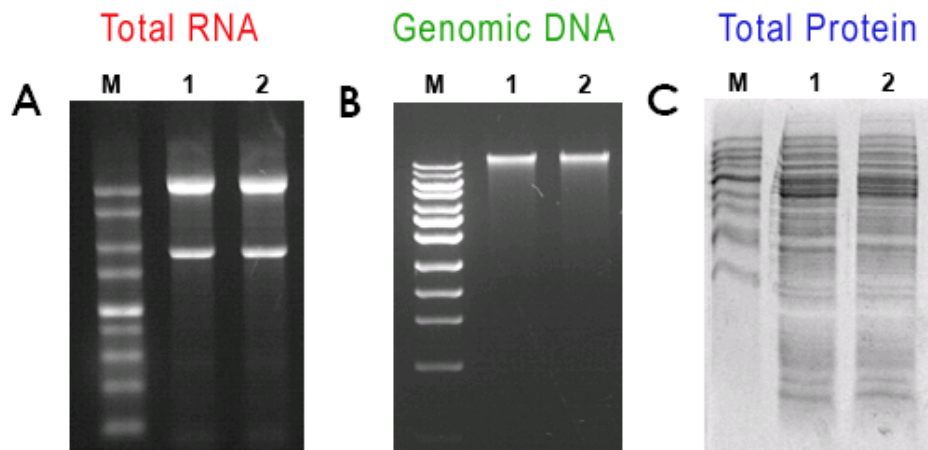


# KRISHGEN BioSystems

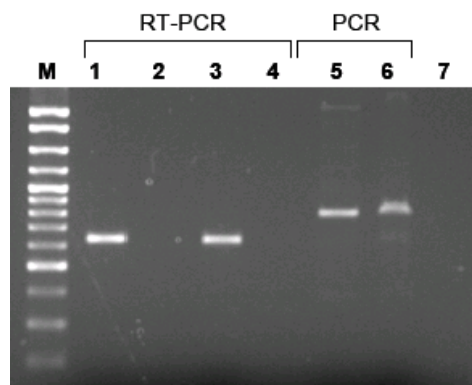
30 minute  
procedure

## Norgen's RNA/DNA/Protein Purification Kit - Sequential Purification of RNA, DNA & Protein from a Single Sample

- *Sequentially isolate and purify total RNA, genomic DNA and total proteins from a single sample*
- *Ideal for small or difficult to obtain samples*
- *Purify RNA/DNA/Protein from cultured animal cells, tissues, blood, bacteria, yeast, fungi or plants*
- *Rapid and efficient spin column procedure*



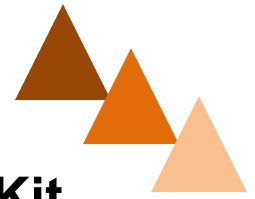
**Figure 1. Sequential Isolation of Total RNA, Genomic DNA and Proteins from  $5 \times 10^5$  of HeLa Cells.** Panel A is a 1X MOPS 1% agarose gel showing the RNA that was isolated from 2 different samples of HeLa cells. Lane M is Norgen's 1Kb RNA Ladder, and Lanes 1 and 2 contain 3  $\mu$ L out of the 50  $\mu$ L elutions. Panel B is a 1% agarose gel showing the gDNA isolated from the same 2 HeLa cell samples. Lane M is Norgen's UltraRanger 1 kb DNA Ladder and Lanes 1 and 2 contain 10  $\mu$ L of each of the 100  $\mu$ L elutions. Panel C is a 12% SDS-PAGE gel that contains the proteins that were isolated from the 2 HeLa cell samples. Lane M is a protein ladder and Lanes 1 and 2 contain 10  $\mu$ L of the 100  $\mu$ L elution of proteins that had been column purified. The RNA, gDNA and proteins are all intact and of the highest integrity and quality.



**Figure 2. High Quality RNA and DNA.** RNA isolated from HeLa cells was used as the template in an RT reaction with and without reverse transcriptase in the absence of DNase treatment. The RT reaction was then used in an RT-PCR to detect the GAPDH gene.

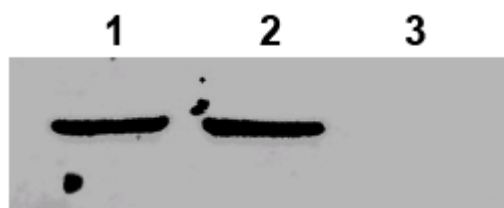
135/37 Zaveri Bazar, Mumbai 400 002. India.

Tel : 022-66372990 / 2991 Fax : 022-66372991 Email : sales@krishgen.com



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There was no amplification in the absence of reverse transcriptase (Lanes 2 and 4), indicating that the RNA is free of genomic DNA. Lanes 1 and 3 contain the successful RT-PCR results when reverse transcriptase was used. Genomic DNA was also successfully used in a PCR reaction using the same set of primers to detect the GAPDH gene (Lanes 5 and 6), indicating the high quality of the isolated DNA. Larger PCR product is obtained due to extra intron in the genomic DNA. Lane M is Norgen's CloneSizer 100bp DNA Ladder and Lane 7 is a control with no template. Therefore RNA and DNA isolated using the kit are high quality and can be used in downstream applications .



**Figure 3. High Quality Total Proteins**

Total proteins were isolated from HeLa cells and column purified. Western blot analysis of duplicate samples with antibodies against GAPDH demonstrate the proteins are of a high quality and can be used in common downstream applications. Lane 3 is a negative control.

### Kit Specifications

Custom Binding Capacity (RNA)	50 ug	Average Yield :	
Column Binding Capacity (DNA)	20 ug	HeLa Cells (1 x 10 <sup>6</sup> cells)	15 ug RNA
Column Binding Capacity (Protein)	200 ug	HeLa Cells (1 x 10 <sup>6</sup> cells)	8 ug DNA
Size of RNA Purified	All sizes	HeLa Cells (1 x 10 <sup>6</sup> cells)	150 ug protein
Size of DNA Purified	> 30 kbp	Time to Complete Purification	30 minutes

### Ordering Information

RNA/DNA/Protein Purification Kit	Catalog No#23500	Kit Size : 20
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Norgen's RNA/DNA/Protein Purification Kit provides a rapid method for the isolation and purification of total RNA, genomic DNA and proteins sequentially from a single sample of cultured animal cells, small tissue samples, blood, bacteria, yeast, fungi or plants. The total RNA, genomic DNA and proteins are all column purified in less than 20 minutes using Norgen's proprietary resin as a separation matrix. This kit is ideal for researchers who are interested in studying the genome, proteome and transcriptome of a single sample, such as for studies of gene expression including gene silencing experiments or mRNA knockdowns, studies involving biomarker discovery, and for characterization of cultured cell lines. Norgen's RNA/DNA/Protein Purification Kit is especially useful for researchers who are isolating macromolecules from precious, difficult to obtain or small samples such as biopsy materials or single foci from cell cultures, as it eliminates the need to fractionate the sample. Furthermore, analysis will be more reliable since the RNA, DNA and proteins are derived from the same sample, thereby eliminating inconsistent results. The purification procedure is very rapid, allowing for the isolation of total RNA, genomic DNA and proteins from a single sample in less than 30 minutes. The purified macromolecules are of the highest purity and can be used in a number of different downstream applications.

### Applications

	RNA	Genomic DNA	Protein
•	Real time PCR	PCR	SDS-PAGE analysis
•	Reverse transcription PCR	Sequencing	Western blots
•	Northern blotting	Southern blotting	
•	RNAse protection	SNP analysis	
•	Primer extension		
•	Expression array analysis		

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