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EasyMag Viral DNA/RNA Purification Kit

Catalog Number: D128-1, D128-2

Table 1. Kit Components and Storage

Kit Component	D128-1 (50 preps)	D128-2 (200 preps)	Storage	Stability
Buffer AL	15 mL	60 mL	RT	The product is stable for one year when stored as directed.
Buffer AW1*	15 mL	53 mL	RT	
Buffer AW2*	15 mL	2×25 mL	RT	
RNase-Free ddH_2O	10 mL	30 mL	RT	
Proteinase K (20 mg/mL)	1.1 mL	4.4 mL	-20°C	
Carrier RNA (1 μg/μL)	100 μL	400 μL	-20°C	
MagBinding Beads	2.5 mL	10 mL	4°C	

***** Prior to use, add absolute ethanol to **Buffer AW1** and **Buffer AW2** according to the bottle label.

Product Description

EasyMag Viral DNA/RNA Purification Kit is designed for the rapid and reliable isolation of viral DNA/RNA from serum, plasma, blood, urine, cell culture media, saliva, homogenized tissue sample suspension, fecal, and swab samples. The magnetic beads technology enables purification of high-quality nucleic acids that are free of proteins, nucleases, and other impurities. In addition to easily being adapted with automated systems, this procedure can be also be scaled up or down depending on the amount of starting sample. The isolated high-quality DNA/RNA is ready for downstream applications such as Next-Gen sequencing, hybridization-based and RT/qPCR detection.

Features

- High sensitivity: the kit can be used to isolate viral DNA/RNA as little as 10 copies of virus.
- Fast: the purification process takes only 30 minutes.
- Good stability: the optimized buffer system provides consistent results.
- Universal: the kit is compatible with various liquid samples.

Sample Preparation

A. Swab samples

Incubate the swabs in PBS, sodium chloride, or RNA protecting reagent for 30 min with agitation. Then remove the swab pressing it against the walls of the tube to squeeze out most of the liquid.

B. Feces

Mix 1 volume of feces (e.g., 500 μL) with an equal volume of PBS buffer. Mix vigorously by vortexing for 1 min. Allow the particles to settle down or centrifuge with low speed (e.g., at 500 x *g*). Proceed with the cleared supernatant.

C. Tissue samples

Homogenize tissue samples. Typically 5-10 mg sample material can be homogenized in 400 µL PBS buffer or a buffer containing chaotropic salt using a bead based homogenizer. Centrifuge the homogenized sample and use up to 200 µL clear supernatant for further processing.

D. Blood sample

A sample volume of 100-200 µL blood is recommended. Do not use higher volumes. When processing less than 200 µL sample adjust with PBS buffer to a final volume of 200 µL.

Purification Protocol

1. Add 200 µL of sample into each well of a deep-well plate. If the volume of the sample is less than 200 µL, bring the volume up to 200 µL with nuclease-free water.
2. Add 20 µL Proteinase K solution, 2 µL Carrier RNA, 250 µL Buffer AL, 250 µL isopropanol and 50 µL MagBinding Beads to each well.

   Note: Proteinase K solution, Carrier RNA, Buffer AL, isopropanol and MagBinding Beads can be premixed to make the master mix, then add 572 µL of master mix to each well.
3. Mix by shaking, and incubate at RT for 15 min.
4. Transfer plate to a magnetic stand for an additional 5 minutes or until beads pellet and supernatant is cleared. With the plate on the magnetic stand remove the supernatant and discard.
5. Remove the plate from the magnetic stand. Add 500 µL of Buffer AW1 to each well. Re-suspend the beads by pipetting up and down or vortexing the plate at 1,500 rpm for 30 seconds. Replace the plate on the magnetic stand for 3 minutes or until beads pellet. Remove and discard the supernatant.

   Note: Buffer AW1 must be diluted with absolute ethanol according to the bottle label before use.
6. Add 500 µL of Buffer AW2 to each well. Re-suspend the beads by pipetting up and down or vortexing for 30 seconds. Replace the plate on the magnetic stand for 3 minutes or until beads pellet. Remove and discard the supernatant.

   Note: Buffer AW2 must be diluted with absolute ethanol according to the bottle label before use.
7. Repeat step 6 for a second wash step.
8. Leave the plate on the magnetic stand, remove any residue liquid with a pipettor. Air dry the beads at RT for 10-15 min.

   Note: This step is critical for removing of trace ethanol that may interfere with downstream applications.
9. Add 20-50 µL RNase-Free ddH_2O to each well. Re-suspend the beads by shaking for 1 min, then incubate at 55ºC for 4 min.
10. Replace the plate on the magnetic stand for 3 minutes or until beads pellet. Transfer the cleared supernatant to a clean plate.
11. Store the DNA/RNA at -80ºC.