Hy-Prep Viral Nucleic Acid Extraction Kit

Cat. No. KI3878-96 – 96 extractions

Cat. No. KI3878-192 – 192 extractions

General information

This kit is designed for high-throughput automated or manual extraction of viral DNA and RNA from a wide range of samples such as nasopharyngeal and oropharyngeal swabs in viral transport medium (VTM), serum, plasma, body fluids, the supernatant of viral infected cell cultures. Total nucleic acid is extracted by using magnetic beads and unique buffer system. The extracted RNA/DNA can be directly used in downstream applications such as PCR, RT-PCR, qPCR, qRT-PCR and various enzymatic reactions.

The basic principle

The procedure is based on the reversible adsorption of nucleic acids to magnetic beads under appropriate buffer conditions. The sample is lysed in LyBi buffer and the released DNA and RNA is adsorbed on the surface of MPN2 magnetic particles. The adsorbed magnetic particles are washed twice with W2 buffer to remove proteins, impurities and salts. Finally, the nucleic acid is eluted from the magnetic beads by elution buffer EL.

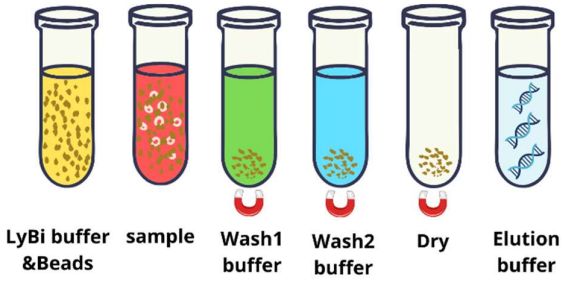

Figure1: Schematic presentation of the extraction steps

Kit specifications

This kit provides reagents for extraction of 96 or 192 samples starting from 200ul liquid or homogenized sample. The eluted NA can be used immediately or stored at -20^{0}c for later analysis.

Kit content

Item	Volume 96 kit	Volume 192 kit	Volumes needed for 1 prep
Buffer LyBi	72 ml	2x72ml	600ul
Buffer W2	120ml	2x120ml	2x490ul
Buffer EL	25ml	25ml	100ul
MagPure Particles MPN2	1.5ml	2x1.5ml	10ul

Attention: Buffer LyBi contains Guanidine Isothiocyanate (GITC). **Wear gloves and goggles**.

Storage conditions and validity

This kit is shipped and stored at room temperature and is valid until the expiration date.

Consumables and instrumentation to be supplied by the user

	Manual operation	Automatic operation
Magnetic separation	Magnetic separator	Hamilton STAR, STARlet, Nimbus, Tecan, Beckman Coulter Biomek i5/i7, kingFisher
Mixing	Vortex, dry bath at 65 °C	Microplate shaker
consumables	1.5ml or 2ml microtubes or deep-well plates	96 deep-well plates Reagent Troughs according to instrument Sealing foil for extracted NA plate (optional)

Hamilton STAR Operation - Volumes for 96 preps / 192 preps

1. Turn on the instrument and start Hylabs Script.
2. Select the appropriate program and follow the software instruction for placing tips, reagents & samples.

Reagents preparation in troughs:

3. Take 1 tube of **MPN2** magnetic beads, vortex toughly and transfer 1.4ml into 1 **LyBi buffer** bottle
4. Mix well by inverting the bottle 5 times.
5. Pure the mix into empty trough and place according to the launcher instructions.

   In case of 192 preps, prepare the 2nd bottle as well and pure into the **same** trough.
6. Pure one bottle of **W2 buffer** into empty trough and place according to the launcher instructions.

   In case of 192 preps, add 100ml from the 2nd bottle into the **same** trough.
7. Pure **EL buffer** into empty trough and place according to the launcher instructions.
8. Start

Hamilton STARlet Nucleic Acid Extractor Operation - Volumes for 96 preps

1. Turn on the instrument and start Hylabs Script.
2. Select the appropriate program and follow the software instruction for placing tips, reagents & samples.

Reagents preparation in troughs:

3. Take 1 tube of **MPN2** magnetic beads, vortex toughly and transfer 1.4ml into 1 **LyBi buffer** bottle
4. Mix well by inverting the bottle 5 times.
5. Pure the mix into empty trough and place according to the launcher instructions.
6. Pure 60ml of **W2 buffer** into 2 empty troughs for wash step 1&2 and place according to the launcher instructions.
7. Pure **EL buffer** into empty trough and place according to the launcher instructions.
8. Start

Manual purification operation

1. In a 1.5 ml centrifuge tube, add 10µl MagPure Particles **MPN2** and 600µl Buffer **LyBi**.
2. OPTIONAL: add 10µl Proteinase K, 10µl IC.
3. Transfer 200µl of the pre-treated sample to the tube and vortex for 15 seconds.
4. Leave at room temperature for 5 minutes, vortex every 2 min.
5. Transfer to a magnetic stand, and let stand for 2 minutes to collect the magnetic beads. Carefully aspirate all the solutions.
6. Add 500µl Buffer **W2** and vortex for 30 seconds. Transfer to a magnetic stand and let it stand for ~ 30 seconds to attract magnetic beads.
7. Completely remove and discard the cleared supernatant.
8. Repeat steps 6-7 once.
9. Centrifuge briefly, aspirate all solutions, and dry at 65 °C for ~10 minutes.
10. Add 100µl Buffer **EL** and vortex to disperse the magnetic beads.
11. Let stand for 10 minutes at 65 °C vortex several times to dissolve the nucleic acid.
12. Spin briefly
13. Transfer to a magnetic stand and let stand for 2 minutes.
14. Transfer the DNA / RNA solution to a new 1.5 ml centrifuge tube.