Pioneer Research Anahita Company
No.157
Danesh street
Technology Park Pardis
Tehran/ Iran

DATA SHEET
Versions: 01
Revision date: 29/11/2023

1. Identification

Product name: microRNA extraction kit

Reactions: 50 rxns

Cat. No.: PRA-miRE

2. Description

microRNAs are small RNA molecules capable of binding to mRNAs and regulating translation levels. These molecules play a crucial role in the pathogenesis of various diseases, making them essential in both research and treatment. However, standard column kits lack the ability to efficiently purify small amounts of microRNAs. As a solution, many kits are designed in sedimentary form. The microRNA extraction kit stands out for its ability to purify microRNAs in sedimentary form, offering high capability and purity.

3. Kit Contents

Component	Cat. no	Quantity
RNA Solution	PRA-RNK	50 ml (2 vial 25 ml)
Solution A	PRA-SoA	15 ml (3 vial 5 ml)
Precipitation solution	PRA-PS	15 ml
Carrier	PRA-Cr	1 ml
Homogenizing Buffer	PRA-Hbt	40 ml (2 vial 20 ml)
Washing buffer	PRA-WB	50 ml (2 vial 25 ml)
RNase/DNase free water	PRA-DW	5 ml
Microtube	PRA-M1/5	200 pcs

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4. Storage specifications

The components of the microRNA extraction kit can be conveniently stored at 20°C for later use.

5. Applications

Molecular Biology Applications:

- Regulate development, maturation, differentiation, and apoptosis of the cell
- Cell signaling
- Cellular interactions
- Homeostasis

6. Assay Procedure

MicroRNA Extraction Protocol:
1. Add 500 µl of RNA solution to a DNase/RNase free microtube.
2. Add the appropriate amount of the sample (e.g., 200 µl of blood, 200 µl of tissue lysis solution) to the microtube. Mix vigorously for 15 seconds on the vortex and incubate at room temperature for 10 minutes.
3. Add 150 µl of Solution A to the microtube. Mix vigorously for 5 seconds and incubate for five minutes.
4. Centrifuge the microtubes at 12,000 RPM for 5 minutes at 4°C.
5. Transfer the supernatant solution to a new microtube (be careful not to mix with the middle white layer). Add 300 µl of cold sedimentation buffer and 10 µl of Carrier to the microtube. Mix gently by hand.
6. Centrifuge the microtubes at 12,000 RPM for 5 minutes at 4°C after a five-minute incubation.
7. Drain the supernatant completely by inverting the microtube. Add 500 µl of washing buffer and mix by hand. Centrifuge at 8,000 RPM for 1 minute at 4°C.

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8. Drain the supernatant completely by inverting the microtube and dehumidify it completely by placing it upside down on a paper towel.
9. Add 50 µl of RNase/DNase free water and mix thoroughly. Incubate for 1 minute at room temperature. Note: The temperature of RNase/DNase free water should be around 50 ºC for better separation of microRNAs.
10. Freeze the purified microRNAs in smaller microtubes (to prevent evaporation) at -20°C until use. Note: For immediate use, it is best for specific cDNA synthesis. If needed for storage, microRNA can be stored for up to one month at -20°C and up to three months at -80°C.

7. Safety

The solutions used in the kit have oxidizing and acidic properties. Avoid direct contact with skin and eyes. In case of contact with the mentioned tissues, wash with plenty of water and seek medical attention at the nearest medical center.

8. Quality Certifications

The mentioned product has been approved for marketing in the Islamic Republic of Iran.

9. Further information

This product is developed, designed, and sold exclusively for research purposes. The product has not been tested for use in diagnostics or for drug development, nor is it suitable for administration to humans or animals.

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10. Other Kits

Other RNA Extraction Kits and DNA:

All the following DNA extraction kits are available in all three formats: column, sedimentary, and magnet nanoparticles:

1. DNA extraction kits from blood and tissue by column
2. DNA extraction kits from gram-positive and negative bacteria
3. DNA extraction kit from mycobacterium
4. DNA extraction kit from Fungi
5. DNA extraction kit from virus
6. DNA extraction kit from HPV virus
7. DNA extraction kits from plant tissue

RNA Extraction Kits:

All the following RNA extraction kits are available in both column and sedimentary methods:

1. RNA extraction kits from blood and tissue
2. RNA extraction kits from gram-positive and negative bacteria
3. RNA extraction kit from mycobacterium
4. RNA extraction kit from Fungi
5. RNA extraction kit from the virus
6. RNA extraction kits from plant tissue

NOTE

All products have been produced by Karmania Pars Gene company in Iran.