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Virus Genomic DNA/RNA Fast Kit II

Product Number: RNK3201

Shipping and Storage

To avoid reducing activity and facilitate transportation, Proteinase K is provided as a freeze-dried powder. Upon receipt, it can be briefly centrifuged and dissolved in 1ml of sterilized water. Because repeated freeze-thaw cycles may reduce enzyme activity, immediately after dissolution, pack and freeze according to the amount used each time (20μl), and store at -20℃.

Components

Component	Storage	RNK3201 50 Preps	RNK3202 100 Preps
Buffer VCB	RT	10 ml	20 ml
Poly Carrier	-20℃	100μl	200μl
Buffer RE	RT	25 ml	50 ml
Buffer RW	RT	10 ml	10 ml×2
Proteinase K(20mg/ml)	4℃	1ml	2ml
RNase-free H_2O	RT	10 ml	10 ml
Adsorption column RA and collection tube	RT	50 sets	100 sets

Storage at room temperature for 12 months does not affect the effectiveness of use, and each solution should be covered tightly in a timely manner after use.

Description

The Virus Genomic DNA/RNA Fast Kit II is suitable for rapid extraction of high-purity viral DNA/RNA from acellular body fluids, including plasma, serum, ascites, cultured cell supernatant, cerebrospinal fluid, and urine, using a centrifugation adsorption column that specifically binds to viral DNA/RNA and a unique buffer system. This product can meet the simultaneous extraction requirements of most viral RNAs/DNA, such as viral RNAs: HCV (hepatitis C virus), HIV (HIV), and HTLV (human T-lymphotropic virus); Virus DNA: HBV (hepatitis B virus) and CMV (cytomegalovirus), etc. After virus lysis, DNA/RNA selectively adsorbs onto the silica matrix membrane in a highly dissociated salt state (especially equipped with Poly Carrier, which can easily capture trace amounts of nucleic acids from the system). Then, impurities such as salt, cellular metabolites, and proteins are removed through a series of rapid rinsing centrifugation steps. Finally, the pure virus DNA/RNA is eluted from the silica matrix membrane using a low salt elution buffer. The purified viral nucleic acid is free of impurities and PCR inhibitors, and can be directly used for PCR/RT-PCR analysis.

Feature

1. No toxic reagents such as phenol are required, and no steps such as ethanol precipitation are required.
2. Time saving, concise, and single sample operation can generally be completed within 30 minutes.
3. Multiple column washes ensure high purity, and the extracted virus DNA/RNA has high purity, stable and reliable quality. It can be used for various routine operations, including PCR/RT-PCR, enzyme digestion, sequencing, Southern hybridization, etc.

Note

1. All centrifugation steps are completed at room temperature using a traditional desktop centrifuge with a speed of up to 13000rpm.
2. Preheat the required water bath to a specific temperature before starting the experiment.
3. Poly Carrier:
4. Usage of Poly Carrier

If the initial processing volume is small, we recommend using Poly Carrier. If a large amount of nucleic acid production is expected, users can choose whether to join Poly Carrier according to their needs. When using, add 2μl Poly Carrier storage solution to the Buffer VCB required for each sample extraction, and mix the Buffer VCB and Poly Carrier solution completely upside down (Buffer VCB is easy to form foam, do not use vortex oscillation to mix). You can also add the required Poly Carrier to the total required Buffer VCB according to the number of samples and mix well for later use. The mixture is stable at room temperature for 24 hours.

Protocol(Please read the precautions before the experiment)

Note:Before the first use, please add 40ml anhydrous ethanol to 10ml Buffer RW and mix well. After adding, please mark the box with a check mark indicating that ethanol has been added in a timely manner to avoid multiple additions!

1. Add 20μl of Proteinase K to a new 1.5ml centrifuge tube.
2. Add 200μl of serum or other body fluids to the centrifuge tube mentioned above (return to room temperature, insufficient can be supplemented with 0.9% NaCl or PBS), add 200μl of Buffer VCB, immediately vortex and shake thoroughly to mix well. If the sample size is small or the expected concentration of the virus is low, it is recommended to add 2μl Poly Carrier storage solution to 200μl Buffer VCB.
3. Incubate at 56℃ for 15 minutes.
4. Add 250μl of anhydrous ethanol, immediately vortex and shake thoroughly, and let it stand at room temperature for 5 minutes.If the surrounding environment is above 25℃, ethanol needs to be pre cooled on ice before being added.
5. Add the above mixture to an adsorption column RA, centrifuge at 13000rpm for 30-60 seconds (with the adsorption column placed in the collection tube), and discard the waste liquid in the collection tube.
6. Add 500μl of Buffer RE, centrifuge at 12000rpm for 30 seconds, and discard the waste liquid.
7. Add 500μl of Buffer RW (please check if anhydrous ethanol has been added first!), centrifuge at 12000rpm for 30 seconds, discard the waste liquid, add 500μl of Buffer RW, and repeat.
8. Put the adsorption column RA back into the empty collection tube, centrifuge at 13000rpm for 2 minutes, and try to remove Buffer RW as much as possible to avoid residual ethanol in Buffer RW inhibiting downstream reactions.
9. Take out the adsorption column RA and place it in an RNase free centrifuge tube. Add 30-50μl of RNase free H_2O in the middle of the adsorption membrane (better heating effect in a 65-70℃ water bath beforehand). Leave at room temperature for 1 minute and centrifuge at 12000 rpm for 1 minute. If you want to obtain a large amount of DNA/RNA, you can add the obtained solution back to the centrifuge adsorption column and centrifuge at 12000 rpm for 1 minute.

   The larger the elution volume, the higher the elution efficiency. If a high concentration of DNA/RNA is required, the elution volume can be appropriately reduced, but the minimum volume should not be less than 20μl. If the volume is too small, it will reduce the elution efficiency and DNA/RNA production.
10. Virus DNA can be stored at 2-8℃, and if it needs to be stored for a long time, it can be stored at -20℃. It is recommended to use viral RNA immediately, otherwise it should be stored at -70℃ for short-term use.