# MQ Blood RNA Extraction Kit

**Cat No. BRE-M-001-50**
Size: 50 Preparations

MOLEQULE-ON®

| Components | Quantity |
|---|---|
| Buffer Rlysis-RG | 12ml |
| Buffer NS-A | 22.5ml |
| 2% SDS | 2.5ml |
| Universal GT solution* | 18ml |
| Universal NT solution* | 6ml |
| RNase Free Water | 30ml |
| MQ Columns and 2.0 Collection Tubes | 50 each |

## Preparations

1. *Add 12 ml 96-100% ethanol to 18 ml concentrated universal GT solution.
2. *Add 24 ml 96-100% ethanol to 6 ml concentrated universal NT solution.

NOTE: While working with RNA. It is important to maintain an RNase-free environment starting with RNA sample preparation and continue through purification and analysis. Use Nuclease-Free Micropipette tips, tubes and gels. Wear gloves at all times.

## Description

MQ Blood RNA Extraction Kit is based on a simple spin column technique to get high quality, high-purity intact total RNA. The reagent contains disruptive and protective properties of guanidine isothiocyanate and β-mercapto-ethanol to inactivate the ribonucleases present in cell extracts. RNA in the whole homogeneity is selectively absorbed on spin column and other impurities are washed away. Total RNA is eluted from the membrane in the presence of RNase-free water. 5-15 µg total RNA can be purified from 200 µl of anticoagulated blood sample using this kit. Purified RNA is ready for most downstream applications such as RT-PCR, Northern Blotting, Poly (A) selection and in vitro translation.

## Features

1. Time saver: MQ Blood RNA Extraction Kit procedure takes approximately 15 minutes.
2. Gives high purity of RNA: At OD260/OD280 ratio, the purified RNA is generally > 1.9.
3. Compatible with downstream applications such as Northern Blots, cDNA synthesis, RT-PCR and qRT-PCR.
4. High Quality RNA: Buffer Rlysis-RG maintains the integrity of the RNA, no degradation.
5. Very economical.

## Storage

Store the MQ Blood RNA Extraction Kit at room temperature (15-25°C).

## Materials and Equipment Required but Not Supplied

Microcentrifuge 12,000 x g
Nuclease-Free Micropipettes and Micropipette tips
Vortex
Nuclease-Free Ethanol (96-100%)
Nuclease-Free Microcentrifuge tubes (1.5 ml or 2 ml)

## Note

Care must be taken when working with RNA. It is important to maintain an RNase-free environment, starting with RNA sample preparation and continue through purification and analysis. Use RNase free tubes, tips, gels. Wear gloves at all times.

## Procedure

1. Add 0.1-0.3 ml fresh anticoagulated whole blood to a 1.5 ml RNase-free microcentrifuge tube. Add 0.5 ml RNase-free Water and mix by inverting.

2. Centrifuge at 8,000 x g for 1 minute at room temperature, discard the supernatant (plasma).

3. Using Nuclease-Free Micropipette tips, add 200 µl Buffer Rlysis-RG and mix by inverting immediately.

4. Incubate at room temperature for 5 minutes to make sure the cells are completely lysed.

5. Add 360 µl Buffer NS-A, 40 µl of 2% SDS and mix by inverting the tube several times.
Note. there may be precipitates after addition of SDS. Proceed to step 6 as precipitates will not affect performance of the kit.

6. Centrifuge at 12,000 x g for 5 minutes at 4°C. Transfer the supernatant to a new RNase-free microcentrifuge 1.5 ml tube.

7. Add 1/2 volume of ethanol, mix by inverting the tube.

8. Transfer the solution to the spin column, centrifuge at 12,000 x g for 1 min at room temperature, discard the flow-through.

9. Add 0.5 ml of Universal GT Solution to the column, centrifuge at 12,000g for 1 min at room temperature, discard the flow through.

10. Add 0.5 ml of Universal NT Solution to the column, centrifuge at 12,000 x g for 1 min at room temperature, discard the flow through.

11. Centrifuge the column at 12,000 x g for additional 1 min at room temperature.
Note: This step is very important to remove the residual ethanol thoroughly.

12. Place the column in a new Nuclease-Free 1.5 ml microcentrifuge tube, add 50 µl RNase-free Water. Keep at room temperature for 2 minutes. Centrifuge at 12,000g for 30 sec at room temperature, store RNA solution at -80°C.