional mixing during incubation to ensure thorough lysis of sample.

b) Liquid Sample: Transfer 400µl of sample directly into clean 2.0ml capped microcentrifuge tube (not provided). Add 300µl of Lysis Solution C1 (DS0010), 20µl of Proteinase K (DS0013). Vortex for 10-15 seconds to ensure thorough mixing.

Optional RNase A treatment
If RNA-free DNA is required, add 20µl of RNase A solution (20 mg/ml) (DS0003). Vortex for 10-15 seconds and continue with step 2.

2. Incubate at 65°C for 30 minutes with occasional mixing during incubation to ensure thorough lysis of sample.

3. Centrifuge at ≥6,500 x g (≈10,000 rpm) for 1 minute to pellet down the cell debris and contaminants. Transfer 450µl of the cleared supernatant to a clean micro centrifuge tube. This will be your pre- processed sample**.**

NOTE: While transferring the supernatant, avoid touching the pellet and the layer of contaminants on top of the solution if any.

Set up processing Cartridges as follows:

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

2. Select **"MB562M"** program. Open the door of the Insta NX® Mag16 machine.

3. Remove the seal from the Pre-filled Cartridges for Food DNA Extraction (PF16E1). Place the Pre-filled Cartridges for Food DNA Extraction (PF16E1) into the Cartridge Holder (LA1118CH).

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

4. Add **50µl of Elution** Buffer (ET) [10mM Tris-Cl, pH8.5] (DS0040) into the **6th well of the Pre-filled Cartridges for Food DNA purification (PF16E1).**

5. Add **450µl pre- processed sample** in the **1st well of the Pre-filled Cartridges for Food DNA Extraction (PF16E1).**

6. **Add 20µl Magnetic Beads (DS1005A) in the 1st well of the Pre-filled Cartridges for Food DNA Extraction (PF16E1).**

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.

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

9. After the run is complete, remove the cartridges from the position. Discard the Magnetic Rod Tip (LA1118B). Dispense the eluted DNA from well 6 to a new HiPer® Lock Microcentrifuge Tube, 2.0ml (Product Code: MBLA017) (not provided). The eluate contains pure DNA.

NOTE: If small amount of magnetic beads are observed in the final eluate then keep the cartridges along with cartridge holder on Magnetic pad (not provided) for 4-5 minute and collect supernatant carefully without disturbing beads pellet in new collection tube.

OR

Take out eluate in new collection tube and centrifuge at higher speed for around 1 min to pellet down the traces of Magnetic beads present in the eluate.

***NOTE: If you process less than 4 samples at a time please order LA1118B- Magnetic Rod Tip (Pack size- LA1118B-4no/ LA1118B-40no).**

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 HiPurA® Pre- filled Cartridges for Food DNA Extraction is tested against predetermined specifications to ensure consistent product quality.

Safety Information

The HiPurA® Pre- filled Cartridges for Food DNA Extraction 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)		Contains biological material of animal origin
	Batch code		

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HiMedia Laboratories Pvt. Ltd. Reg.office : Plot No. C-40, Road No. 21Y, MIDC, Wagle Industrial Estate, Thane, (West) 400604, Maharashtra, INDIA.
Customer Care No.: 00-91-22-6116 9797 Tel: 00-91-22-6147 1919, 6903 4800 Email: techhelp@himedialabs.com Website: www.himedialabs.com