



ZYMO RESEARCH

*The Beauty of Science is to Make Things Simple*

# INSTRUCTION MANUAL

## RNA Clean-Up Kit-25™

Catalog Nos. (R1017, R1018, R1025, & R1026)

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For Laboratory Use Only

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ZYMO RESEARCH CORP.

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## I. General Information

### Description

Zymo Research's **RNA Clean-up Kit-25™** provides a hassle-free method for the rapid preparation of up to 25 µg (per prep.) of high-quality RNA for manipulations such as RT-PCR. This simple procedure is based on the use of a unique single-buffer system and Fast-Spin column technology. The procedure is easy: just add the buffer to your sample and the RNA is then cleaned and eluted into RNase-free water using a **Zymo-Spin™ Column**. RNA ranging in size from 50 bp-20 kb can be safely treated and recovered using this kit. The result is purified RNA that is suitable for subsequent RNA-based methods including RT-PCR, hybridization, etc.

### Highlights

- Convenient method for isolating purified RNA.
- Purified RNA is suitable for use in RNA-based procedures including RT-PCR.
- Omits the use of organic denaturants and proteinases.

### Specifications

- **RNA Purity** – High quality, purified RNA is eluted into RNase-free water that is suitable for RNA-based manipulations including RT-PCR.
- **RNA Recovery** – The RNA binding capacity of the supplied column is 25 µg.
- **RNA Storage** – Recommended that 1 U/10 µl RNase inhibitor be added to the RNA prior to storage at -70°C.
- **Sample Sources** – RNA preparations from DNase digestion, in vitro transcription, etc.
- **Stability of Product Reagents** – Integrity of kit components is guaranteed for up to one year from date of purchase.
- **Quality Control** – Reagents are routinely tested on a lot-to-lot basis to ensure they provide maximal performance and reliability.

**Note:** Satisfaction of all Zymo Research products is guaranteed. If you should be dissatisfied with this product please call 1-888-882-9682.

## Product Contents

RNA Clean-up Kit-25™ Kit Size	R1017, R1025 (50 Preps.)	R1018, R1026 (100 Preps.)	Storage Temperature
RNA Binding Buffer	50 ml	100 ml	Room Temp.
RNA Wash Buffer*	12 ml	24 ml	Room Temp.
DNase/RNase-Free Water	6 ml	6 ml	Room Temp.
Zymo-Spin™ Columns	50 ct.	2x50 ct.	Room Temp.
Collection Tubes	50 ct.	2x50 ct.	Room Temp.
RNase-Free Tubes	50 ct.	2x50 ct.	Room Temp.
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\* Ethanol must be added prior to use as indicated on **RNA Wash Buffer** label.

## Ordering Information

Product Description	Catalog No.	Kit Size
RNA Clean-up Kit-25™ supplied w/ <b>uncapped</b> columns	R1025	50 preps.
RNA Clean-up Kit-25™ supplied w/ <b>capped</b> columns	R1017	50 preps.
RNA Clean-up Kit-25™ supplied w/ <b>uncapped</b> columns	R1026	100 preps.
RNA Clean-up Kit-25™ supplied w/ <b>capped</b> columns	R1018	100 preps.

For Individual Sale	Catalog No.	Amount
RNA Binding Buffer	R1013-2-50	50 ml
	R1013-2-100	100 ml
RNA Wash Buffer (concentrate)	R1003-3-2.4	2.4 ml
	R1003-3-6	6 ml
	R1003-3-12	12 ml
	R1003-3-24	24 ml
	R1003-3-48	48 ml
DNase/RNase-Free Water	W1001-1	1 ml
	W1001-4	4 ml
	W1001-6	6 ml
	W1001-10	10 ml
Zymo-Spin III™ Columns (uncapped)	C1005-50	50 ct.
	C1005-250	250 ct.
Zymo-Spin IIIC™ Columns (capped)	C1006-50	50 ct.
	C1006-250	250 ct.

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For Individual Sale Cont.	Catalog No.	Amount
Collection Tubes	C1001-50	50 ct.
	C1001-500	500 ct.
	C1001-1000	1,000 ct.
RNase-Free Tubes	C2001-50	50 ct.

For **Technical Assistance** contact those at **Zymo Research's Technical Department** at 1-888-882-9682 or E-mail to [tech@zymoresearch.com](mailto:tech@zymoresearch.com).

## II. Protocol

### Overview

The **RNA Clean-up Kit-25™** is a convenient method for cleaning and concentrating RNA using Zymo Research's Fast-Spin column technology. Once bound to a **Zymo-Spin III™** column, the RNA is washed twice then eluted with a minimal volume of RNase-free water. The entire procedure typically takes 2-5 minutes.

### Reagent Preparation

- Before starting, add 48 ml 100% ethanol to the 12 ml **RNA Wash Buffer** concentrate (96 ml 100% ethanol to the 24 ml wash buffer concentrate) to obtain the final **RNA Wash Buffer** solution.
- Make sure guidelines are followed to ensure the RNA isolation procedure is performed in an RNase-free environment.

**Note:** Alternatively, 50 ml or 101 ml 95% ethanol can be added to the 12 ml and 24 ml sizes of wash buffer concentrate, respectively.

## Method

1. Add 4 volumes of **RNA Binding Buffer** to each volume of RNA sample and mix.
2. Transfer the mixture to a **Zymo-Spin™ Column** in a **Collection Tube**.
3. Centrifuge at  $\geq 10,000$  rpm for 30-60 seconds. Discard the flow-through.
4. Add 350  $\mu$ l of **Wash Buffer** to the column. Centrifuge at  $\geq 10,000$  rpm for 30-60 seconds. Discard flow-through. Repeat wash step.
5. Add 50  $\mu$ l of **RNase-free Water** directly to the column matrix. Place the column into a 1.5 ml RNase-free tube and centrifuge at  $\geq 10,000$  rpm for 30-60 seconds to elute the RNA.

The eluted RNA can be used immediately or stored at  $-70^{\circ}\text{C}$  for future use.

**Note:** Water is strongly recommended to elute the RNA. TE buffer (10 mM Tris-HCl, 1 mM EDTA, pH 8.0) can also be used for elution if required by your experiment. Waiting for one minute prior to eluting the RNA may increase RNA yield. Also, the yield may be increased by performing a second elution with another 50  $\mu$ l of water and pooling it with the first.

Note - ™ Trademarks of Zymo Research Corporation. This product is for research use only and should only be used by trained professionals. Some reagents included with this kit are chaotropic and are irritants. Wear protective gloves and eye protection. Follow the safety guidelines and rules enacted by your research institution or facility.

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## Popular RNA Purification & Isolation Products from Zymo

Product	Description	Kit Size	Cat No. (Column Format)
<b>Pinpoint Slide RNA Isolation System I™</b>	Isolation of total RNA from targeted tissue areas on a microscope slide of fresh or frozen tissue sections. Perfect for RNA isolation from clinical tissue samples.	50 Preps	<b>R1003</b>
<b>Pinpoint Slide RNA Isolation System II™</b>	Isolation of total RNA from targeted tissue areas on a microscope slide of paraffin embedded tissue sections. Perfect for RNA isolation from clinical tissue samples.	50 Preps	<b>R1007</b>
<b>Mini RNA Isolation I Kit™</b>	Isolation of trace amounts of RNA from $1 \times 10^1$ to $1 \times 10^5$ cells. Available in both capped and uncapped column formats.	50 Preps 50 Preps	<b>R1005</b> (Uncapped) <b>R1006</b> (Capped)
<b>Mini RNA Isolation II Kit™</b>	Isolation of RNA from $10^2$ to $5 \times 10^6$ cells. Available in both capped and uncapped column formats.	50 Preps 200 Preps 50 Preps 200 Preps	<b>R1030</b> (Capped) <b>R1031</b> (Capped) <b>R1032</b> (Uncapped) <b>R1033</b> (Uncapped)
<b>ZR Whole Blood Total RNA Kit™</b>	Isolation of RNA from whole blood samples in 15 minutes.	50 Preps 100 Preps	<b>R1020</b> <b>R1021</b>
<b>ZR Viral RNA Kit™</b>	Isolation of viral RNA from cell-free body fluids or sample mixtures containing cells at a concentration less than $10^5$ cells per ml.	50 Preps 200 Preps	<b>R1034</b> <b>R1035</b>
<b>ZR-96 Viral RNA Kit™</b>	High-output isolation of viral RNA from cell-free body fluids or sample mixtures containing cells at a concentration less than $10^5$ cells per ml.	2x96 Preps 4x96 Preps	<b>R1040</b> <b>R1041</b>
<b>Urine RNA Kit™</b>	Isolation of total RNA from urine sediment samples. The system employs a unique urine filter to collect cells via a simple syringe "push-through" method.	20 Preps 50 Preps	<b>R1038</b> <b>R1039</b>
<b>RNA Clean-up Kit-5™</b>	Clean and concentrate 5 µg RNA from any reaction in 2 minutes. 8 µl minimal elution volume. Available in capped and uncapped column format.	50 Preps 200 Preps 50 Preps 200 Preps	<b>R1015</b> (Capped) <b>R1016</b> (Capped) <b>R1023</b> (Uncapped) <b>R1024</b> (Uncapped)
<b>RNA Clean-up Kit-25™</b>	Clean and concentrate up to 25 µg RNA from any reaction in 2 minutes. 50 µl minimal elution volume. Available in capped and uncapped column format.	50 Preps 200 Preps 50 Preps 200 Preps	<b>R1017</b> (Capped) <b>R1018</b> (Capped) <b>R1025</b> (Uncapped) <b>R1026</b> (Uncapped)
<b>DNA Free RNA Kit™</b>	Efficiently removes DNA from RNA preparations for RT-PCR reactions in 15 minutes. Available in capped and uncapped column format.	50 Preps 200 Preps 50 Preps 200 Preps	<b>R1013</b> (Capped) <b>R1014</b> (Capped) <b>R1027</b> (Uncapped) <b>R1028</b> (Uncapped)
<b>Zymoclean Gel RNA Recovery Kit™</b>	Isolation of RNA from agarose gels in 15 minutes. 8 µl minimal elution volume for maximum concentration of RNA.	50 Preps	<b>R1011</b>
<b>YeaStar RNA Kit™</b>	Isolation of RNA from a broad spectrum of fungi susceptible to yeast lytic enzyme lysis.	40 Preps	<b>R1001</b>