Product Data Sheet

Respiratory Viral RNA/DNA Extraction-Magnetic Kit

Catalog Number: **RVEM-100, RVEM-1000** | Revision Date: 2/19/21

For Research Use Only.

Product Description:
The Respiratory Viral RNA/DNA Extraction-Magnetic Kit enables scalable and rapid extraction of viral DNA and RNA from respiratory samples. The kit uses magnetic bead technology for the recovery of DNA and RNA in elution buffer suitable for various downstream applications.
RVEM-100 is designed to process up to 100 samples.
RVEM-1000 is designed to process up to 1,000 samples.

Suitable sample types:
The Respiratory Viral RNA/DNA Extraction-Magnetic Kit is suitable for use with nasal swabs, nasopharyngeal swabs, throat swabs, and saliva samples. Prior to processing, samples should be stored in a suitable transport media such as Pathogen Transport Media (Cytogenes PTM-1.5) or Saline Transport Media (STM-1.5).

Kit Contents and Storage:
Kits are offered in 100 and 1,000 sample size kits. All reagents should be stored in the appropriate conditions upon receipt. Product is shipped at ambient temperature.

Component	Catalog No.	Volume	Quantity	Storage
Binding Solution	BS-550 BS-55	550 ml, 55ml	1	15°C to 30°C
DNA/RNA Binding Beads (RS)	DRBB-R-1000 DRBB-R-100	20 ml, 2ml	1	2°C to 8°C
Wash 1	W1-1000 W1-100	1000 ml, 100ml	1	15°C to 30°C
Elution Solution	ES-100 ES-10	100 ml, 10ml	1	15°C to 30°C

Reagent Preparation:
The following solutions should be prepared prior to performing the extraction procedure:

Cytogenes LLC
26914 Cabot Road, Suite 123
Laguna Hills, CA 92653 USA

Phone: (949) 391-6207
Email: support@cytogenes.com

- 80% Absolute Ethanol

General Guidelines:

- Perform all procedural steps at room temperature (15°C to 30°C) unless otherwise specified.
- When mixing samples by pipetting up and down, avoid creating bubbles.
- Prior to each use, ensure **DNA/RNA Binding Beads (RS)** are evenly resuspended by mixing, and confirm no settled material remains at bottom of the bottle.
- All separation steps can be performed by either centrifugation or magnetically. For magnetic separation, follow guidelines regarding binding times from the magnetic device manufacturer.
- After each centrifugation or magnetic separation, bead pellets must be thoroughly resuspended. If samples do not resuspend by vortexing, rapidly drag sample tube across a sample rack for a more vigorous resuspension.

Additional Notes:

- Precipitation may occur if certain reagents are stored below indicated storage temperature. We recommend warming the precipitated solutions to 37°C for 15 minutes to eliminate the precipitate.

DNA/ RNA Extraction Procedure:

1. Sample Preparation
   1.1. Samples must be in a liquid form prior to starting this procedure. See "Suitable sample types" above.
   1.2. The following reagent volumes are based on **200 µl** sample starting volume. If smaller volumes are being processed, adjust the following reagent volumes accordingly.

2. Lysis and Binding
   2.1. Add **530 µl** of **Binding Solution** and 20ul of **DNA/RNA Binding Beads (RS)** to each sample and **vortex for 10 seconds**. Let mixture sit at **ambient temperature** for **5 minutes**.
   2.2. **Vortex for 5 seconds.**
   2.3. Separate the beads bound with sample DNA/RNA from the sample supernatant by centrifugation for **30 seconds at 16,000 RPM** or use a suitable magnetic device**.**
   2.4. Aspirate off **supernatant** and **discard** from each sample leaving the nucleic acid containing bead pellet.

3. Wash
   3.1. Add **500 µl** of **Wash 1** to each sample and mix thoroughly to resuspend pellet.
   3.2. Separate the beads bound with sample DNA/RNA from the supernatant by centrifugation for **30 seconds at 16,000 RPM** or use a suitable magnetic device**.**
   3.3. Add **500 µl** of **80% ethanol** to each sample and mix thoroughly to resuspend pellet.

3.4. Separate the beads bound with sample DNA/RNA from the supernatant by centrifugation for **30 seconds at 16,000 RPM** or use a suitable magnetic device**.**
3.5. Add **500 µl** of **80% ethanol** to each sample and mix thoroughly to resuspend pellet.
3.6. Separate the beads bound with sample DNA/RNA from the supernatant by centrifugation for **30 seconds at 16,000 RPM** or use a suitable magnetic device**.**
3.7. After the last wash step**,** centrifugation the sample again for **30 seconds at 16,000 RPM** to collect residual wash buffer at the bottom of the tube. Use a small volume pipette to remove as much liquid as possible.

4. DNA/RNA Elution
4.1. Add **60 µl** of **Elution Solution** to each sample and vortex vigorously to ensure pellet is resuspended.
4.2. Incubate samples at ambient temperature for 5 minutes.
4.3. Vortex samples vigorously.
4.4. Centrifugation samples for **30 seconds at 16,000 RPM** or use a suitable magnetic device and collect DNA/RNA off the top of the bead pellet.
4.5. Transfer isolated DNA/RNA to a suitable storage tube for long term storage.
4.5.1. Note that residual beads do not interfere with many down stream applications such as PCR based assays.

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