

## MB622PC16 HiPurA® Pre- filled Cartridges for Water Nucleic Acid Purification

### Kit Contents

Product Code	Reagents provided	MB622PC16
		48 PR
PF16M	Pre-filled cartridges for Water Nucleic Acid Purification	48 no
LA1118B	Magnetic Rod Tip	24 no
DS0010	Lysis Solution (C1)	28 ml
ML060	TE Buffer (10 mM Tris Cl, 1mM EDTA pH 8.0)	25 ml
DS2281	Lysozyme	0.5 gm
DS0192	Carrier RNA	0.3 mg
DS1005A	Magnetic Beads	1 ml
DS0042	Elution Solution (RNase free water)	3 ml
DS0931	Filter Membranes	48 no
DBCA020	Hi-Water Bead Tube	48 no

### Intended Use

Recommended for isolation of Nucleic acid from water samples.

### Introduction

HiPurA® Pre-filled cartridges for Water Nucleic Acid Purification provides the fastest and easiest way to purify Nucleic acid for reliable use in amplification technologies. HiPurA® Pre-filled cartridges for Water Nucleic Acid Purification can be used for isolation of Nucleic acid from a wide range of water samples, but performance may vary depending on the sample type.

### HiPurA® Pre- filled Cartridges for Water Nucleic Acid Purification

This kit carries out efficient extraction of Nucleic acid from wide range of water samples. Sample is first lysed under the highly denaturing conditions provided by Lysis Solution (C1) to inactivate RNases and to ensure isolation of intact Nucleic acid. When Carrier RNA is added to Elution Solution (RNase-free Water), it improves the binding of Nucleic acid to the magnetic beads especially in the case of low-titer samples, and limits possible degradation of the viral nucleic acid due to any residual RNase activity.

### Elution

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

## Storage

HiPurA® Pre- filled Cartridges for Water Nucleic Acid Purification 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 Carrier RNA (DS0192): at -20°C**
- **Reconstituted Carrier RNA: -20°C in aliquots to avoid repeated freeze and thaw**
- **On receipt store Magnetic Beads (DS1005A): at 2-8°C**
- **On receipt store Lysozyme (DS2281) at 2-8°C**

## Materials needed but not provided

- RNase- free pipette tips (aerosol barrier recommended)
- Insta NX® Mag16 (LA1118)
- Insta NX® Mag32 (LA1096)
- Vortex
- Centrifuge (with rotor for 2.0 ml and 15 ml tubes)
- Forceps (Product code: LA710)
- Micro Centrifugal Tube 1.5ml (PW146)
- Cartridge Holder (LA1118CH)
- HiPer® Lock Microcentrifuge Tube, 2.0ml (Product Code: MBLA017)

## Precautions to be taken while handling RNA

Ribonucleases (RNases) are very stable and active enzymes that generally do not require cofactors to function. Since RNases are difficult to inactivate and even minute amounts are sufficient to destroy RNA, do not use any plasticware or glassware without first eliminating possible RNase contamination. Great care should be taken to avoid inadvertently introducing RNases into the RNA sample during or after the isolation procedure. In order to create and maintain an RNase-free environment, the following precautions must be taken during pretreatment and use of disposable and non- disposable vessels and solutions while working with RNA.

1. Always wear latex or vinyl gloves while handling reagents and RNA samples to prevent RNase contamination from surface of the skin or from dusty laboratory equipment. Change gloves frequently and keep tubes closed whenever possible.
2. Use sterile, disposable plasticware and autoclavable pipettes reserved for RNA work to prevent cross-contamination with RNases from shared equipment.
3. Non-disposable plasticware should be treated before use to ensure that it is RNase-free. Plasticware should be thoroughly rinsed with 0.1M NaOH, 1mM EDTA followed by RNase-free water. Alternatively, chloroform-resistant plasticware can be rinsed with chloroform to inactivate RNases.
4. Glassware used for RNA work should be cleaned with a detergent, thoroughly rinsed, and oven baked at 240°C for four or more hours before use. Alternatively, glassware can be treated with DEPC (Diethyl pyro carbonate). Fill glassware with 0.1% DEPC (0.1% in water), allow to stand overnight at 37°C, and then autoclave or heat to 100°C for 15 min to eliminate residual DEPC.
5. Solutions (water and other solutions) should be treated with 0.1% DEPC.

## 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. Vortex magnetic beads before use.

### 4. Prepare Lysozyme Solution (Product Code: DS2281)

Prepare a **20 mg/ml** solution of Lysozyme (approximately  $2.115 \times 10^6$  unit/ml) in 1XTE Buffer (10mM Tris Cl, 1mM EDTA pH 8.0) (ML060). Lysozyme solution should be freshly prepared prior to use.

Example: In order to make 1ml of Lysozyme solution, dissolve 20mg of lysozyme (provided) in 1ml of 1XTE Buffer (10mM Tris Cl, 1mM EDTA pH 8.0) (ML060) (not provided). Pipette the mixture up and down or vortex to dissolve the lysozyme.

**NOTE:** Lysozyme dissolves readily by pipetting up and down as opposed to vortexing. Excessive vortexing may cause foaming.

### 5. Reconstitute Carrier RNA (DS0192)

Carrier RNA (DS0192)	Elution Solution (RNase free water) (DS0042)
0.3 mg	0.3 ml

Dissolve Carrier RNA thoroughly by pipetting. We recommend storing the reconstituted Carrier RNA at -20°C in aliquots to avoid repeated freeze and thaw.

## Specimen Handling and Collection

Collect water sample in a sterile container.

**Types of Specimen:** Water

**Procedure:**

### Sample Pre-processing:

- Filter 50-1000 ml of water sample through a Filter Membranes (DS0931) to trap the microorganisms or virus particles.
- Aseptically remove the filter paper using sterile forceps, gently roll the paper and place it inside the Hi-Water Bead tube (DBCA020), such that the top side of the filter paper faces inward.
- Add 500µl of lysozyme containing TE Buffer (**Refer to General Preparation Instructions**) and mix well by vortexing for 10 minutes.
- Centrifuge the Hi-Water Bead Tube (DBCA020) at 5000 rpm for 3 minutes (in a 15 ml rotor) at room temperature (15-25°C).
- Transfer 140µl supernatant to a Micro Centrifugal Tube 1.5ml (PW146) (not provided).

- f) Add 560µl of Lysis Solution (C1) (DS0010) and 5.6 µl Carrier RNA (DS0192) to the water sample. (**Refer to General Preparation Instructions**). Mix by pulse vortexing for 15 seconds.
- g) Incubate for 10 minutes at room temperature (15-25°C).
- h) Centrifuge the samples for 10 seconds to remove any droplets formed inside the cap of collection tubes. This will be your pre- processed sample.

**Set up processing cartridges as follows:**

1. Switch on the UV light for 10 minutes prior to use.
2. Open the door of Insta NX® Mag16 machine.
3. Select “**MB622M**” program.
4. Place the cartridges on the cartridge holder (LA1118CH). Remove the seal from the Pre-filled cartridges for Water Nucleic acid Purification (PF16M).

**NOTE: Take care while peeling off the seal. Hold the cartridges firmly by your left hand and then peel off the seal by holding it in your right hand without shaking the cartridges.**

5. Distribute 350µl lysate into the **1<sup>st</sup> well** and the remaining 350µl lysate into **2<sup>nd</sup> well of the Pre-filled Cartridges for Water Nucleic Acid Purification (PF16M)**.

**NOTE: Well 1<sup>st</sup> and 2<sup>nd</sup> of Pre-filled Cartridge for Water Nucleic Acid Purification should contain same sample material. Final volume of a single sample is 700µl.**

6. Add **50µl of Elution Buffer (RNase free water) (DS0042)** in the **6<sup>th</sup> well of the Pre- filled Cartridges for Water Nucleic Acid Purification (PF16M)**.
7. Add 10µl of Magnetic Beads (DS1005A) in the **1<sup>st</sup> & 2<sup>nd</sup> well of the Pre- filled Cartridges for Water Nucleic Acid Purification (PF16M)**. Place the Cartridge Holder (LA1118CH) along with cartridges on the platform and close the door of Insta NX® Mag16 machine.
8. Place the Magnetic Rods Tip (LA1118B) by sliding onto the machine.

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

9. Click on the **RUN** option on the home screen.
10. After the run is complete, discard the Magnetic Rods Tip (LA1118B). Remove the cartridge holder along with cartridges from the position. Dispense the eluted nucleic acid from well 6 to a new HiPer® Lock Microcentrifuge Tube, 2.0ml (Product Code: MBLA017) (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 tube. Avoid transferring these magnetic beads to your PCR reaction mixture.**

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.

**Storage of the eluate with purified nucleic acid:** The eluate contains pure nucleic acid, recommended to be stored at lower temperature (-80°C). Avoid repeated freezing and thawing of the sample which may cause denaturing of nucleic acid.

### **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 nucleic acid 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 Water Nucleic Acid Purification [For Insta NX® Mag16] is tested against predetermined specifications to ensure consistent product quality.

### **Safety Information**

The HiPurA® Pre- filled Cartridges for Water Nucleic Acid Purification [For Insta NX® Mag16] 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](mailto:mb@himedialabs.com).

---

Please refer disclaimer Overleaf.

## Symbols

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

Identification No.: PIMB622PC16

Rev. No.: 02

Date of Issued: 2025-04

### Disclaimer :

User must ensure suitability of the product(s) in their application prior to use. Products conform solely to the information contained in this and other related HiMedia™ publications. The information contained in this publication is based on our research and development work and is to the best of our knowledge true and accurate. HiMedia™ Laboratories Pvt Ltd reserves the right to make changes to specifications and information related to the products at any time. Products are not intended for human or animal or therapeutic use but for laboratory, diagnostic, research or further manufacturing use only, unless otherwise specified. Statements contained herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for infringement of any patents.

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