

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 2×10^4 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"> Human and animal tissue (fresh and frozen tissues), Rodent tails Insects (fresh and frozen tissue) Dried blood Dried Swab Material (buccal, nasal, pharyngeal, vaginal, eye swab or saliva) 	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

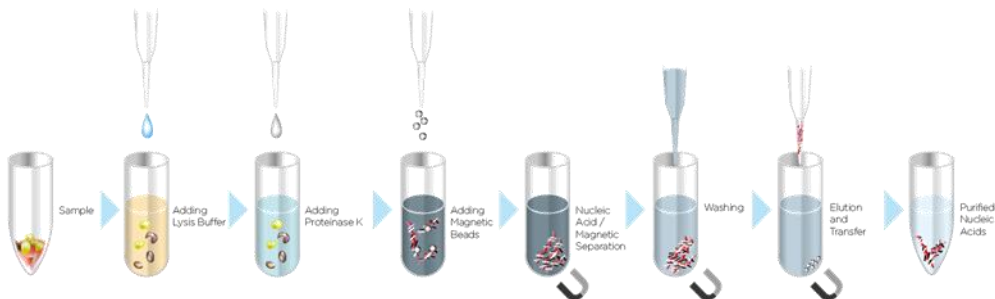
Introduction

The BioChain Nucleic Acid Preparation Technology

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

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.

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.

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.

**Technical
Support**

For technical assistance and more information, please visit our website at www.biochain.com or call the BioChain Technical Service Department or your local distributors.

**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.

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

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Country of Origin: USA

AnaPrep Coronavirus RNA Extraction Kit

Cat. No. Z1322027

Process Time: 39-40minutes

Intended Use

The AnaPrep Coronavirus Extraction Kit is used with the AnaPrep 12 Dx instrument for rapid automated extraction of high-quality Viral RNA from Serum, Plasma, Saliva, Sputum, Clinical Swab samples, Cell free body fluids or Cerebrospinal fluid (CSF) using proven magnetic particle separation technology.

Application

Nucleic acids extracted from the AnaPrep Coronavirus Extraction Kit can be used in a number of downstream applications including: PCR, RT-PCR, Genotyping or Sequencing (NGS) assays.

Kit Components

Kit Contents	Z1322027-48
Reagent Cartridge	48 pcs
Reaction Chamber	48 pcs
Tip Holder	48 pcs
Filter tip	50 pcs
Piercing Pin	50 pcs
Sample Tube (2 mL)	50 pcs
Elution Tube (1.5 mL)	50 pcs
Barcode Label (Dx only)	50 pcs

Reagent Cartridge Content



Well 1 Well 2 Well 3 Well 4 Well 5 well 6 Well 7 Well 8 well 9 Well 10

well-1	Empty	
well-2	Lysis Buffer 7	840 μ l
well-3	Empty	
well-4	Magnetic Bead Solution	800 μ l
well-5	Washing Buffer 7	800 μ l
well-6	Washing Buffer A	1000 μ l
well-7	Washing Buffer B	1000 μ l
well-8	RNase-free water	1000 μ l
well-9	RNase-free water	1000 μ l
well-10	Empty	

Storage

- ◆ The AnaPrep Coronavirus RNA 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.
- ◆ Store the nucleic acid at 4°C (short-term, up to 24 hours) or -70°C (long-term). Repeated freeze-thawing is not recommended.

Starting Material

- ◆ Serum, plasma, cerebrospinal fluid (CSF), pretreated urine, cell-free body fluids, and swab samples.

- ◆ The types and amounts of starting material for use in AnaPrep Coronavirus RNA Extraction kit purification procedures are shown in the Table listed below:

Sample type	Starting material per sample
Serum	100-200 µl
Plasma	
Cerebrospinal fluid (CSF)	
Pretreated Urine	100-200 µl *large volume liquid sample pretreatment
Cell-free body fluids	100-200 µl
Swab Samples	

Sample Preparation

- ◆ Sample preparation requirements are highly dependent upon the type of starting material. Due to variations in consistency and viscosity, even similar sample types may require distinct handling.

- ◆ The table below describes the recommendations in processing the primary samples **before nucleic acid extraction**:

Serum	<ol style="list-style-type: none">a. Optional: (Add an appropriate volume of RNA carrier into each sample tube.)b. Dispense 100-200 µl of sample into each sample tube.c. If the sample volume is lower than described, please complete with an appropriate volume of 1X PBS.
Plasma	<ol style="list-style-type: none">a. Optional: (Add an appropriate volume of RNA carrier into each sample tube.)b. Dispense 100-200 µl of sample into each sample tube.c. If the sample volume is lower than described, please complete with an appropriate volume of 1X PBS.
Cerebrospinal fluid (CSF)	<ol style="list-style-type: none">a. Optional: (Add an appropriate volume of RNA carrier into each sample tube.)b. Dispense 100-200 µl of sample into each sample tube.c. If the sample volume is lower than described, please complete with an appropriate volume of 1X PBS.
Urine	<ol style="list-style-type: none">a. Centrifuge sample at 20,000 x <i>g</i> for 10 minutes to concentrate virus into a pellet.b. Discard supernatant and re-suspend the pellet in 220 µl 1X PBS.c. Transfer 200 µl concentrated sample into sample tube.
Cell-free body fluid(s)	<ol style="list-style-type: none">a. Optional: (Add an appropriate volume of RNA carrier into each sample tube.)b. Dispense 100-200 µl of sample into each sample tube.c. If the sample volume is lower than described, please complete with an appropriate volume of PBS.

**(Compatible)
Swab Samples**

- a. Collect swab samples (e.g., eye, nasal, pharyngeal, or other swabs) in liquid transport media or 1 ml PBS containing a common fungicide.
- b. Incubate for 30 minutes at room temperature.
- c. Dispense 100-200 µl of sample into each sample tube.

*Recommended Kit is **AnaPrep Viral Pathogen DNA Extraction Kit B**

Important

*Plasma must be prepared from fresh or frozen blood samples collected in tubes which contains common anti-coagulants like EDTA and citrate. (Heparin has inhibitory effects on nucleic acid amplification reactions)

Optional: (RNA Carrier has two roles in the purification process. First, it enhances the binding of viral nucleic acids to the silica surface of magnetic particles, especially when there are few target molecules in the sample. Second, in rare cases, RNase will not be denatured by chaotropic salts and detergents in the lysis buffer when RNA carrier is present. If RNA carrier is not added to the reaction, recovery of DNA or RNA may be reduced.)



Using fresh sample (stored at 2-8°C for up to 6 hours) for extraction is recommended. Total nucleic acid yield and quality will decrease with time or after multiple freeze-thaw cycles. For longer storage times, samples should be frozen at -20°C or lower and freeze-thaw cycles should be avoided. Thaw samples at room temperature (15-25°C) and process the sample immediately after equilibration to room temperature. **Do not** refreeze sample after thawing. If precipitation is visible in sample, centrifuge at 6,800 x g for 3 minutes and transfer supernatant to a new tube without disturbing the precipitate, and immediately start the purification procedure.

*For large volume liquid samples with low or unknown viral content, e.g. urine or other, follow the "Urine" preparation concentrating procedure.

AnaPrep System Procedure

Purification Protocol - AnaPrep 12 Dx series

- | | | |
|----------|--|---|
| 1 | Turn on the Instrument | <ol style="list-style-type: none">a. Turn ON the power switch - and wait for the screen to turn ONb. Login and show the Home Page. |
| <hr/> | | |
| 2 | Load new Consumable(s) and Cartridge(s) | <ol style="list-style-type: none">a. Open the door and remove the sample rack from the instrument.b. Open the Tip-Holder Lid.c. Load Reagent Cartridge, and all plastic disposables (Reaction Chamber, Tip Holder, Piercing Pins, Filtered Tips).d. Close the Tip-Holder Lid.e. Paste the Barcode sticker on the Elution Tubes.f. Place Sample Tubes and Elution Tubes into the Sample Rack. |
| <hr/> | | |
| 3 | Transfer samples into instrument | <ol style="list-style-type: none">a. Transfer appropriate volume of sample into sample tubes on sample rack.b. Put back the sample rack into the instrument and close the door. |
| <hr/> | | |
| 4 | Program Set up | <ol style="list-style-type: none">a. Select the appropriate protocol program on the instrument. Press NEXT.b. Select an appropriate Sample Volume / Elution Volume and press NEXT.c. Press the number button to select the right Sample Numbers.d. Scan / Edit each primary Sample ID directly. After finishing, Press NEXT.e. Scan / Edit each Elution Tube ID directly. After finishing, Press NEXT.f. Scan Reagent Cartridge Barcode. Press NEXT.
*If the cartridge expired, the next step cannot be performed. |
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- g. Follow the instructions on screen to double-check the operating steps being completed before running the program. Press **NEXT**.
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- 5** Start Extraction
- a. Check “**PROGRAM CONFIRMATION**” on screen.
 - b. Press “**START**” to start the experiment. Instrument will run the protocol automatically until whole process is completed.
 - c. At the end of the run (approximately **39-40 minutes**), instrument alarms briefly and the screen indicates “**PROGRAM FINISH**”.
 - d. If you want to perform the same protocol, press “**RERUN**” to perform the same experiment. If you do not re-run the experiment, press the function button “ **HOME**” to exit the experiment mode.
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- 6** Collect the Elution tubes
- a. Open the instrument door.
 - b. Collect the elution tubes containing the purified nucleic acids.
 - c. The purified nucleic acids are ready for immediate use. Store the purified nucleic acids at 4°C (short-term, less than 10 days) or aliquot and store at -70°C (long-term) before performing downstream analysis.
 - d. Discard the used cartridges and all plastic consumables into biohazard waste. ***Do not reuse the cartridges.**
 - e. If you do not continue to use the instrument, return the sample rack back into the instrument, close the instrument door, and press the “ **POWER**” function button to enter sleep mode. If the instrument will not be used for a long time, turn off the power switch.
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