

Kimia Andisheh Gene Pouyan

Knowledge based, technology- and research



Technical Manual

- *RNA Extraction Kit*
- *Catalogue Code: 19.03.1011*
- *Size: 25T- 50T*
- *Research Use Only*

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For RNA isolation from

- Whole Blood
- Animal Tissues
- Cultured Cells
- Bacteria

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Storage and Stability

RNA/DNA Extraction Kits should be stored dry at temperature (4–10°C) and are stable for at least 9 months under these conditions, if not otherwise stated on the label.

Intended Use

RNA/DNA Extraction Kits are intended for molecular biology applications. These products are not intended for the diagnosis, prevention, or treatment of a disease. All due care and attention should be exercised in the handling of the products.

Safety Information

When working with chemicals, always wear a suitable lab coat, disposable gloves and protective goggles.

Quality Control

The entire kit is tested for the ability to extract DNA that meets performance specifications for quality.

Introduction

Kimia Andisheh Gene pouyan Company was founded in 2004 by prominent Iranian researchers and now operates as a parent institution. The company was established based on a strong human-centric biofoundation and an innovative idea in the field of biotechnology.

Undoubtedly, the network formed within this organization is one of the most robust human networks in biotechnology. Today, Kimia Andisheh Gene pouyan , with its extensive network comprising multiple divisions and diverse laboratories, stands as one of the most advanced biotechnology laboratories, actively contributing to the country's biotechnology sector, including the Ministry of Health.

Kimia Andisheh Gene pouyan , as a leading resource for students in the fields of medicine and molecular cell biology, utilizes state-of-the-art research and laboratory equipment to provide them with hands-on experience and learning opportunities in the latest technologies and techniques. These facilities create significant value by integrating theoretical knowledge with practical experience and scientific research.

Kit Contents

RNA Kit Contents

No.	Materials	Packing	Qty.
1	KAT LB	25 mL	1
2	KAT W1	20 mL	1
3	KAT W2	8 mL	1
4	KAT EB	1 mL	1
5	Spin Column	25 pcs	1
6	Collection Tube	25 pcs	1

Materials and Equipments to Be Supplied by User

- **Equipments**

A Micro – centrifugator, capable of 15,000 rpm and 4 °C, with a rotor suitable for 1.5 and 2 ml micro – centrifuge tube.

Polypropylene micro – centrifuge tube (1.5 and 2 ml), sterile.

Pipettes and pipette tips, sterile

Homogenizer and pestle (for tissue samples)

- **Reagents**

Chloroform

96 – 100 % Ethyl Alcohol

RNA Extraction protocol

Introduction

Kimia Andisheh Gene pouyan RNA Extraction Kit is designed to provide a fast, simple, and highly efficient method for RNA extraction from various biological samples. These samples include whole blood, cultured cells, animal tissues, microorganisms, Gram-positive and Gram-negative bacteria. Utilizing advanced technology and optimized reagents, this kit enables fast, reliable, and accurate extraction of total RNA suitable for sensitive molecular applications.

The RNA extracted using Kimia Andisheh Gene pouyan **RNA Extraction Kit** is ideal for various downstream processes, including cDNA synthesis, RT-PCR, qRT-PCR, gene expression analysis, RNA-Seq, and transcriptomic studies.

One of the key advantages of this kit is its robust protection of RNA against RNase degradation. The inclusion of RNase inhibitors and specially formulated buffers ensures the integrity and stability of RNA molecules, even when isolating from delicate or challenging samples such as cultured cells, frozen tissues, blood, saliva, or swabs.

In both research and clinical laboratories where RNA quality directly impacts experimental accuracy, this kit provides a dependable solution trusted by molecular biologists and diagnostic specialists.

Key Benefits:

- High-purity RNA extraction, free from DNA or protein contamination
- Compatible with diverse sample types (cells, tissues, bodily fluids)
- Fast protocol with user-friendly workflow
- Suitable for sensitive applications like Real-Time PCR
- Ideal for basic research, biotechnology, and molecular diagnostics

Kit Protocol

1. Prepare your samples by using 20-25 mg of tissue, 1×10^4 to 1×10^6 cells, 500 μ L of whole blood, or an equivalent volume of bacterial suspension (1.5×10^8 bacterial cells).
 - Note: Tissue samples may require homogenization.
 - Note: For Gram-positive bacteria, use a specialized lysis buffer for complete disruption and optimal results.
2. Add 1000 μ L of KAT LB Buffer to the sample and mix gently by inverting the tube several times. Place the mixture at 4 °C for 15 minutes to ensure proper lysis (longer storage for difficult samples like hard tissues would cause in better lysis).
3. Add 200 μ L Chloroform to the mixture and invert thoroughly for a minute and incubate at room temperature for 2 to 3 minutes. Invert the tube following the incubation for a minute.
4. Centrifuge the tube at 12,000 rpm for 15 minutes at 4 °C.

5. Carefully transfer the supernatant into a sterile tube (1.5-2.0 mL). Add 300 μ L of 96-100% ethanol to the tube and mix gently by inverting. Transfer the mixture to a sterile spin column.
6. Centrifuge the tube at 13,000 rpm for 1 minute at 4 °C.
7. Discard the flow-through and add 700 μ L of KAT W1 Buffer to the spin column. Centrifuge the tube at 13,000 rpm for 1 minute at 4 °C.
8. Discard the flow-through and add 300 μ L of KAT W2 Buffer to the spin column. Centrifuge the tube at 13,000 rpm for 1 minute at 4 °C.
9. Discard the flow-through and centrifuge the tube at 13,000 rpm for 2 minutes to ensure all remaining KAT W Buffers is expelled from the spin column.
10. Place the spin column into a new sterile tube (1.5 mL). Add 20-50 μ L of KAT EB to the spin column. Incubate the tube for 5 minutes at room temperature, then centrifuge at 13,000 rpm for 2 minutes at 25 °C. Remove the spin column from the tube and store the eluted sample at -20 °C (for long-term storage, -80 °C freezer is needed).

RNA Extraction

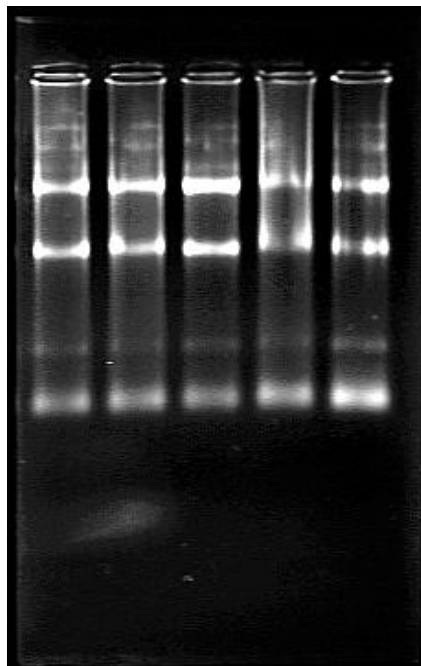


Figure. RNA Extracts from various samples on 1.2% Agarose Gel.

NOTE :

Why choose Kimia Andisheh Gene Pouyan

- Expert working group and different orientations.
- Up-to-date equipment for research and knowledge development.
- Environmentally friendly and compliant products.
- Production of laboratory kits with high measurement accuracy and in accordance with global standards.

