Cytoplasmic & Nuclear RNA Purification Kit

CAT. 21000

FOR THE CONVENIENT PURIFICATION OF CYTOPLASMIC AND NUCLEAR RNA FROM CELLS AND TISSUES

- Excellent separation and purification of cytoplasmic and nuclear RNA
- High quality and yield of RNA
- Isolate full diversity of RNA (including microRNA) without phenol
- Purified RNA is ready for any application including RT-PCR, qRT-PCR, RNA-Seq, arrays and more
- Purification is based on spin column chromatography that uses Norgen's proprietary resin separation matrix

COLLECTION & PRESERVATION
EXTRACTION
APPLICATION

CERTIFIED QUALITY ISO 9001:2015 CERTIFIED QUALITY
CERTIFIED QUALITY ISO 13485:2016 CERTIFIED QUALITY
GMP COMPLIANT

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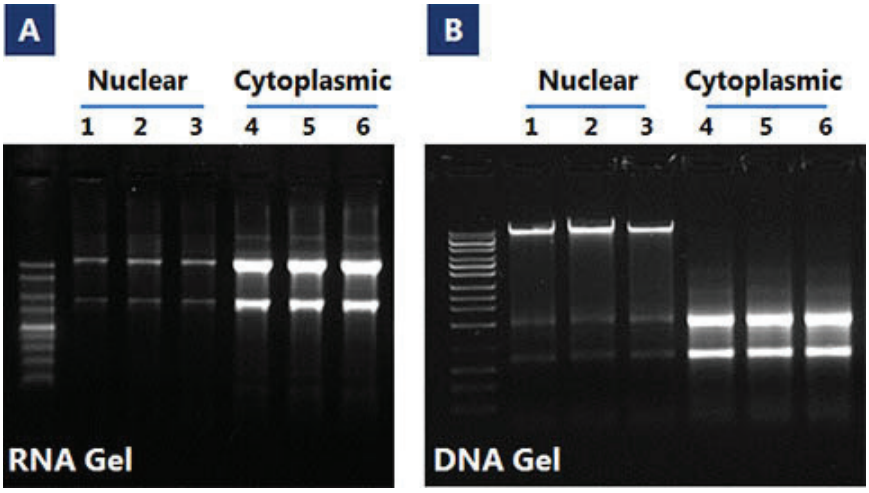
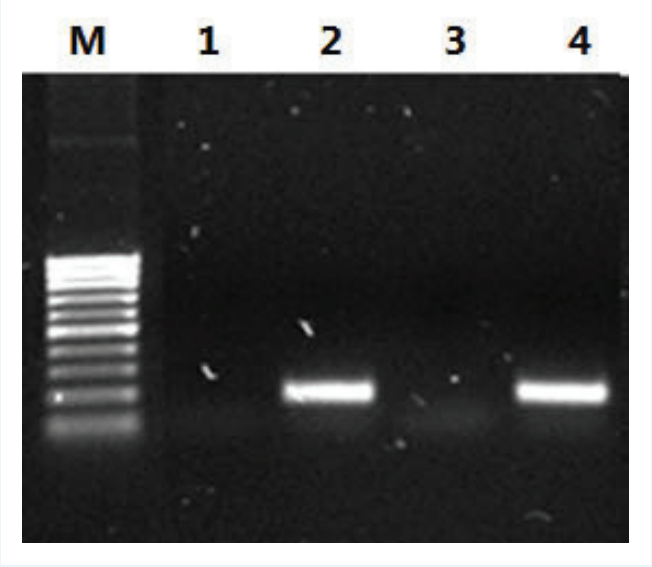
Advantages You Will Bring to Your Lab



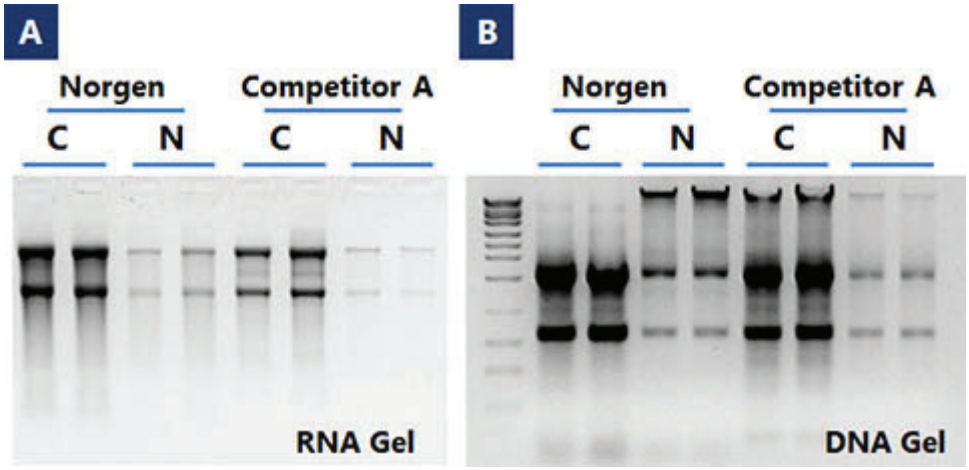
EFFECTIVE SEPARATION OF HELA CELL CYTOPLASMIC & NUCLEAR RNA

Figure 1. Effective Separation of HeLa Cell Cytoplasmic & Nuclear RNA. Norgen's Cytoplasmic & Nuclear RNA Purification Kit was used to effectively separate cytoplasmic and nuclear RNA from 0.75 million HeLa cells in triplicate. Panel A: High quality cytoplasmic and nuclear RNA was purified using Norgen's kit. Note the integrity and quality of both cytoplasmic and nuclear RNA. 10 µL of each 50 µL elution were run on a 1.5% formaldehyde-agarose gel. Lane M is Norgen's 1 kb RNA Ladder, lanes 1-3 contain nuclear RNA and lanes 4-6 contain cytoplasmic RNA. Panel B: 10 µL of the above cytoplasmic and nuclear RNA isolated from HeLa cells using Norgen's kit was run on a 0.9% agarose gel. Genomic DNA is clearly visible in the nuclear RNA fractions (lanes 1-3), however, no genomic DNA can be detected in the cytoplasmic RNA fractions (lanes 4-6). Note that an optional on-column DNase treatment protocol is provided to remove the genomic DNA in the nuclear fraction.



GENOMIC DNA-FREE CYTOPLASMIC RNA

Figure 3. Genomic DNA-free Cytoplasmic RNA. RTPCR was performed using human beta actin primers on 2 µL of the 50 µL of cytoplasmic RNA isolated from 1 million HeLa cells using Norgen's Cytoplasmic & Nuclear RNA Purification Kit. Lane M is Norgen's PCR Sizer DNA ladder, Lanes 1 and 3 are the negative control (PCR only, without reverse transcript), and Lanes 2 and 4 are the actual RT-PCR that show the expected 166 bp RT-PCR product. The expected amplicon size from the gene copy is the same as that from the RNA transcript. The lack of product in lanes 1 and 3 indicates that no genomic DNA contamination is present in the isolated cytoplasmic RNA. All PCR products were resolved on a 1X TAE, 2% agarose gel.



SUPERIOR SEPARATION OF HELA CELL CYTOPLASMIC & NUCLEAR RNA

Figure 2. Superior Separation of HeLa Cell Cytoplasmic & Nuclear RNA. Norgen's Cytoplasmic & Nuclear RNA Purification Kit provides better separation of cytoplasmic and nuclear RNA from 0.8 million HeLa cells when compared to a leading competitor's product. Panel A: Cytoplasmic and nuclear RNA purified from HeLa cells using Norgen's kit and a competitor's kit. 10 µL of each 50 µL elution (Norgen or competitor's kit) of the cytoplasmic (C) or nuclear (N) RNA were run on a 1.5% formaldehyde-agarose gel. Higher yields of RNA with good integrity were isolated using Norgen's kit. Panel B: 10 µL of the cytoplasmic and nuclear RNA isolated from HeLa cells using Norgen's kit and the competitor's kit was run on a 0.9% agarose gel. Genomic DNA only co-migrates with the nuclear fraction in RNA isolated using Norgen's Cytoplasmic & Nuclear RNA Purification Kit, not the cytoplasmic fraction. Note that an optional on-column DNase treatment protocol is provided to remove the genomic DNA in the nuclear fraction. In contrast, significant genomic DNA contamination was observed in the cytoplasmic fraction of the RNA isolated using the competitor's kit.

KIT SPECIFICATIONS

Description	Specifications
Maximum Column Binding Capacity	Up to 50 µg RNA
Maximum Column Loading Volume	650 µL
Size of RNA Purified	All sizes, including small RNA (< 200 nt)
Time to Complete 10 Purifications	45 minutes
RNA Yields HeLa (1×10^6) - Cytoplasmic RNA HeLa (1×10^6) - Nuclear RNA	15 µg ≤ 3.5 µg

PUBLICATIONS

Du, P., Zhang, X., Wang, Z., Su, C., Zhang, H., Zheng, R., Si, X., Chen, W., & Huang, Y. (2026). **Temporal dynamics of insulin-responsive long non-coding RNAs in chicken skeletal muscle: unraveling LncFKBP5 as a dual regulator of myogenesis and glucose homeostasis.** International journal of biological macromolecules, 150547. Advance online publication. https://doi.org/10.1016/j.ijbiomac.2026.150547

Du, J., Li, C., Zhang, J., Luo, J., Zhang, H., Chen, H., Li, X., & Qian, P. (2026). **Zinc finger protein ZNF33B facilitates Japanese encephalitis virus replication by regulating m6A modification on Ifih1 and Irf3 transcripts to antagonize antiviral response.** Cell & bioscience, 10.1186/s13578-025-01526-3. Advance online publication. https://doi.org/10.1186/s13578-025-01526-3

Ma, C., Wang, Z., Zhu, X., Pang, X., Zhang, L., Ou, L., Chen, Y., Liu, Y., Mei, J., Guan, X., Meng, Z., Tang, Y., Zhang, Z., Li, B., Wen, S., Shen, A., & Wang, X. (2026). **Super enhancer-driven LINC01013 mediates hypoxia-induced mitochondrial dysfunction by HSPA9 to determine pulmonary arterial smooth muscle cell fate.** Cellular and molecular life sciences : CMLS, 83(1), 57. https://doi.org/10.1007/s00018-025-06071-3

Ordering Information

Description	Preps	Cat. #
Cytoplasmic and Nuclear RNA Purification Kit	50 Preps	21000

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