Virus Total Nucleic Acid Isolation Kit

www.fairbiotech.com

For research use only

Sample: serum, plasma, body fluids and the supernatant of viral infected cell cultures

Introduction

The Virus Total Nucleic Acid Isolation Kit provides a fast, simple, and cost-effective method for isolation of viral DNA/RNA from cell-free samples such as serum, plasma, body fluids and the supernatant of viral infected cell cultures. Its unique buffer system efficiently lyses cells and degrades proteins, allowing for nucleic acids to bind to the glass fiber matrix of the columns easily. Contaminants such as salts, metabolites and soluble macromolecular cellular components are removed through the Wash step. Phenol extraction and ethanol precipitation are not required, and high-quality Nucleic Acids are eluted with RNase-free elution buffer. Viral DNA/RNA isolated with FairBiotech's Virus Total Nucleic Acid Isolation Kits is suitable for a variety of routine applications, including Real-time PCR/RT-PCR, Automated Fluorescent DNA Sequencing, PCR, and other enzymatic reactions. The entireprocedure can be completed within 15-20 minutes.

Kit Contents

Catalog No.	VN0004	VN0100	VN0200	VN0300
V1 Buffer	1.5 ml	45 ml	85 ml	125 ml
V2 Buffer (Add Ethanol)	220 µl (1650 µl)	6 ml (45 ml)	12 ml (90 ml)	16 ml (120 ml)
W1 Buffer	2 ml	45 ml	85 ml	125 ml
W2 Buffer (Add Ethanol)	300µl×2 (1.2 ml)×2	15 ml (60 ml)	25 ml (100 ml)	25 ml×2 (100ml)×2
RNase-free EL Buffer	1 ml	10 ml	20 ml	30 ml
VN Columns	4 pcs	100 pcs	200 pcs	300 pcs
Collection Tubes	4 pcs	100 pcs	200 pcs	300 pcs

Quality Control

In accordance with FairBiotech's ISO-certified Total Quality Management System, the quality of the FB Virus Total Nucleic Acid Isolation Kit is tested on a lot-to-lot basis to ensure consistent product quality.

Additional requirements

∗absolute EtOH ∗PBS (Phosphate Buffered Saline)
∗microcentrifuge tubes (DNase and RNase free)

NOTE

- Add ethanol (96–100%) to Buffer V2 and W2, **shake before use** (see bottle label for volume).
- Check Buffers before use for salt precipitation. Redissolve any precipitate by warming to 37°C.
- Buffers V1 and W1 contain irritants. Wear gloves when handling these buffers.

Virus Total Nucleic Acid Isolation Kit Protocol

Step 1 Lysis

- Transfer up to 200 µl of virus sample into a 1.5 ml microcentrifuge tube and add **400 µl of V1 Buffer**. (If the sample is less than 200 µl, adjust the sample volumn to 200 µl with PBS)
- Mix well and let stand at room temperature for 10 minutes.

#Pre-heat the Elution Buffer to 75ºC for Step 4 DNA Elution.

Step 2 Nucleic Acid Binding

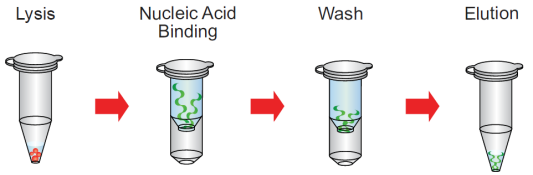
- Add **450 µl of V2 Buffer** (ethanol added) to the sample lysate and shake vigorously.
- Place a **VN Column** in a **Collection Tube**. Transfer 700 µl of the lysate mixture to the **VN Column**.
- Centrifuge at 16,000 x g for 1 minute. Discard the flow-through and place the **VN Column** back in the **Collection Tube.**
- Transfer the remaining lysate mixture to the **VN Column**.
- Centrifuge at 16,000 x g for 1 minute. Discard the flow-through and place the **VN Column** back in the **Collection Tube.**

Step 3 Wash

- Add 400 µl of **W1 Buffer** into the **VN Column**. Centrifuge at 16,000 x g for 30 seconds. Discard the flow-through and place the **VN column** back into the **Collection tube.**
- Add 600 µl of **W2 Buffer** (ethanol added) into the **VN Column**. Centrifuge at 16,000 x g for 30 seconds. Discard the flow-through and place the **VN column** back in the **Collection tube.**
- Centrifuge at 16,000 x g again for 2 minutes to remove residual **W2 Buffer** .

Step 4 Elution

- Place the **VN column** in a clean 1.5 ml microcentrifuge tube (DNase and RNase free).
- Add **50-100 µl of Pre-Heated EL Buffer** or RNase-free water (pH is between 7.0 and 8.5) to the center of each **VN column**, let stand for 2 min, and centrifuge at 14,000 x g for 2 min.



Troubleshooting

Problem	Cause	Solution
Poor performance of RNA in downstream applications	Interference of the residual ethanol	Be sure to remove Buffers V2 and W2 completely.
Low yields	Insufficient performance of the elution buffer during the elution step	Remove the residual buffers during the wash steps completely. These residual buffers decrease the efficiency of the following elution steps.
	Incomplete lysis	Check the incubation time of the Lysis Step.
	Viral nucleic acid remains on the column	Repeat the Elution Step with the eluant. Extend the time EL Buffer or Rnase-free water stays on column centers from Step 4 from 2 to 5 minutes prior to centrifugation.
Degraded RNA	Source	Do not freeze and thaw sample more than once. Increase the virus concentration in the sample.
	RNase contamination	Be sure not to introduce RNase during the procedure. Check buffers for the RNase contamination.