

FIVEphoton Biochemicals

Viral Nucleic Acid (DNA/RNA) Miniprep Kit

Catalog No.: V4001 Size: 100 preps

Description

The Viral Nucleic Acid (DNA/RNA) Miniprep Kit is suitable for rapid extraction of high purity viral nucleic acid from plasma, serum, nasopharyngeal swab, sputum, bronchus/alveolar lavage fluid, ascites, culture cell supernatant and urine. This kit is based on the silica gel column purification method. The sample is homogenized in the lysis buffer and the nucleic acid is released into the buffer. The lysis buffer contains a high concentration of guanidine. In this condition, the membrane absorbs nucleic acid by hydrogen bond and electrostatic physical and chemical action, while proteins and other impurities are not absorbed. The lysate is transferred to the adsorption column for filtration, and the nucleic acid filter membrane is washed to remove residual proteins and other impurities, and finally eluted by the low-salt buffer solution. The obtained nucleic acids can be directly used in downstream related experiments such as reverse transcription, PCR, RT-PCR, fluorescence quantitative PCR, second-generation sequencing and Northern hybridization.

Main components

The kit consists of the following components:

The name of the reagent	Amount	Component description
Lysis Buffer	50 ml	Provide environment for lysing and binding to the column
Wash Buffer	120 ml	Remove residual proteins and other impurities
Elute Buffer	6 ml	Nuclease-free solution
Spin Column	100	Adsorb viral nucleic acid
2 ml Collection Tube	100	Filtrate collection tube
1.5 ml Collection Tube	100	Collection of eluted nucleic acid

Storage conditions

Store at room temperature (15-25°C) and transport at room temperature.

Notes

1. Prepare your own RNase-free pipette tips, 1.5 ml RNase-free centrifuge tubes, centrifuge, etc.
2. The virus has a strong ability to infect, a variety of defense measures must be done before the operation.
3. Avoid repeated freezing-thawing of samples, otherwise the extracted viral RNA will be degraded and the extracted amount will decrease.
4. All operating procedures, if not specified, are carried out at room temperature (15-25°C).
5. When using this kit, please wear lab coat, disposable latex gloves, disposable masks and use RNase-free consumables to avoid RNase pollution to the greatest extent.
6. Please check whether there is crystal precipitation in the Lysis Buffer. If there is crystal precipitation, place it at room temperature or 37°C until the crystal is dissolved. Mix it before use.

Protocol

1. Add 500 µl of Lysis Buffer into a 1.5 ml RNase-free centrifuge tube (self-provided). If there are many samples, the Lysis Buffer can be pre-packed.
2. Add 200 µl of samples, mix thoroughly by vortexing (if the sample is less than 200 µl, fill it with normal saline to 200 µl).
3. Put the Spin Column into a 2 ml Collection Tube, and transfer the above mixture to the column. Centrifuged at 12,000×g for 1 min.

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4. Discard the filtrate and put the Spin Column back into the 2 ml Collection Tube. Add 600 μ l of Wash Buffer and centrifuge at 12,000 \times g for 30 sec, then discard the filtrate.
 5. Repeat step 4 once.
 6. Centrifuge for 2 min at 12,000 \times g to dry the column membrane. Discard the filtrate and collection tube.
 7. Transfer the Spin Column to a new 1.5 ml Collection Tube (provided by the kit), add 50 μ l Eluent Buffer to the center of the membrane of the Spin Column, and place it at room temperature for 1 min. Centrifuge at 12,000 \times g for 1 min.
 8. Discard the Spin Column, the obtained DNA/RNA can be directly used for subsequent detection, or be stored at -30 ~ -15 $^{\circ}$ C for short-term storage or at -70 $^{\circ}$ C for long-term storage.

Simple Process



Add 500 μ l Lysis Buffer, 200 μ l sample, mix thoroughly by vortexing.



Transfer the mixture to the Spin Column and centrifuged at 12,000 \times g for 1 min.
Add 600 μ l Wash Buffer to the Spin Column and centrifuge at 12,000 \times g for 30 sec. (twice)
Centrifuge at 12,000 \times g for 2 min with empty column.



Add 50 μ l Eluent Buffer, place it at room temperature for 1 min, and centrifuge at 12,000 \times g for 1 min.