Viral RNA/DNA Miniprep Kit (Magnetic Beads) For Hanks or PBS Buffer

Catalog No.: V4009 Size: 200 preps

CE IVD

Description

Based on the method of magnetic bead separation and purification, the Viral RNA/DNA Miniprep Kit (Magnetic Beads) For Hanks or PBS Buffer is suitable for the purification of high quality viral nucleic acid from throat swab and nasal swab protected in virus preservation solution of non-inactivation type, such as Hanks Balanced Salt Solution (HBSS) and PBS solution. The sensitivity of nucleic acid detection can be improved by increasing the sample amount for nucleid acid extraction.

The purification system uses superparamagnetic nano-magnetic particles as the matrix, which can adsorb nucleic acids specifically through hydrogen bonds and static electricity under the condition of high concentration of leachate, while proteins and other non-specific impurities are removed by washing. Finally the nucleic acid are eluted with low salt buffer or RNase-free ddH_2O. The purified nucleic acid can be used for various routine operations, including RT-PCR, RT-qPCR, fluorescence quantitative PCR (qPCR) and other downstream experiments.

Main components

The kit consists of the following components:

The name of the reagent	Amount	Component description
Buffer MVH	45 ml	Provide environment for lysing and binding to the magnetic beads
Buffer MW	20 ml × 3	Remove residual proteins and other impurities
Mag Beads	4.5 ml	Adsorb viral nucleic acid
DEPC-Water	12 ml	DEPC - treated water, RNase - free
DS Carrier	450 μl	Capture trace nucleic acid
Proteinase K	1 ml × 4	Lyses proteins bound to nucleic acids

Storage conditions

Store DS Carrier and Proteinase K at -20°C, Mag Beads and DEPC-Water at 2-8°C, others at room temperature (RT, 15-25°C), and transport at RT.

Notes

1. When using this kit, please wear lab coat, disposable latex gloves, disposable masks to protect you from the reagents, and protect the nucleic acid from nucleases that are present on skin. The microcentrifuge tubes and pipette tips should be autoclaved and free of DNase and RNase.
2. Before using, vortex the Mag Beads well to ensure that the beads are fully resuspended. Mag Beads cannot be frozen.
3. For refractory samples, the lysis condition can be set to 55°C for 10 minutes.
4. Please check whether there is crystal precipitation in the Buffer MVH. If there is crystal precipitation, place it at room temperature or 37°C until the crystal is dissolved. Mix it before use.
5. In order to reduce the times of liquid addition, Proteinase K, Mag Beads and DS Carrier can be pre-mixed, and the mixture can be placed at 2~8°C for 2 days. Mix 10 to 20 times to disperse the beads before using. Due to the inhibition of Buffer MVL on Proteinase K, samples should be added as soon as possible after the addition of Buffer MVL.
6. This kit can be adapted to all the automatic instruments based on magnetic beads. If it is used for the first time, it can simulate the operation procedure through the empty plate, and then add samples for extraction after it is accurate.

Before use

Add 80 ml 100% ethanol to Buffer MW (20 ml), and store at RT.

Vortex the Mag Beads well to ensure that the beads are fully resuspended.

Sample preparation

Throat swab (with Hanks/PBS Buffer), saliva: vortex vigorously for 30 sec, take 300-600 µl for experiment.

Protocol A: Automatic Operation Process of Single Deep-Well Plate

Prepare the reagents listed below to each well:

Well	Reagent and amount/well	Operation process
A	Sample: 600 µl	Mixing at 20~55°C for 3 min by vibrating. The digested sample release DNA/RNA to the Mag Beads. Transfer the beads to well B.
	Buffer MVH: 200 µl	
	Mag Beads: 20 µl	
	DS Carrier: 2 µl	
	Proteinase K: 20 µl	
B	Buffer MW: 600 µl	Wash the beads by vibrating for 1 min, then magnetic absorption for 5 sec. Transfer the beads to well C.
C	Buffer MW: 600 µl	Wash the beads by vibrating for 1 min, then magnetic absorption for 5 sec. Transfer the beads to well D.
D	DEPC-Water: 100 µl	Air dry the beads for 1 min. Elute the beads by vibrating for 1 min, then magnetic absorption for 5 sec. Transfer the beads back to well A.

The nucleic acid in well D is purified and can be used in RT-PCR, NGS and other experiments or stored under -20°C.

Protocol B: Automatic Operation Process of 96 Deep-Well Plate

Prepare the reagents listed below to each plate:

Plate	Reagent and amount/well	Operation process
A	Sample: 600 µl	Mixing at 20~55°C for 3 min by vibrating. The digested sample release DNA/RNA to the Mag Beads. Transfer the beads to Plate-B.
	Buffer MVL: 200 µl	
	Mag Beads: 20 µl	
	DS Carrier: 2 µl	
	Proteinase K: 20 µl	
B	Buffer MW: 600 µl	Wash the beads by vibrating for 1 min, then magnetic absorption for 5 sec. Transfer the beads to Plate-C.
C	Buffer MW: 600 µl	Wash the beads by vibrating for 1 min, then magnetic absorption for 5 sec. Transfer the beads to Plate-D.
D	DEPC-Water: 100 µl	Air dry the beads for 1 min. Elute the beads by vibrating for 1 min, then magnetic absorption for 5 sec. Transfer the beads back to Plate-A.

The nucleic acid in plate D is purified and can be used in RT-PCR, NGS and other experiments or stored under -20°C.

Protocol C: Manual Operation Process

1. Prepare 600 µl sample in a 1.5 ml Nuclease-free EP tube. The initial amount is NOT less than 300 µl.
2. Add the reagents in order: 200 µl Buffer MVH, 20 µl Mag Beads, 20 µl Proteinase K and 2 µl DS Carrier. Vortex vigorously for 15 sec, mix well. Incubate at room temperature for 10 min,and mix upside down twice during the

process.

3. Centrifuge briefly. Place the tube on the magnetic rack and let it stand for 1 min. Remove the supernatant with a pipette.

4. Washing 1: Take the tube off the magnetic rack. Add 600 µl Buffer MW. Vortex for 15 sec, then centrifuge briefly. Put the tube back to the magnetic rack, and let stand for 1 min. Carefully discard all solutions.

5. Washing 2: Take the tube off the magnetic rack. Add 600 µl Buffer MW. Vortex for 15 sec, then centrifuge briefly. Put the tube back to the magnetic rack, and let stand for 1 min. Carefully discard all solutions.

6. Air drying at room temperature for 3 ~ 5 min until the surface of the magnetic beads does not reflect light.

Note: To ensure the purity of nucleic acid, no residual Buffer MW is allowed. The excessive drying (cracking) of the beads can affect the final yield.

7. Add 100 µl DEPC-Water, vortex for 15 sec, and let stand for 3-5 min, during which gently oscillate 2 times to accelerate nucleic acid dissolution.

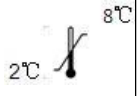
8. Put the tube back to the magnetic rack, and let stand for 1 min. Pipette the supernatant to a new 1.5 ml Nuclease-free EP tube. The obtained DNA/RNA can be directly used for subsequent detection, or be stored at -30 ~ -15°C for short-term storage or at -70°C for long-term storage.

Example of Application Allsheng Auto-Pure32A Automated Nucleic Acid Extractor

Step	Well	Name	Mixing time	Magnetic absorption time	Waiting time	Volume	Mixing speed	Temperature
1	1	Lysis	3 min	0	0	840	8	OFF
2	1	Magnetic absorption	0	5 sec	0	840	8	OFF
3	2	Wash 1	1 min	5 sec	0	600	8	OFF
4	3	Wash 2	1 min	5 sec	0	600	8	OFF
5	4	Elution	1 min	5 sec	1 min	50	8	OFF
6	1	Drop	0.5 min	0	0	840	8	OFF

This procedure can quickly and efficiently extract viral RNA from nasal swab.

[Explanation of Marks]

	The product is used in vitro, please don't swallow it		Please don't reuse it
	Validity		Please read the instruction book carefully before using
	Warning, please refer to the instructions in the annex		Manufacturer
	Temperature scope within which the product is reserved		Batch number

EC REP	European union authorization representative		Keep dry
	Avoid overexposure to the sun		Don't use the product when the package is damaged
CE	The product meets the basic requirements of European in vitro diagnostic medical devices directive 98/79/EC		

[Basic Information]

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EC REP

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