

Viral RNAbler Kit

For RNA extraction from clinical samples
and biological fluids using spin-column technology.



This product is shipped and stored at room temperature.
For long term storage, Proteinase K should be stored at -20°C.

This product is intended for research use only (RUO).
It is not intended for use in medical diagnosis.

Made in
SAUDI ARABIA
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Specifications and intended use

This kit is intended for RNA extraction from clinical samples. The procedure is quick and simple, and is suitable for low- to mid- throughput applications. An experienced user can process up to 16 samples in less than an hour.

Our protocols are compatible with viral transport media (VTMs), plasma, serum, cerebrospinal fluid (CSF), saliva, and whole blood. Do not use blood supplemented with Heparin, as heparin is known to inhibit PCR.

Although the kit is intended for viral RNA extraction, please note that all RNA species in the samples are extracted simultaneously. For example, if the sample is derived from a human origin, human RNA is extracted along with viral RNA (if any).

THIS KIT SHOULD NOT BE USED FOR MEDICAL OR DIAGNOSTIC PURPOSES.

Safety precautions

The Lysis Buffer contains a guanidine salt, which is a known irritant that is harmful if inhaled, swallowed, or came in contact with skin. Wear appropriate protective equipment and be extremely cautious when handling and discarding the Lysis Buffer. Do NOT mix Lysis Buffer with bleach.

Refer to the product's webpage for full SDS sheets.

Before first use

It is imperative to add 96-100% ethanol to Wash2 Buffer before first use, as follows:

RE97050 → 48 mL EtOH

Components

RE97050 (50 extractions)	
Lysis Buffer	30 mL
Wash1 Buffer	30 mL
Wash2 Buffer (after ethanol addition)	60 mL
Elution Buffer	5 mL
Spin columns*	50
Proteinase K	1 mL

* nucleic acid binding capacity ~50µg

Additionally, you will need the following items that are not supplied with the kit:

- 1.5mL DNase/RNase-free tube per sample (elution tube)
- Centrifuge with rotor for 1.5mL tubes capable of producing at least 10,000g
- Vortex
- Pipettes and DNase/RNase-free tips
- 96-100% ethanol

Storage and stability

This kit is shipped at room temperature. Store all components in a dry place at room temperature. For longer storage, Proteinase K should be stored at -20°C. All components are stable for at least a year from the indicated production date.

Protocol for viral RNA extraction

This protocol is compatible with a wide range of clinical samples including viral transport media (VTMs), serum, plasma, whole blood, cerebrospinal fluids (CSF), and saliva. If you are using a different type of samples, please contact our technical support team.

Unless otherwise stated, all centrifugation steps should be at 10,000g for 1 minute at room temperature.

- 1 Switch on a water bath or a heat block and set it on 55-60°C
- 2 Transfer 200µL of the sample to a separate clean, sterile 1.5mL tube
- 3 Add 20µL of proteinase K and 200µL of Lysis Buffer, vortex briefly and spin down, then incubate at 55-60°C for 10 minutes with occasional vortexing (for saliva, increase incubation to 30-60 minutes, or until the sample is completely homogenized)
→ *A fresh master mix of Lysis Buffer/proteinase K may be prepared*
- 4 Spin down the tube to collect droplets that have condensed on the inside of the lid then add 400µL of 96-100% ethanol, vortex for 30-60 seconds then spin down the tube for 1-2 seconds only (do not exceed 2 seconds)
- 5 Apply the whole lysate-ethanol mixture to a spin column embedded in a collection tube, centrifuge, discard the flow-through, dab the drop on the edge of the collection tube on a lint-free tissue until dry then replace the spin column in the collection tube
- 6 Centrifuge the spin column empty for 10 seconds then proceed to the next step without discarding the flow-through
- 7 Add 500µL of Wash1 Buffer to the spin column, centrifuge, discard the flow-through, dab the drop on the edge of the collection tube on a lint-free tissue until dry then replace the spin column in the collection tube
- 8 Centrifuge the spin column empty 10 seconds then proceed to the next step without discarding the flow-through
- 9 Add 500µL of Wash2 Buffer to the spin column, centrifuge at 12,000g for 2 minutes, discard the collection tube and proceed to the next step
- 10 Place the spin column in a new, DNase/RNase-free 1.5mL tube (elution tube), add 30-50µL of Elution Buffer directly to the center of the spin column filter without touching the filter with the tip, incubate at room temperature for 2 minutes

Hint: pre-heating the Elution Buffer at 60-70°C may increase the yield

B**Protocol for viral
RNA extraction**

- 11 Centrifuge, discard the spin column, the eluate is ready for use in downstream analysis (use immediately or place at -20°C for short term storage, -80°C for long term storage)
- 12 RNA concentration in many clinical samples (e.g. serum, plasma, VTM, etc.) is usually below the detection limit of most spectrophotometric techniques. We recommend you to assess the RNA directly by using it in the downstream application (PCR, qPCR, library preparation, etc.)

Troubleshooting

Problem	Possible reason	Solution
Spin column clogged	<ul style="list-style-type: none"> • Too much sample was used • Proteinase K was not added • Too much debris in the lysate 	<ul style="list-style-type: none"> • Pipetting the lysate in the clogged column up and down followed by another centrifugation at 15,000g for 3 minutes in the binding step may salvage your sample, but next time use less amount of sample • Ensure addition of proteinase K as recommended in the protocol • Centrifuge lysate at 15,000g for 3 minutes, obtain supernatant and discard the pellet
Low yield	<ul style="list-style-type: none"> • Little or no Ethanol added to lysate • Ethanol was not added to Wash2 Buffer before use • Too much sample was used 	<ul style="list-style-type: none"> • Make sure to add ethanol before binding • Make sure to add ethanol to Wash2 Buffer as described • Use less amount of sample



Quality control

All lots are tested by for predetermined set of parameters to ensure consistent performance among all lots produced.

Support

For questions, suggestions, or technical support, feel free to contact us by email on: support@havensci.com



