

MagicPure® 32 Tissue & Cell Pro Total RNA Kit

Please read the manual carefully before use.

Cat. No. EC524-32

Version No. Version 1.1

Storage: The kit is stable for 18 months when stored at 15°C–30°C. DNase I should be stored at -18°C or below for 18 months.

Description

This kit is suitable for total RNA extraction from animal tissues and cells. Through a unique reagent system, it rapidly lyses samples, inactivates endogenous RNase, and provides a specific and efficient environment for the binding of RNA to magnetic beads. Compared with traditional total RNA extraction methods, this product does not require toxic organic reagents such as phenol, chloroform, or β -mercaptoethanol, and the sample lysis step does not require cumbersome operations such as centrifugation and phase separation. The extracted RNA has high yield and high purity and can be directly used in downstream experiments such as RT-PCR, qRT-PCR, Northern Blot, in vitro translation, RACE, and NGS. This kit is suitable for 32-channel magnetic rod automated nucleic acid extractors.

Features

- Safe and low toxicity: No toxic organic reagents such as phenol, chloroform, or β -mercaptoethanol.
- Simple operation: Simple sample processing and a high degree of automation.
- High product purity: Efficiently removes impurities such as gDNA and proteins.

Kit Contents

Component	EC524-32-11 (32 rxns)	EC524-32-12 (64 rxns)
Tissue & Cell RNA Reagents Plate	2 plates	4 plates
8-Tip Comb	4 each	8 each
Lysis Buffer 60 (LB60)	20 ml	40 ml
DNase I (3 units/ μ l)	2100 U	4200 U
DNase I Reaction Buffer II	10 ml	20 ml

Tissue & Cell RNA Reagents Plate Contents

Column	Reagents Name	Volume
Column 1/7	Binding Buffer 60 for Plate (BB60 for Plate)	500 μ l/well $\times$ 16
Column 2/8	Clean Buffer 60 for Plate (CB60 for Plate)	1000 μ l/well $\times$ 16
Column 3/9	Wash Buffer 60 for Plate (WB60 for Plate)	800 μ l/well $\times$ 16
Column 4/10	Empty	
Column 5/11	Magnetic Total RNA Beads III for Plate	800 μ l/well $\times$ 16
Column 6/12	RNase-free Water for Plate	100 μ l/well $\times$ 16

Self-prepared Materials

1.5 ml RNase-free centrifuge tubes, RNase-free pipette tips, etc.

Pre-operation Preparation

- Before using the automated nucleic acid extractor, please turn on the UV sterilization for at least 20 minutes to avoid RNase contamination.



- Remove the pre-sealed 96-deep-well plate from the reagent kit, take off the outer packaging of the deep-well plate, invert and mix the deep-well plate several times to resuspend the magnetic beads, gently shake the deep-well plate to collect the reagents and magnetic beads to the bottom of the deep-well plate (alternatively, use a deep-well plate centrifuge and centrifuge at 500 rpm for no more than 1 minute).

RNA Extraction Procedure

1. Sample processing

Adherent Cells

- For cells cultured in regular 6-well plates or 3.5 cm diameter dishes (approximately 10 cm² culture area), discard the culture medium, add 600 µl of LB60, and place horizontally for a moment to allow the lysis buffer to fully contact and lyse the cells. Then use a pipette to blow and dislodge the cells (for firmly adherent cells, they can be scraped off using a cell scraper).
- Transfer the cell lysate to an RNase-free centrifuge tube (self-prepared) and vortex at room temperature for 8 minutes.

Suspension Cells

- Centrifuge at 2°C–8°C, 2,000 × g for 2 minutes, discard the supernatant, and collect the cells.
- Add 600 µl LB60 per ≤5×10⁶ cells and vortex at room temperature for 8 minutes.

Animal Tissue

- Quickly transfer fresh or ultra-low temperature frozen samples to a mortar containing liquid nitrogen, and grind thoroughly with a pestle until powdered.
- * Adding liquid nitrogen during the grinding process is acceptable; incomplete grinding will affect the yield and quality of RNA extraction.

* Automated grinders and other equipment can be used to fully grind the samples.

- Transfer 10 mg–100 mg of the ground sample to an RNase-free centrifuge tube (self-prepared), add 600 µl LB60, and vortex at room temperature for 8 minutes.
- Carefully peel off the sealing film of the pre-coated plate to avoid splashing the liquid. Pipette 550 µl of the above lysate mixture and transfer it to pre-coated wells 1/7 (Columns 1 and 7) of the plate.

* When the tissue sample < 50 mg, no centrifugation is needed; directly pipette and transfer 550 µl of the above lysate mixture.

When 50 mg < tissue sample < 100 mg, it is recommended to centrifuge at 13,400×g for 2 minutes, then pipette and transfer 550 µl of the supernatant.

* Cell samples (≤5×10⁶ cells) do not require centrifugation; directly pipette and transfer 550 µl of the above lysate mixture.

- Add 300 µl of DNase I working solution to each well in columns 4/10 of the pre-coated plate.

* DNase I working solution preparation (single well): Mix 280 µl of DNase I Reaction Buffer II and 20 µl of DNase I.

- Insert the magnetic rod sleeve into the magnetic rod sleeve slot of the 32-channel automated nucleic acid extractor.

- Run the corresponding automated extraction program.

* Please strictly set the extraction program according to the table below (elution temperature 65°C).



Step	Position	Name	Wait Time	Mixing Time	Magnetic Collection Time	Magnetic Collection Cycles	Mixing Speed	Volume	Temperature (°C)
1	5/11	Transfer Magnetic Beads	0 min	5 sec	10 sec	3	Fast	800 µl	OFF
2	1/7	Binding	0 min	10 min	15 sec	3	Fast	1000 µl	OFF
3	2/8	Wash 1	0 min	4 min	15 sec	3	Fast	1000 µl	OFF
4	3/9	Wash 2	0 min	4 min	15 sec	3	Fast	800 µl	OFF
5	4/10	DNA Removal	0 min	6.5 min	15 sec	3	Fast	300 µl	OFF
6	5/11	Wash 3	0 min	3 min	15 sec	3	Fast	800 µl	OFF
7	5/11	Dry	5 min	0 sec	0 sec	—	—	—	OFF
8	6/12	Elution	0 min	8 min	15 sec	3	Medium	100 µl	65
9	2/8	Discard Magnetic Beads	0 min	10 sec	—	—	—	—	OFF

6. After the program ends, aspirate the RNA from each well in columns 6/12 and store it at -85°C to -65°C.

Notes

- Select fresh samples or samples that have not been repeatedly freeze-thawed for RNA extraction.
- After adding the lysis buffer, be sure to vortex thoroughly to ensure complete lysis.
- If precipitates form in the lysis buffer, dissolve it in a 37°C water bath, mix well, and then use it.
- RNase-free consumables (such as centrifuge tubes, pipette tips, etc.) must be used for the experiment.

For research use only, not for clinical diagnosis.

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