

RNA/Protein Purification Kit

Norgen's RNA/Protein Purification Kit provides a rapid method for the isolation and purification of total RNA and total proteins simultaneously from a single sample of cultured animal cells, tissues, blood, bacteria, yeast or fungi. The total RNA and proteins are both column purified in less than 25 minutes using the same column. The simultaneous isolation of the RNA and proteins from the same sample not only saves time, but will also be of a great benefit when isolating RNA and proteins from precious, difficult to obtain or very small samples. Furthermore, gene expression analysis will be more reliable since the RNA and proteins are derived from the same sample, therefore eliminating inconsistent results and variability. In addition, the kit can also be used for the simultaneous isolation of genomic DNA and proteins from a single sample.



With Norgen's RNA/Protein Purification Kit, the purification is based on spin column chromatography using Norgen's proprietary resin as the separation matrix. Norgen's resin binds nucleic acids in a manner that depends on ionic concentrations, thus the RNA will bind to the column while the proteins are removed in the flowthrough. After the RNA is washed and eluted from the column, the column is then used to purify the proteins that are present in the flowthrough. Norgen's kit purifies all sizes of RNA, from large mRNA and ribosomal RNA down to microRNA (miRNA) and small interfering RNA (siRNA). The purified RNA is of the highest integrity, and can be used in a number of downstream applications. The purified proteins can also be used in a number of different downstream applications.

Kit Specifications			
Column Binding Capacity (RNA)	50 µg	Average Yield:	
Column Binding Capacity (Protein)	200 µg	HeLa Cells (1 x 10 ⁶ cells)	15 µg RNA
Maximum Column Loading Volume	650 µL	HeLa Cells (1 x 10 ⁶ cells)	150 µg protein
Size of RNA Purified	All sizes	Liver (5 mg)	12.5 µg RNA
Time to Complete 10 Purifications	25 minutes	Liver (5 mg)	55 µg protein

RNA/Protein Purification Kit Benefits

Complete column purification	The RNA and proteins are all column purified using the same column.
Reduce variability	RNA and proteins are isolated from a single sample with no splitting of the lysate, thus reducing inconsistent results and variability.
Isolate from small samples	Simultaneous isolation of RNA and protein from a single sample. Ideal for precious, difficult to obtain or small samples such as biopsy material or single foci from cell cultures.
Rapid procedure	Isolate total RNA and total proteins from a single sample in < 25 minutes.
Isolate a diversity of RNA species	All sizes of RNA are isolated, from large mRNA down to microRNA
Process a wide range of sample types	Isolate total RNA and proteins from cultured animal cells, tissue, blood, bacteria, yeast, plant and fungi

RNA/Protein Purification Kit

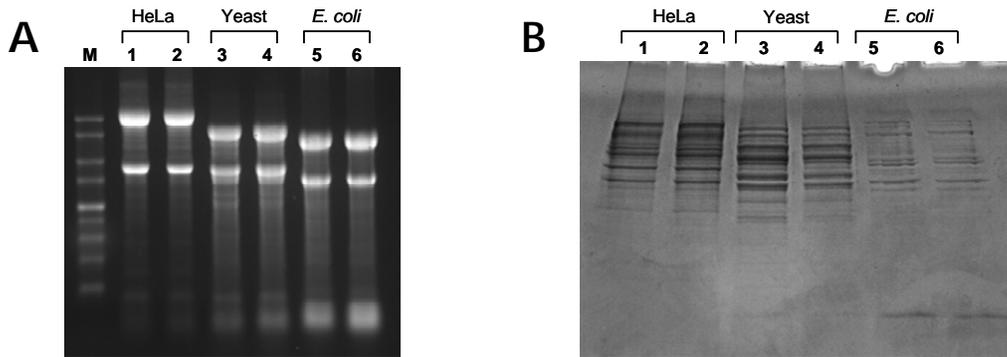


Figure 1. Simultaneous Isolation of RNA and Proteins from HeLa cells, yeast cells and *E. coli*

Total RNA and total proteins were isolated simultaneously from 10^6 HeLa cells, 5×10^6 yeast cells and 5×10^7 *E. coli* cells using Norgen's kit. Panel A is a 1X MOPS 1.5% agarose gel showing the total RNA. Lane M is Norgen's 1 kb RNA Ladder, Lanes 1 and 2 contain 10 μ L of the elution from the HeLa cells, Lanes 3 and 4 contain 3 μ L of the elutions for the yeast cells, and Lanes 5 and 6 contain 3 μ L of the elutions for the *E. coli* cells. Panel B is a 10% SDS-PAGE gel containing the total proteins that were isolated. In each case, 25 μ L out of the elutions was loaded. Lanes 1 and 2 contain the HeLa proteins, Lanes 3 and 4 contain the yeast proteins and Lanes 5 and 6 contain the *E. coli* proteins. The RNA and proteins are intact and of the highest quality, and can be used in a number of different downstream applications.

RNA/Protein Purification Kit Contents

1. Lysis Solution
2. Nucleic Acid Wash Solution
3. Nucleic Acid Elution Buffer
4. Protein Wash Buffer
5. Protein pH Binding Buffer
6. Protein Elution Buffer
7. Enzyme Incubation Buffer
8. Protein Neutralizer
9. Protein Loading Buffer
10. Micro spin columns
11. Collection tubes
12. Elution tubes
13. Product Insert

Customer-Supplied Reagents and Equipment

- Benchtop microcentrifuge
- 95% ethanol
- Isopropanol
- β -mercaptoethanol
- RNase-free DNase I (optional)
- Mortar and pestle, liquid nitrogen (Tissue, Fungi, Plant)
- TE Buffer and lysozyme (Bacteria)
- Resuspension buffer with lyticase (Yeast)
- 70% ethanol (Tissue, Fungi, Plant)

Shipping Conditions

The RNA/Protein Purification Kit is shipped at room temperature.

Storage Conditions

All solutions should be kept tightly sealed and stored at room temperature. All the reagents should remain stable for at least 1 year in their unopened containers.

Cat #	Description	Quantity
23000	RNA/Protein Purification Kit	20 samples