

# PATHKITS

## MDS™ Magnetic Viral RNA Extraction Kit

Product Code: MDS033



### Kit Contents (50 Reactions)

MDS Viral RNA Extraction Kit	Quantity	Packaging
Buffer 1	1 X 25 ml	1 x 50ml tube
Wash Buffer	1 X 30 ml	1 x 50ml tube
Elution Buffer	1 X 3 ml	1 x 15 ml tube
Magnetic beads	1 X 2.5 ml	1 x 15 ml tube
Carrier RNA in buffer	1 X 0.5 ml	1 x 1.5 ml tube

**NOTE:**

- Ethanol is not supplied with the kit
- Magnetic stand is not supplied with the kit

## Shipping and storage

Carrier RNA in solubilized form can be stored in RT for one year from the date of manufacturing. Carrier RNA in solubilized form has to be stored at -20 C for one year. All solutions should be stored at room temperature unless otherwise stated. Under these conditions, all buffers and reagents can be stored until the expiration date on the kit box, without showing any reduction in performance.

## Intended Use

MDS Magnetic Viral RNA Extraction Kit contains carrier RNA for optimal RNA extraction, is intended for molecular biology applications. This product is not intended for the diagnosis, prevention, or treatment of a disease.

## Principle

MDS Magnetic Viral RNA Extraction Kit represents a well-established technology for general-use viral RNA preparation. The magnetic Beads in the kit are functionalized with proven polymers on the surface, which enable them to adsorb nucleic acids under specific pH and in the presence of binding promoters. The sample is first lysed under highly denaturing conditions to inactivate RNases and to ensure isolation of intact viral RNA. Under special conditions, cells or viruses in the samples lyse rapidly and release nucleic acids, which are specifically adsorbed to the magnetic beads. The RNA binds to the beads, and contaminants are efficiently washed away in using wash buffers. High quality RNA is eluted in a special RNase-free buffer, ready for direct use or safe storage. The purified RNA is free of protein, nucleases and other contaminants and inhibitors. The special membrane guarantees extremely high recovery of pure, intact RNA in just 15 min without the use of phenol/chloroform extraction or alcohol precipitation.

## Equipment and Reagents to be supplied by User

1. When working with chemicals, always wear a suitable lab coat, disposable gloves and protective goggles.
2. Ethanol (96-100%)
3. 1.5 ml microcentrifuge tubes
4. Sterile, RNase-free pipette tips (pipette tips with aerosol barriers for preventing cross contamination are recommended)

## RNA Extraction Protocol

### Protocol:

- Step 1:** Shake the sample collection tube with swab and viral transport medium in a shaker for 5 min.
- Step 2:** Transfer 250µl of viral transfer media into a fresh and labeled 1.5ml Micro Centrifuge Tube (MCT).
- Step 3:** Add 500µl Buffer 1 with carrier RNA (add 10µl of Carrier RNA into 500µl of Buffer 1 for each sample) into the MCT and add 50µl of thoroughly vortexed magnetic beads into the MCT. Mix thoroughly by pipetting and incubate at 60°c in a water bath for 5 min. Cool down the MCT for 1min.
- Step 4:** Transfer the MCT to magnetic rack and allow the magnetic beads to congregate on the magnetic surface for 1min. Collect and discard the liquid with a micropipette without disturbing the magnetic beads.
- Step 5:** Remove the MCT from magnetic rack and add 600µl of wash buffer. Mix the beads by pipetting. Then transfer the MCT to the magnetic rack and leave for 1min for the beads to congregate on the wall. Collect and discard the liquid with a micropipette without disturbing the magnetic beads.
- Step 6:** Remove the MCT from Magnetic rack and transfer them to sample rack then add 60µl of elution buffer and mix the beads thoroughly by pipetting 10 times. Allow the tube for 3 min at room temperature.
- Step 7:** Transfer the MCT to Magnetic rack and allow the beads to congregate on the wall for 1 min.
- Step 8:** Transfer the clear elute to a newly labeled 1.5 ml MCT and which contains the Viral RNA.
- The eluted viral RNA can be used for all application such as RT-PCR or sequencing.

### Disclaimer:

User must ensure suitability of the product(s) in their application prior to use. Products conform solely to the information contained in this kit insert. The information contained in this kit insert is based on our research and development work and is to the best of our knowledge true and accurate. Products are not intended for human or animal diagnostic or therapeutic use but for laboratory, research or further manufacturing use only, unless otherwise specified. Statements contained herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for infringement of any patents.

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**ICMR-National Institute for Implementation Research on  
Non-Communicable Diseases (NIIRNCD), Jodhpur**

11-11-2020

**M/s MetaDesign Solutions Pvt Ltd.**

**Subject :** Performance evaluation report of MDS Magnetic Viral RNA extraction kit manufactured by MetaDesign Solutions Pvt Ltd.

Sir,

We have evaluated the MDS Magnetic Viral RNA extraction kit manufactured by MetaDesign Solutions Pvt Ltd. (Lot No. MDS/M/RNA/11/20-02). The final report is attached for your information.

Yours sincerely



Prof (H). Dr. G. S. Toteja  
Director,  
NIIRNCD, Jodhpur.

**ICMR-National Institute for Implementation Research on  
Non-Communicable Diseases (NIIRNCD), Jodhpur**

**Performance evaluation report for Viral RNA Extraction kit**

**Name of the kit :** MDS Magnetic Viral RNA extraction kit

**Name of the manufacturer:** MetaDesign Solutions Pvt Ltd.

**Lot / batch number:** MDS/M/RNA/11/20-02

**Date of expiry:** N/A

**Kit components:** Buffer 1, Wash Buffer, Elution Buffer, Magnetic Beads, carrier RNA.

**Sample Panel**

1. SARS CoV-2 Positive samples (n=40)(13 High, 14 Med, 13 Low Ct values)
2. SARS CoV-2 Negative samples (n=10)

**Results**

Among the positive samples, 40 (100%) showed positive result. Among the negative samples, RNA from 10 (100%) samples gave negative results. Amplification of Internal Control (RNase P) was seen in RNA extracted from 100% samples.

**Conclusions:**

- Percentage concordance among positive and negative samples: **100%**
- Percentage of samples showing amplification in internal control : **100%**
- Performance: **SATISFACTORY**

**Disclaimers**

1. ICMR's validation process does not approve / disapprove the kit design
2. ICMR's validation process does not certify user friendliness of the kit / assay
3. Validation of a kit by ICMR is not an assurance that the kit specifications would be included in the tendering process




**ICMR-National Institute for Implementation Research on  
Non-Communicable Diseases (NIIRNCD), Jodhpur**

Note: This report is exclusively for RNA Extraction Kit (Lot No : MDS/M/RNA/11/20-02) manufactured by MetaDesign Solutions Pvt Ltd. (supplied by MetaDesign Solutions Pvt Ltd.)

The company shall not use or publish information or report for advertising or promotional purposes

Evaluation Done on ...11/11/2020.....

Evaluation Done by ...Dr Elantamilan D.... 



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