【PRODUCT INFORMATION】

BeaverBeads™ Viral DNA/RNA Kit (Cat. # 70406-100)

【DESCRIPTION】

BeaverBeads™ Viral DNA/RNA Kit is designed for the rapid purification of viral DNA or RNA from a variety of samples including plasma, serum, cerebral spinal fluid, amniotic fluid, tissue, sample collection solution or other cell-free body fluids. The kits use magnetic beads technology for rapid and effective purification of DNA or RNA without of organic extraction or alcohol precipitation. You can use the nucleic acid purified with this kit in a broad range of molecular biology downstream applications, such as sequencing and real-time PCR.

【COMPONENTS AND STORAGE】

Label	Components	Amount (Cat.# 70406-100)	Storage
①	BeaverBeads™	2 mL	RT or 2~8℃
②	Lysis Buffer	40 mL	RT or 2~8℃
③	Washing Buffer I	36 mL, **Adding 24 mL Isopropanol before use**	RT or 2~8℃
④	Washing Buffer II	25 mL, **Adding 100 mL Ethanol before use**	RT or 2~8℃
⑤	Nuclease-free Water	10 mL	RT or 2~8℃
⑥	Carrier RNA	105 μL	-20℃, Repeated freezing and thawing should be avoided.
⑦	Proteinase K	50 mg, **Dissolved in 4.1 mL solution A before use**	2~8℃ **(-20℃ for long term storage)**
⑧	Solution A	4.1 mL	RT or 2~8℃
/	Isopropanol	AR，user supplied	
/	Ethanol	AR，user supplied	
/	Magnetic stand	Cat.# 60201 (BEAVER)	
/	Shelf time	2 years	

If there are precipitates, warm the buffer at 37℃ and gently mix to dissolve the precipitates. Avoid creating bubbles.

【REQUIED MATERIALS and DEVICES NOT SUPPLIED】

1. 1.5 mL EP tubes: 2 /Sample（DNase/RNase-free）
2. Pipets: 2 μL、20 μL、200 μL、1000 μL（DNase/RNase-free）
3. Vortex
4. Dry Bath Incubator（or water bath）：BEAVER Cat. # 2016C
5. Magnetic stand：BEAVER Cat. # 60201

【MANUAL PROTOCOL 】

1. Lysis and Binding

a) Add 200 μL of sample to a new 1.5 mL EP tube.

b) Add 40 μL of Proteinase K 400 μL Lysis Buffer, 1 μL Carrier RNA, 200 μL Isopropanol and 20 μL BeaverBeads™ to the sample tube.

Note: Remix the Beads Mix by inversion frequently during pipetting to ensure distribution of beads to the sample tube. The mixture containing the Beads is viscous. Therefore, pipet slowly to ensure that the correct amount is

added. DO NOT use a repeat pipet to add to the samples as the high viscosity will cause variations in volume added.

c) Invert the sample tube gently to mix.

d) Incubate the tube at 55°C for 15 minutes. Invert the tube gently every 5 minutes.

e) Place the tube on the magnetic stand for 1 minutes, or until all of the beads have collected.

2. Wash the Beads

a) Keeping the tube on the magnetic stand, carefully remove the cover, then discard the supernatant from it.
NOTE: Avoid disturbing the beads.

b) Remove the tube from the magnetic stand, then add 600 µL of **Washing Buffer I (Adding 24 mL Isopropanol before use)** to the tube. Vortex the mix for 10 seconds.

c) Place the tube back on the magnetic stand for 1 minutes, or until all of the beads have collected.

d) Keeping the tube on the magnetic stand, carefully remove the cover, then discard the supernatant from it.

e) Repeat step 2b to step 2d using **washing buffer II (Adding 100 mL ethanol before use)**, twice.

3. Dry the beads

Drying the beads by keeping the tube in the magnetic stand for 2-4 minutes at RT.

4. Elute the nucleic acid

a) Add 20–50 µL of Nuclease-free Water to the tube, Vortex the mix for 1 minute to ensure the beads intensive mixing.

b) Incubate the tube at 55°C for 5 minutes.

c) Place the tube on the magnetic stand for 1 minutes, or until all of the beads have collected.

d) Transfer the eluates to a fresh tube.

e) The purified nucleic acid is ready for immediate use. Alternatively, store the place at -20℃ for long term storage.

【HIGH THROUGHPUT AUTOMATED PROTOCOL】

This protocol guides users to process automated isolation of nucleic acid using the 32-channel extractor (BEAVER Rosetta 32, TIANGEN TGuide S32, or TIANLONG -NP968) within 15 mins.

1. Set up the 96-well plates outside the instrument, and prepare buffers according to the following table.

Position on the 96-well plate		**Process**	**Reagent and volume** For each well added reagent as follows
Line 1	Line 7	Lysis and binding	40 µL Proteinase K（Dissolved in Solution A） 400 µL Lysis Buffer 1 µL Carrier RNA 200 µL Isopropanol 20 µL BeaverBeads 200 µL Sample
Line 2	Line 8	Washing	600 µL Washing Buffer I
Line 3	Line 9	Washing	600 µL Washing Buffer II
Line 4	Line 10	Washing	600 µL Washing Buffer II
Line 5	Line11	/	/
Line 6	Line 12	Elution	50 µL Elution Buffer

2. Load the prepared plates into position. Set up the instrument and editing program according to the following table.

Step	Slot position	Process	Wait time (min)	Mix time (min)	Magnet time (sec)	Mix speed	Volume (μL)	Temperature/Heat block	Temperature
1	1	Lysis and binding	0	5	30	Fast	861	On	55 ℃
2	2	Washing 1	0	1	20	Fast	600	Off	RT.
3	3	Washing 2	0	1	20	Fast	600	Off	RT.
4	4	Washing 3	0	1	30	Fast	600	Off	RT.
5	6	Elution	5	5	30	Fast	50	Off	RT.
6	1	Unload the beads	0	1	0	Slow	861	Off	RT.

3. The purified nucleic acid is ready for use immediately. Alternatively, store the plates at -20℃ for long term storage.

Notes:

1. Before starting, Read the user manual, make sure all the operations are followed as indicated.
2. Proteinase K solution should be stored at -20℃. Repeated freezing and thawing should be avoided.
3. Carrier RNA should be stored at -20℃. Repeated freezing and thawing should be avoided.
4. Freeze and High speed centrifugation of the Beads should be avoided.
5. Vortex Binding Beads thoroughly before each use.
6. Move completely as possible as all the washing liquid before drying the beads.
7. Excessive drying of the Beads will reduce elution efficiency of the nucleic acid.