

# Viral DNA / RNA Extraction Kit

(For Qualitative Detection)

REF AME0003



## PRODUCT SPECIFICATION

64T / Box (Pre-filled) 16T/Plate × 4 plates

## INTENDED USE

The kit is intended for rapidly extracting viral RNA/DNA from serum, Plasma,VTM and Swab samples. Realizes the high-throughput processing of parallel samples. The whole operation process is safe, convenient and no need for organic reagent. The extracted nucleic acids are pure and high in quantity, can be widely used in the fields of diagnostics, disease detection.

## PRODUCT PRINCIPLE

In certain conditions, the Magnetic Beads bind the negatively charged nucleic acid. The Magnetic Beads that have been bound to the nucleic acids are magnetized, transferred and released via the specialized magnetic rods during the process of nucleic acid extraction, which accomplish automated extraction.

## KIT CONTENTS

Sr. No.	Components	Quantity
1	Nucleic Acid Extraction Reagent 1-Extraction Plates	4
2	Nucleic Acid Extraction Reagent 2-Carrier RNA	1
3*	Nucleic Acid Extraction Reagent 3- Proteinase K (Provided only for Serum/plasma-based extraction)	1
4	8 strip rod comb/sleeves	8
5	Product Insert	1

## NUCLEIC ACID EXTRACTION REAGENT 1 DESCRIPTION

Each Extraction Plate contains reagents for Extracting Nucleic acid from 16 different samples. Row A(wells 1-6) contain Nucleic acid extraction reagents for one sample. Row A (wells 7-12) contain Nucleic acid extraction reagents for other sample. similar usage for rows (B-H).

## STORAGE & STABILITY

Reagent – 1 can be stored at room temperature and are stable for 12 months.

Reagent – 2 & 3\* must be stored at -20° C and are stable for 12 months.

## APPLICABLE INSTRUMENT

ALTA Nucleic Acid Extraction System (Extractor-32) and similar apparatus.

## SAMPLE REQUIREMENTS

- Sample Type:** Serum/Plasma, Swab, VTM.
- Sample Storage:** Fresh or stored at 2–8°C for up to 24 hours. For long-term storage, freezing at -20°C is recommended.

## ASSAY PROCEDURE

### Automated Extraction Steps

A) Nucleic Acid Extraction Reagent 1: Take out the plates from the kit box, turn it up and down to suspend the magnetic beads. Carefully tear down the aluminium foil sealing membrane to avoid liquid splash.

B) **VTM Samples:** Add 6µl of Nucleic Acid Extraction Reagent-2(Carrier RNA) solution and 250µl of sample to the 1<sup>st</sup> and 7<sup>th</sup> column of the Nucleic Acid Extraction Reagent-1 (Extraction Plate).

\* **Serum/ Plasma Samples:** Add 25µl of Nucleic Acid Extraction reagent- 3 (Proteinase K), 6µl of Nucleic Acid Extraction Reagent-2 (Carrier RNA) solution, and 250µl of serum/plasma sample to the 1<sup>st</sup> and 7<sup>th</sup> column of the Nucleic Acid Extraction Reagent-1 (Extraction Plate).

C) Place the plate in to deck carefully. Care must be taken while placing the plate. Make sure that plates are properly placed and confirm by pressing the top of the plate. Insert the 8 Strip rod comb/sleeves and confirm that it is inserted till end of the groove by pressing it strong.

D) Edit and run the experiment program as follow:

No.	Column	Name	Waiting (sec)	Mixing (sec)	Magnet (sec)	Speed	Volume (µl)	Heating State	Temp (°C)
1	2	Move bead	0	60	60	6	500	Closed	--
2	1	Lysis	0	300	10	6	550	Lysis	65
3	3	Washing 1	0	120	10	6	600	Closed	--
4	4	Washing 2	0	60	10	6	600	Closed	--
5	6	Elution	0	180	30	6	100	Closed	80
6	2	Release bead	0	10	0	6	500	Closed	--

E) On successful completion of the program/purification, Open the door and remove the comb/sleeves. Then remove the plates carefully.

F) Transfer 80µl of elute (nucleic acid) from the 6<sup>th</sup> and 12<sup>th</sup> column into sterile/fresh 1.5ml centrifuge tube. Use immediately or store at -20 °C.

## PRODUCT USE LIMITATIONS

- The extraction kit is intended for clinical diagnostic samples. The concentration and purity of its extraction product are affected by instruments and operators.
- The extraction kit possesses a special elution buffer, which will affect the absorbance value for the UV-visible spectrophotometer. Therefore, it is not recommended to directly measure the concentration and purity of extraction product by UV-visible spectrophotometer.

## PRODUCT CHARACTERISTICS

- The extraction kit can extract nucleic acids with high efficiency including DNA and RNA from serum, plasma and other liquid samples, especially low-abundance samples.
- The Coefficient of Variation (CV) of intra-assay and inter-assay for the extraction kit is less than 5%.
- The extraction kit can extract 1~32 samples simultaneously via ALTA Nucleic Acid Extraction System, and the experiment results show good repeatability and high sensitivity

## IMPORTANT NOTES

Please read the following notes before using the kit:

- The extraction kit is particularly used for viral DNA/RNA isolation; therefore, all experiment supplies, such as pipettes, tubes, tips, must be autoclaved. Operator should wear gloves and masks.
- Before using the kit, please read the manual and strictly follow the protocol. Clinical samples should be processed on clean bench or in biosafety cabinet.
- Repeated freeze-thaw of nucleic acid extraction reagent 2 & 3\* must be avoided.
- The ALTA Nucleic Acid Extraction System should be disinfected by UV light before use. After the experiment, it is recommended to clean the instrument cabin using 75% ethanol and disinfecting it via UV light for about 15 mins.
- Magnetic beads may occasionally appear in the elution buffer. If so, please avoid the magnetic beads while transferring the extracted product.
- It is prohibited to mix the reagents from different batches.
- After the completion of experiments, all samples and reagents must be reasonably disposed and other Instruments should be thoroughly cleaned and disinfected

## Index of symbols

Consult instructions for use	Catalogue number	Biological Risks
For <i>in vitro</i> diagnostic use only	Batch code	Tests per kit
Manufacturer	Do not re-use	Keep dry
If device is non-sterile	Date of manufacture	
Warnings / Precautions	Do not use if package is damaged	Keep away from sunlight

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