

# Reagent Kit Selection Guide

## Reagent Kit Selection Guide (From Target Nucleic Acids)

Target	Type	Origin	Scale	Reagent Kits
DNA	Total DNA	Human, animal blood (fresh, old, dried, frozen whole blood with common anticoagulants, Buffy Coat)	100-400 µl whole blood	AnaPrep Blood DNA Extraction Kit 200
			400-1000 µl whole blood	AnaPrep Blood DNA Extraction Kit 1200 *especially for the granulocytes-rich blood samples (white blood cell no. more than $2 \times 10^4$ cells/µl)
DNA	Virus	Whole Blood	100-400 µl whole blood	AnaPrep Blood DNA Extraction Kit 200
DNA/RNA	Virus	Cell culture supernant, human serum, plasma, urine, cerebrospinal fluid, and other cell-free body fluids	See Reagent Handbook	AnaPrep Viral Nucleic Acid Extraction Kit
DNA	Virus/ Bacteria	Genital tract specimen (collected by cervical brush or genital swab), cervicovagina lavage, urine specimens	See Reagent Handbook	AnaPrep HPV DNA Extraction kit for swab samples
DNA	Total DNA	<ul style="list-style-type: none"> <li>Human and animal tissue (fresh and frozen tissues), Rodent tails</li> <li>Insects (fresh and frozen tissue)</li> <li>Dried blood</li> <li>Dried Swab Material (buccal, nasal, pharyngeal, vaginal, eye swab or saliva)</li> </ul>	See Reagent Handbook	AnaPrep Tissue DNA Extraction Kit
DNA	Total DNA	FFPE (formalin fixed paraffin embedded) tissue sections	See Reagent Handbook	AnaPrep FFPE DNA Extraction Kit
DNA	Total DNA	Cell culture, plasma, serum, bone marrow, buffy coat (fresh or frozen serum/plasma, cells in adherent/suspension culture, lavage)	See Reagent Handbook	AnaPrep Cultured Cell DNA Extraction Kit
DNA	Bacteria	Bacteria species (from different kinds of starting materials), bacteria pellets, liquid transport media, swabs and urine, colony	See Reagent Handbook	AnaPrep Bacterial DNA Extraction Kit *Special item: AnaPrep TB DNA Extraction Kit
DNA	Total DNA	Forensic material (whole blood, clotted blood, bones, teeth, ancient bones, hair roots, forensic surface and contact swabs, saliva, chewing gum, cigarette butts, stamps, envelops, tissue, etc.)	See Reagent Handbook	AnaPrep Forensic DNA Extraction Kit

# Introduction

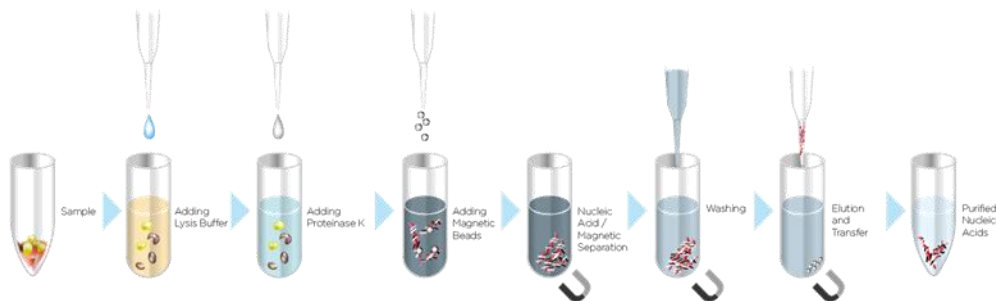
## The BioChain Nucleic Acid Preparation Technology

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### Introduction

BioChain Institute Inc. specializes in developing advanced, efficient and reliable technologies in nucleic acid preparation, to enable successful delivery of extraction results from varied sample types.

The AnaPrep technology is a state of the art platform that uses magnetic beads to extract nucleic acids from samples. The platform commits to a truly walk-away automation for nucleic acid purification from samples to results. The purification processes contain steps of lysis, binding, washing and elution (see figure below).



magnetic bead extraction process

# Product information

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## Intended use

AnaPrep Kits are intended to be used on the AnaPrep 12 instrument for the preparation of nucleic acids from biological specimens. The AnaPrep instrument and the AnaPrep kits are not intended for use as part of a specific in vitro diagnostic test.

The nucleic acids purified using the AnaPrep 12 instrument and reagent kits are suitable for a variety of polymerase chain reaction (PCR) tests. The AnaPrep 12 instrument and reagent kits are intended for research use only.

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## Warranty

BioChain is committed to providing our customers with high-quality products and services. Our goal is to ensure that every customer is 100% satisfied with our products and services. If you have questions or concerns about our product or services, contact our Technical Support Representatives.

BioChain guarantees the performance of all products according to specifications stated in our product literature. The purchaser/user must determine the suitability of the product for its particular use. We reserve the right to change, alter, or modify any product to enhance its performance and design.

This warranty limits BioChain Institute's liability only to the cost of the product. No warranty is granted for products beyond their listed expiration date. No warranty is applicable unless all product components are stored in accordance with instructions.

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**Satisfaction****Guarantee**

For any product that fails to perform satisfactorily due to any reason other than misuse, BioChain will replace it free of charge. Simply call BioChain or your distributor to get a replacement.

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**Technical  
Support**

For technical assistance and more information, please visit our website at [www.biochain.com](http://www.biochain.com) or call the BioChain Technical Service Department or your local distributors.

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**Safety  
Information**

When working with chemicals or samples, always wear a suitable lab coat, disposable gloves, and protective goggles. For more information, please consult the appropriate material safety data sheets (MSDS). You can find, download, view, and print them from our website [www.biochain.com](http://www.biochain.com).

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**Manufacturer  
Information****Manufacturer:**

BioChain Institute Inc.

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**Country of Origin:** USA

# AnaPrep Viral Nucleic Acid Large Volume Extraction Kit

Cat. No. Z1322016

Process Time: 60-95 minutes

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## Intended Use

The AnaPrep Viral Nucleic Acid Large Volume Extraction Kit is used with the AnaPrep 12 instrument for extraction of Viral DNA or RNA from human biological specimens such as serum, plasma, and other cell-free fluids

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## Application

Nucleic acids extracted from the AnaPrep Viral Nucleic Acid Large Volume Extraction kit can be used in a number of downstream applications including: PCR, qPCR, Sequencing (NGS), Microarray, RFLP, and Southern Blot Analysis.

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## Number Of Tests

48 extractions

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## Kit Components

Kit Contents	Z1322016-48
Reagent Cartridge	48 pcs (4x6x2)
Reaction Chamber	48 pcs (4x6x2)
Tip Holder	48 pcs (24x2)
Filtered Tip	50 pcs (25x2)
Piercing Pin	50 pcs (25x2)
Sample Tube (2 ml)	50 pcs (25x2)
Elute Tube (1.5 ml)	50 pcs (25x2)

RNA Carrier (1mg)	2 pcs (1x2)
Barcode Paper	1 pcs

## Reagent Cartridge Content



well-1	Proteinase K solution	30 µl
well-2	Lysis Buffer 4	1100 µl
well-3	Binding Buffer 1	1600 µl
well-4	Magnetic Bead Solution	800 µl
well-5	Washing Buffer 2	1100 µl
well-6	Washing Buffer A	1100 µl
well-7	Washing Buffer B	1100 µl
well-8	RNase-free water	1000 µl
well-9	Rnase-free water	1000 µl
well-10	Empty	

## Storage

- ◆ The AnaPrep Viral Nucleic Acid Extraction Kit should be stored at room temperature (15-25°C). Do not freeze the reagent cartridges. The kits are stable for 12 months under the proper storage conditions.
- ◆ After dissolving the carrier RNA, store it at 4°C (short-term, up to 1 month) or -20°C (long-term). Do

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not freeze–thaw the frozen carrier RNA more than 3 times.

- ◆ Store the nucleic acid at 4°C (short-term, up to 1 month) or -20°C (long-term). Repeated freeze-thawing is not recommended.

### Starting Material

Sample Type	Target Nucleic Acid	Sample Volume (Amount of starting material)	Elution Volume
Serum	Total Viral Nucleic Acids (DNA + RNA)	400-1000µl	50-300µl
Plasma			
CSF			
Pretreated Urine			
Cell-free body fluids			
Controls/internal control#	Add controls /internal control in the extraction procedure if the downstream analysis needed (# see control/internal control on page 24 )		

- ◆ The kit is designed for extraction of viral nucleic acids (e.g., those of HIV, HCV, HBV, or HPV) from plasma or serum, or from a pool of such cell-free body fluids.
- ◆ After extraction, store the nucleic acid at 4°C (up to 24 hours) or -20°C for longer storage. Repeated freeze–thawing is not recommended.

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### Sample preparation

- ◆ The purification procedure is optimized for use with 400-1000 µl serum, plasma, CSF, or pretreated urine samples (Blood samples treated with EDTA or citrate as an anticoagulant can be used for plasma preparation).
- ◆ Samples can be either fresh or frozen, provided that they have not been refrozen after thawing.
- ◆ After collection and centrifugation, plasma, serum, or CSF can be stored at 2–8°C for up to 6 hours. For longer storage, we recommend freezing aliquots at –20°C

or –80°C. Thaw samples at room temperature (15–25°C), equilibrated to room temperature. Do not refreeze the aliquots after thawing. Repeated freeze–thawing leads to denaturation and precipitation of proteins, resulting in reduced viral titers and therefore reduced yields of viral nucleic acids.

- ◆ If cryoprecipitates are visible in the samples, centrifuge at 6800 x g for 3 minutes, transfer the supernatants to fresh tubes without disturbing the pellets, and start the purification procedure immediately.

### Carrier RNA

- ◆ **For RNA virus, adding carrier RNA to the sample before extraction is recommended.**
- ◆ Add 1.0 ml RNase free water to the carrier RNA tube (provided with the kit) and mix by vortexing. Store the prepared Carrier RNA (1mg/ml) at -20°C. Do not freeze-thaw the frozen carrier RNA more than 3 times.
- ◆ Add 20-40 µl of the Carrier RNA (for 400-1000 µl sample) into the Sample Tube.

### Controls/ internal control

Using appropriate controls for downstream analysis: :

Type	Description	Location
Positive control	Use sample positive for target	Place in sample tube
Negative control	Use sample negative for target or water (NTC)	Place in sample tube
Internal control(IC)	Use a defined quantity control	Place in sample tube or the round well of the reaction chamber*

\*Use RNA as internal control, add it into round well of reaction chamber is recommended



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## **Quality Control**

In accordance with BioChain's ISO-certified Quality Management System, each lot of AnaPrep Viral Nucleic Acid Large Volume Extraction Kits are tested to ensure consistent product quality.

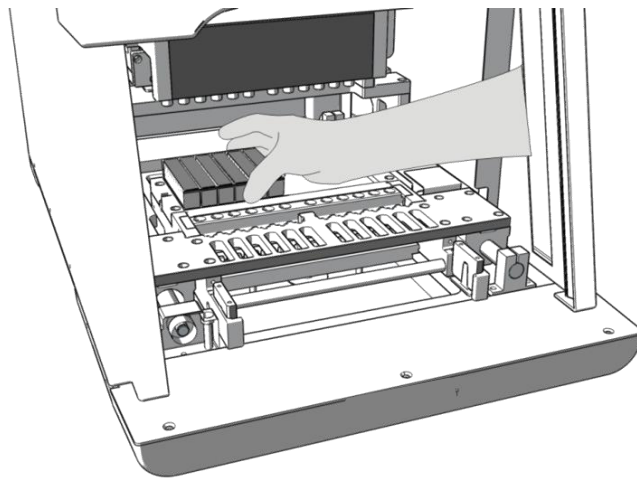
## Protocol of extraction

1. Turn the power switch on and wait for the LCD screen to light up and display “AnaPrep 12 System Stand-By”.
2. Press the “Start” button  
(The system will process self-testing, and then go to steady mode).

**Note:**

The system will block main functions before the completion of the self-testing process.

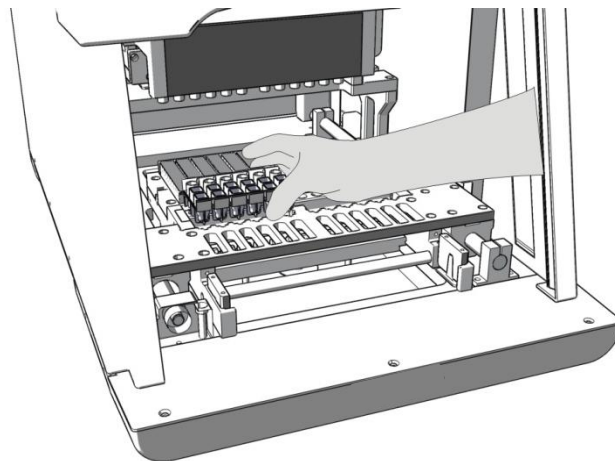
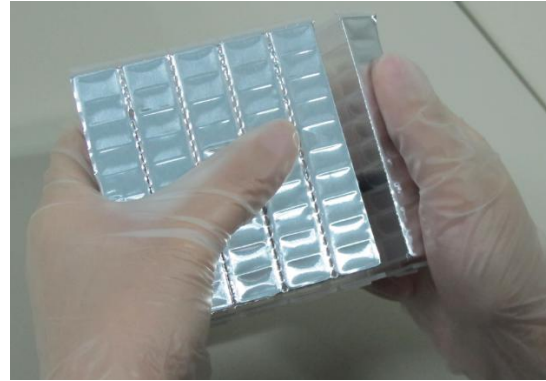
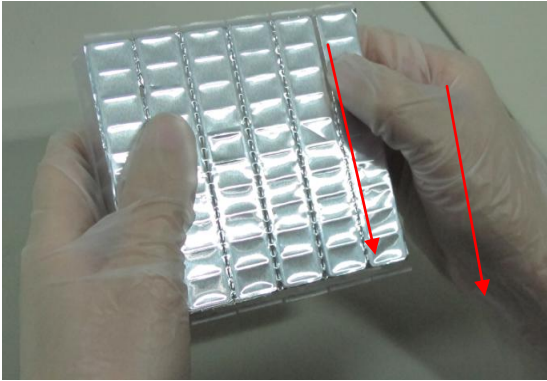
3. Open the sliding door and remove the sample rack from the instrument.
4. Load Reagent Cartridges, and all plastic disposables (Reaction Chamber, Tip Holder, Piercing Pin, and Filtered Tip)



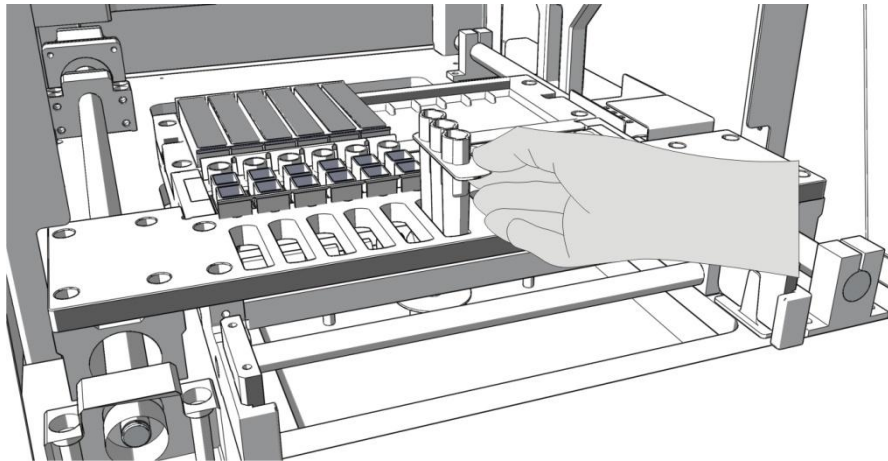
### Insert Reagent Cartridges

## ■ How to pull apart the reagent cartridges

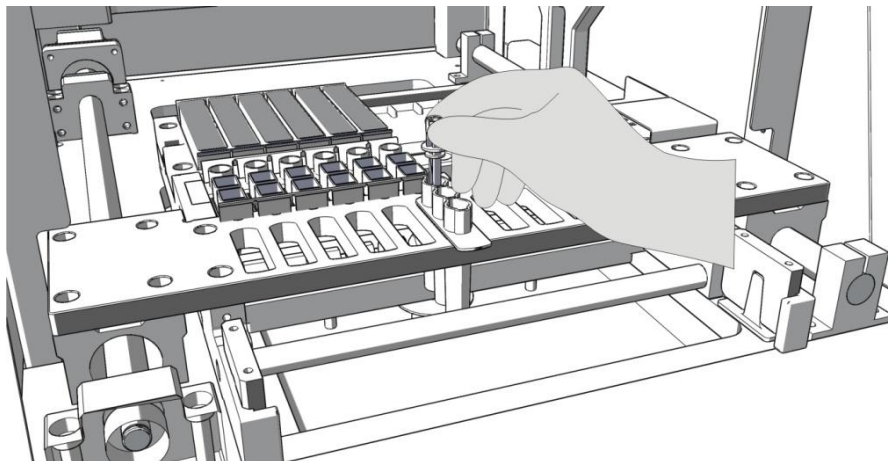
- Cut foil with a finger nail along the dotted line and then snap it apart with a little bit of force.



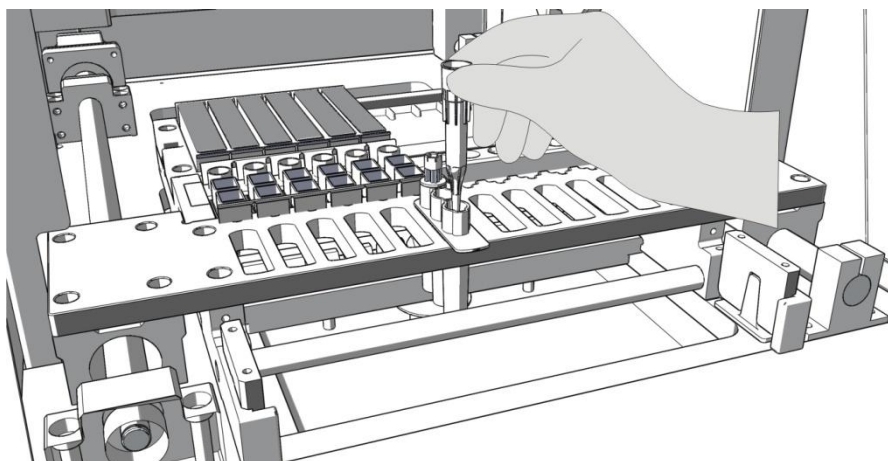
**Insert Reaction Chambers**



**Insert Tip Holder**



**Insert Piercing Pins**



**Insert Filtered Tips**

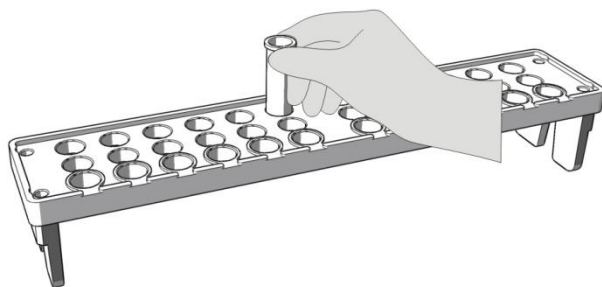
**Note:**

Load one Reagent Cartridge and one set of plastic disposables per sample.

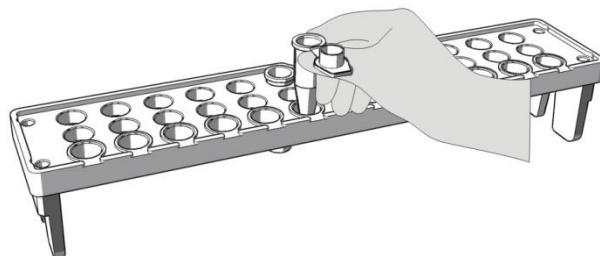
**Important:**

- Set Reagent Cartridges in the order of the number from left to right.
- Make sure that Cartridges are inserted in to the Cartridge Tray tightly.
- You can load 1-12 cartridges on the tray depending on the number of samples that you wish to process.

5. Load Sample Tube and Elute Tube to Sample Rack on the bench

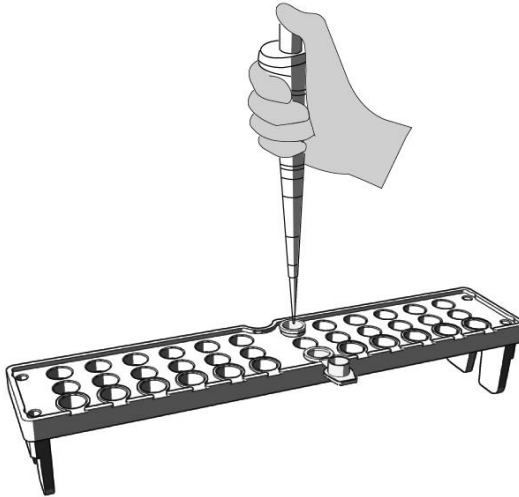


**Insert Sample Tube into the Sample Rack**



**Insert Elute Tube into the Sample Rack**

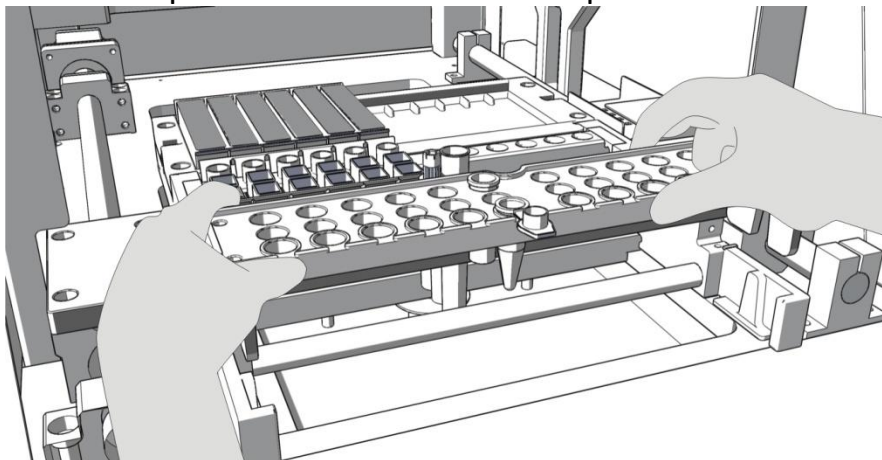
6. Load the sample(s) to Sample Tube.



**Note:**

- Pretreatments are essential for some sample types before loading to Sample Tube. Please refer to the handbook of reagent kits for details.
- Make sure the caps of Elute Tube are open as the figure shown above.

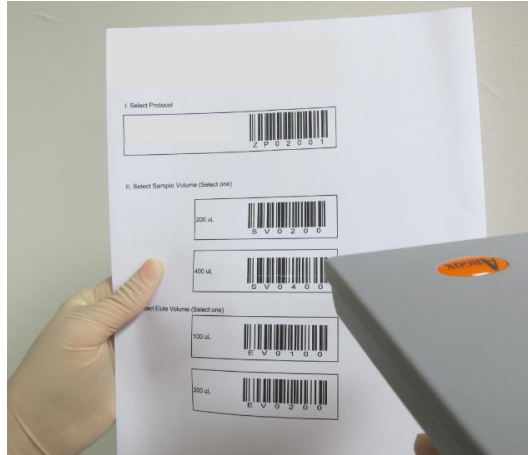
7. Place Sample Rack on the instrument platform



**Note:**

- Use two hands to handle the Sample Tray.
- Make sure the Sample Tray is placed correctly in the instrument.

8. Close the door.
9. Scan the protocol barcodes to select purification protocol, sample volume and elute volume.



**Note:**

- There is one protocol barcode paper enclosed in each reagent kit box.
  - The protocol's name, sample volume and elution volume will be shown on LCD screen after the protocol barcodes are scanned.
10. Follow the instructions displayed on the LCD screen to double check the operation steps to be completed prior to running the program.
  11. Press "Enter" to confirm. The instrument will start running the protocol program automatically and will terminate once all processes are completed.

**Note:**

- It takes 30 to 45 minutes to complete the extraction process and may vary according to reagent types.
12. At the end of the run, the instrument beeps briefly while the LCD screen displays "Protocol Completed".
  13. Open the instrument door.
  14. Remove the elute tubes containing the purified nucleic acids.  
Note: Store the purified nucleic acids at 4°C for short-term storage or store at -70°C for long-term storage.
  15. Discard the used cartridges and all plastic consumables into the

biohazard waste. Do not reuse the cartridges

16. If you're not using the instrument, place the Sample Rack back into the AnaPrep, close the instrument door and press the "Start" button for 2 seconds to enter into "sleep mode". If the instrument will not be used for a longer period of time turn the power switch off.



**BioChain Institute Inc.**



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Active Date: 07202016