



MagBeads Purification Kit

MP BIOMEDICALS

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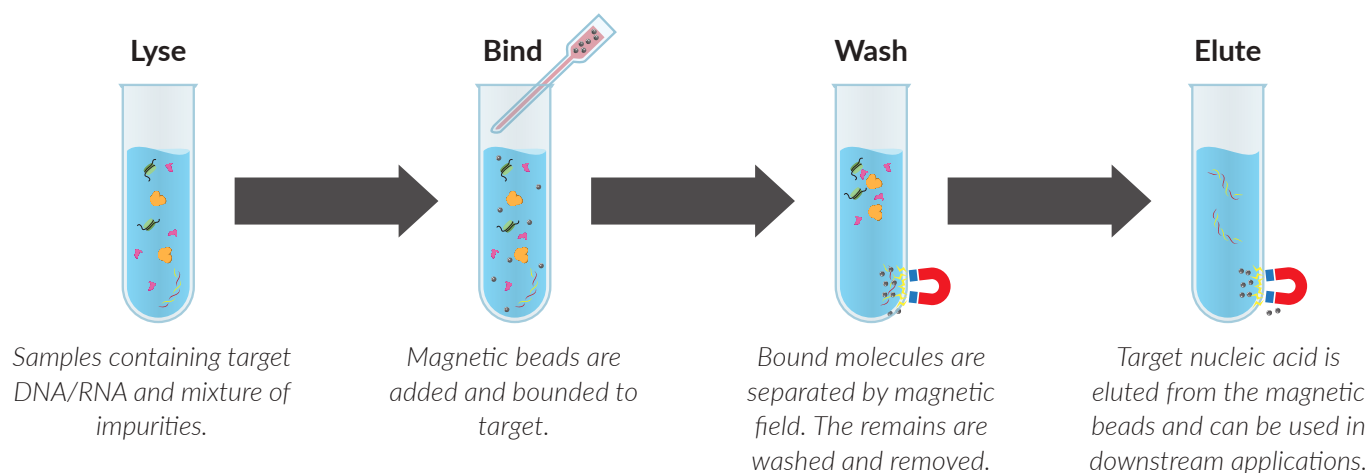
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The MagBeads Kits employ a state-of-the-art nucleic acid purification method to extract high quality DNA/RNA. These kits eradicate the requirement for the phenol-chloroform method, replacing it with a magnetic bead-based purification technique that selectively binds DNA/RNA and eliminates the impurities.

The final eluted nucleic acid is ensured to be of high yield and ready to be used for various downstream applications, including end-point PCR, real-time qPCR, NGS, and more.

MAGBEADS PRINCIPLE



COMMON NUCLEIC ACID EXTRACTION METHODS

Method	Spin Column	Magnetic Beads
Series	SPINeasy®	MagBeads
Technology	Spin column and reagents are utilized for nucleic acid purification via centrifugation method	Magnetic beads and reagents are utilized for nucleic acid purification
Technique	Sample is pre-treated and homogenized prior to loading into spin column. The column is washed, and the extracted DNA/RNA is eluted off from the column via centrifugation or vacuum manifold.	Sample is pre-treated and homogenized prior to mixing with magnetic beads. The magnetic beads are then washed, and the extracted DNA/RNA is dissociated from the beads.
Purity	High	High
Throughput	Low-medium	Medium-high
Advantage	<ul style="list-style-type: none">• Fast and simple procedure• Ready to use kit format for improved convenience• Flexible for use with both centrifugation or vacuum-based systems for higher throughput	<ul style="list-style-type: none">• High Throughput• No risk of column clogging• High yield and efficiency• Automatable on MPure aNAP systems
Recommended For	Most nucleic acid extraction	Medium to high throughput sample processing



MAGBEADS FASTDNA KIT FOR SOIL

Addressing soil sample variability is crucial during nucleic acid extraction, not to mention the presence of various contaminants. To avoid any degradation and increase extraction efficiency, the **MagBeads FastDNA Kit for Soil** could be used to eliminate such problems.

The **MagBeads FastDNA Kit for Soil** allows quick and efficient isolation of high-quality genomic DNA from soil in less than 60 mins. Samples are placed into Lysing Matrix E tubes and used with FastPrep® Instruments from MP Biomedicals to effectively lyse host cells as well as bacteria, fungi, viruses, protists, and other cells present in soil samples within 40 seconds. The kit is also compatible with most of the automated nucleic acid extraction instruments on the market or it can be operated manually. It consists of specially formulated reagents to eliminate humic acid, polysaccharides, phenolic compounds, and enzyme inhibitors from soil and thus allows for extraction of highly pure genomic DNA ready for PCR, restriction digestion, electrophoresis, and other desired applications.

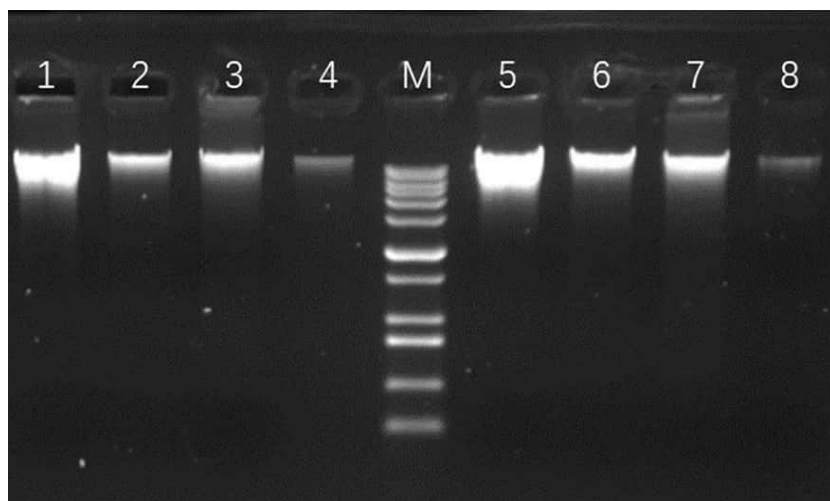
FEATURES

- Optimized for highly contaminated and low biomass soil types
- Consistent and high concentrations of pure DNA
- Inhibitor removal solution guarantees high level of purity, hence enabling it to be directly used for downstream applications
- Designed for both automated and manual extraction workflows, ensuring the fastest turnaround time

EXTRACTION RESULTS

Type of Soil Sample	Extraction Method	DNA Yield (ng/mg)	A260/280	A260/230
Organic Soil 100 mg	Automation	130.25	1.84	1.23
	Manual	196.08	1.98	1.08
Flowerbed Soil 100 mg	Automation	19.92	1.86	1.53
	Manual	24.43	1.85	1.09
Saline Soil 250 mg	Automation	11.75	1.87	1.51
	Manual	13.43	1.90	1.37
Desert Soil 250 mg	Automation	2.47	1.85	1.43
	Manual	2.97	1.91	0.81

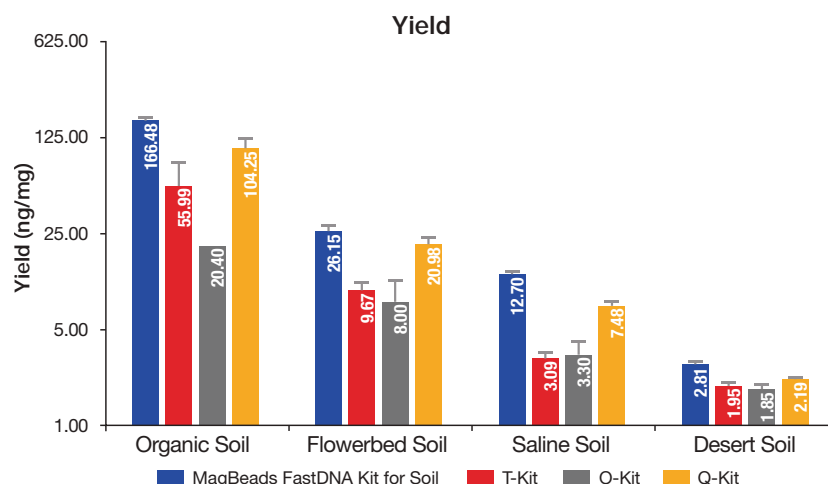
DNA yield and purity from different soil samples using MagBeads FastDNA Kit for Soil



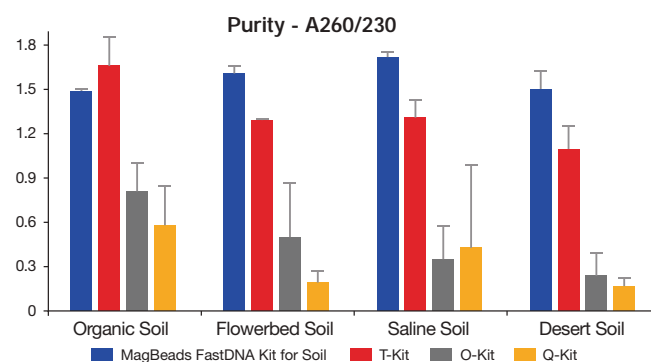
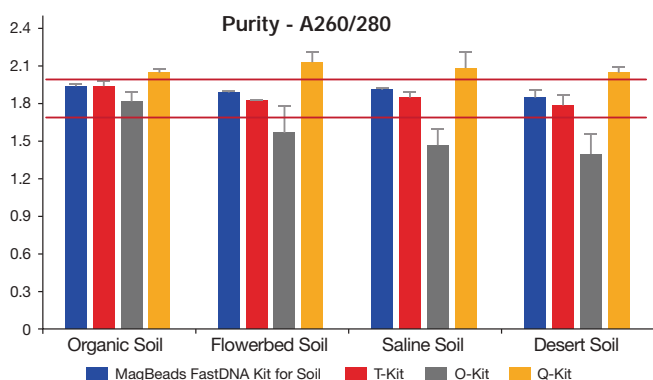
M: 1kb plus DNA ladder, **Lane 1-4:** Automation, **Lane 5-8:** Manual,
Lane 1&5: 100 mg Organic Soil, **Lane 2&6:** 100 mg Flowerbed Soil,
Lane 3&7: 250 mg Saline Soil, **Lane 4&8:** 250 mg Desert Soil

PERFORMANCE

DNA yield and purity from different soil samples using MagBeads FastDNA Kit for Soil



The **MagBeads FastDNA Kit for Soil** was tested against three competitors' kits, it showed a higher yield across all samples.



Purity was assessed by UV spectrophotometry. It consistently achieved high purity with the optimal ratio of 1.70 – 2.0 for A260/280 and >1.0 for A260/230.

ORDER INFORMATION

Description	Size	Catalogue Number
MagBeads FastDNA Kit for Soil	50 Preps	116561050
Magbeads FastDNA Kit for Soil (Ready-to-Use for MPure-32)	96 Preps	117033100
MagBeads FastDNA Kit for Soil (Ready-to-Use for MPure-96)	96 Preps	117034100



MAGBEADS FASTDNA KIT FOR FECES

The **MagBeads FastDNA Kit for Feces** allows quick and efficient isolation of high-quality genomic DNA from fresh or frozen human and animal feces in less than 60 minutes. Specially formulated buffers remove contaminants, while the magnetic beads ensure high yields of pure gDNA. It supports both manual and automated extraction methods, increasing work efficiency for downstream analyses like PCR, sequencing, and more.

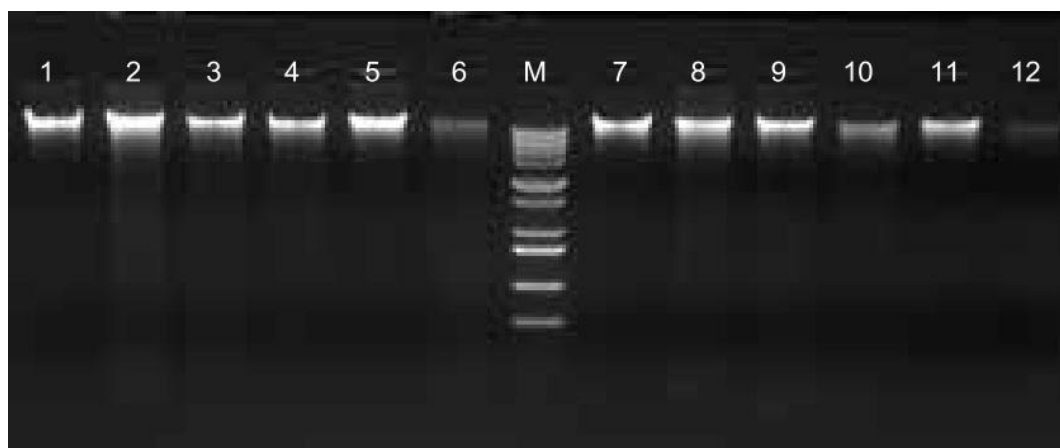
FEATURES

- Extracted DNA is intact and free from inhibitors
- Applicable for wide range of fecal samples including intestinal contents

EXTRACTION RESULTS

Type of Feces Sample	Extraction Method	DNA Yield (ng/mg)	A260/280	A260/230
Swine	Automation	106.98	1.94	1.93
	Manual	126.68	1.99	2.02
Mouse	Automation	99.33	1.96	2.40
	Manual	110.33	1.97	1.25
Human	Automation	110.32	2.00	1.71
	Manual	107.30	1.97	1.24
Chicken	Automation	52.17	1.90	1.48
	Manual	85.38	1.90	1.12
Bovine	Automation	53.82	1.72	1.07
	Manual	77.60	1.80	0.98
Elephant	Automation	22.18	1.81	1.46
	Manual	31.98	1.84	1.01

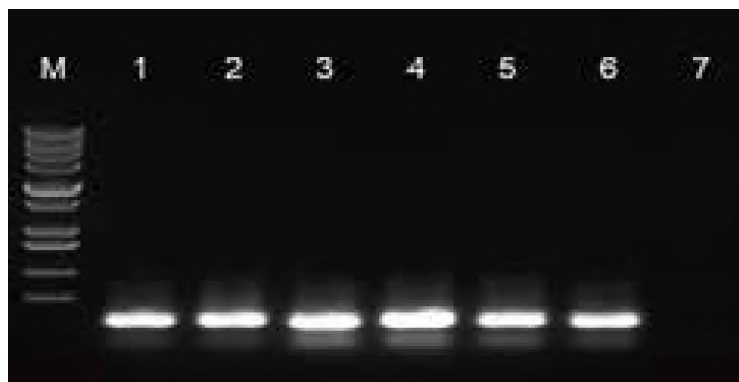
DNA yield and purity from different fecal samples extracted with MagBeads FastDNA Kit for Feces



M: 1kb plus DNA ladder, **Lane 1-6:** Manual, **Lane 7-12:** Automation, **Lane 1&7:** 30 mg Swine Feces, **Lane 2&8:** Mouse Feces, **Lane 3&9:** 30 mg Human Feces, **Lane 4&10:** 150 mg Chicken Feces, **Lane 5&11:** 150mg Bovine Feces, **Lane 6&12:** 150mg Elephant Feces

PERFORMANCE

PCR of extracted gDNA (top) and Restriction digestion of extracted gDNA (bottom) from different feces samples using MagBeads FastDNA Kit for Feces.



M: 1kb plus DNA ladder, **Lane 1:** Swine Feces, **Lane 2:** Mouse Feces, **Lane 3:** Human Feces, **Lane 4:** Chicken Feces, **Lane 5:** Bovine Feces, **Lane 6:** Elephant Feces, **Lane 7:** Negative Control



M: 1kb plus DNA ladder, **Lane 1&2:** Swine, **Lane 3&4:** Mouse, **Lane 5&6:** Human, **Lane 7&8:** Chicken, **Lane 9&10:** Bovine, **Lane 11&12:** Elephant, **Lane 1/3/5/7/9/11:** Before digestion, **Lane 2/4/6/8/10:** After digestion

ORDER INFORMATION

Description	Size	Catalogue Number
MagBeads FastDNA Kit for Feces, 50 preps	50 Preps	116570400
Magbeads FastDNA Kit for Feces (Ready-to-Use for MPure-32)	96 Preps	117033200
MagBeads FastDNA Kit for Feces (Ready-to-Use for MPure-96)	96 Preps	117034200



MAGBEADS FASTRNA KIT FOR FECES

The **MagBeads FastRNA Kit for Feces** is a scalable and automatable magnetic bead-based RNA purification technology, designed for the efficient isolation of total RNA from fecal samples. Ready-to-use versions are available (Cat. No. 117040300 & Cat. No. 117040400).

The composition of fecal samples is largely dependent on diet, which includes fibers, undigested particles, bilirubin, complex polysaccharides, and lipids. These compounds impair sample homogenization, decreasing both the quantity and quality of the extracted RNA. The MagBeads FastRNA Kit for Feces integrates our 1) state-of-the-art beads-beating technology, 2) a lysis chemistry compatible with the widest range of samples and 3) our proprietary inhibitor removal expertise. A new technology of selective binding of RNA along with our FastDNase I Enzyme treatment allows the complete removal of DNA. The **MagBeads FastRNA Kit for Feces** streamlines RNA purification by overcoming the challenges associated with diverse fecal sample types, making the process both hassle-free and time efficient. A DNase I treatment step effectively removes contaminated DNA, ensuring high RNA yield and purity. The extracted RNA is immediately compatible with downstream applications such as RT-qPCR amplification, eliminating the need for additional inhibitor or DNA removal steps.

FEATURES

- Yields up to 250 µg of total RNA from up to 200 mg of fecal samples.
- Available in prefilled formats – Ready-to-use for MPure-32™ (Cat. No. 117040300) and Ready-to-use for MPure-96™ (Cat. No. 117040400) aNAP Systems.
- Simplifies RNA purification, saving time and minimizing handling steps.

PERFORMANCE

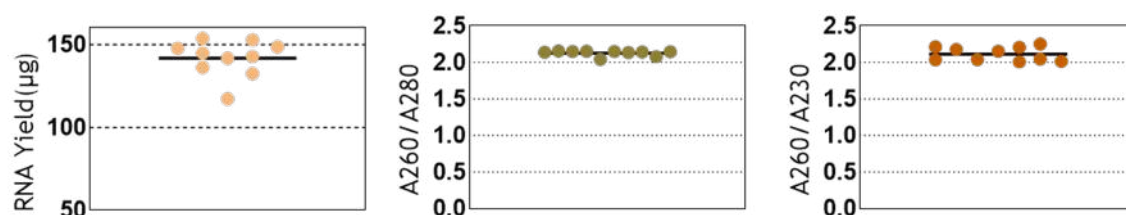


Figure 1. RNA Yield and Purity from Fecal Samples Extracted with MagBeads FastRNA Kit for Feces. RNA yield and purity (A260/A280 and A260/A230 ratios) obtained from three human fecal sources. Each dot represents an individual sample processed with the MagBeads FastRNA Kit for Feces.

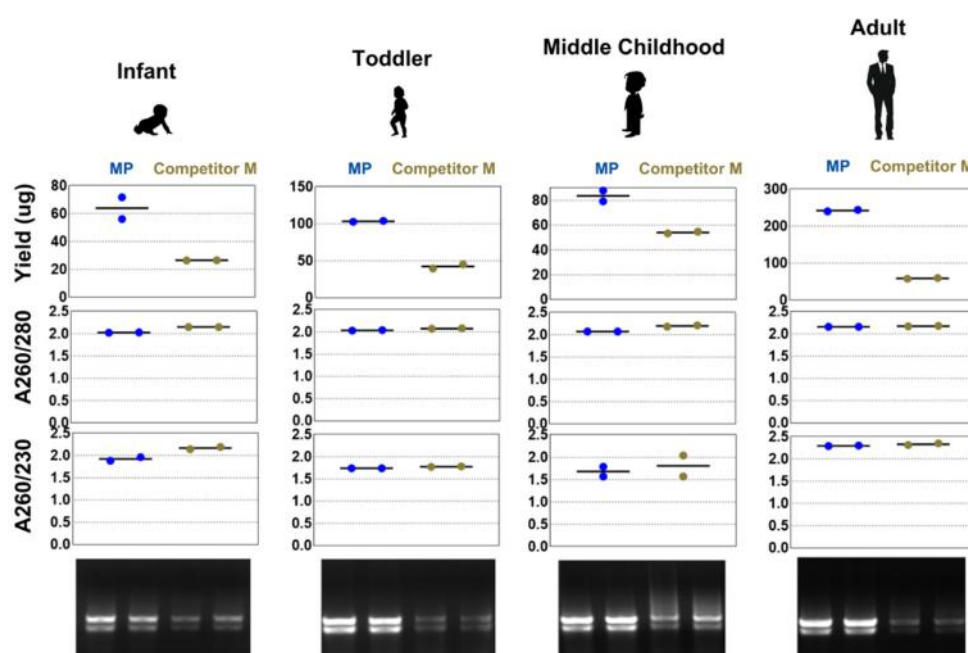


Figure 2. Performance evaluation of RNA extracted from human fecal samples using the MagBeads FastRNA Kit for Feces (MP) compared to Competitor M. RNA was independently extracted from human fecal samples (two extractions per sample, each dot on the plot represents one extraction). The RNA yield, purity (A260/A230 ratio) and integrity were assessed using spectrophotometry and agarose gel electrophoresis.

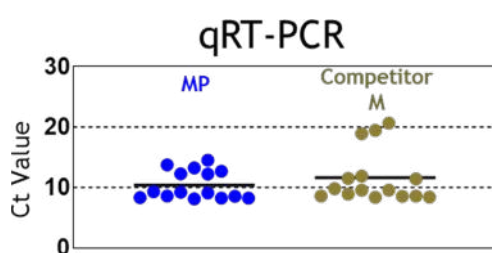
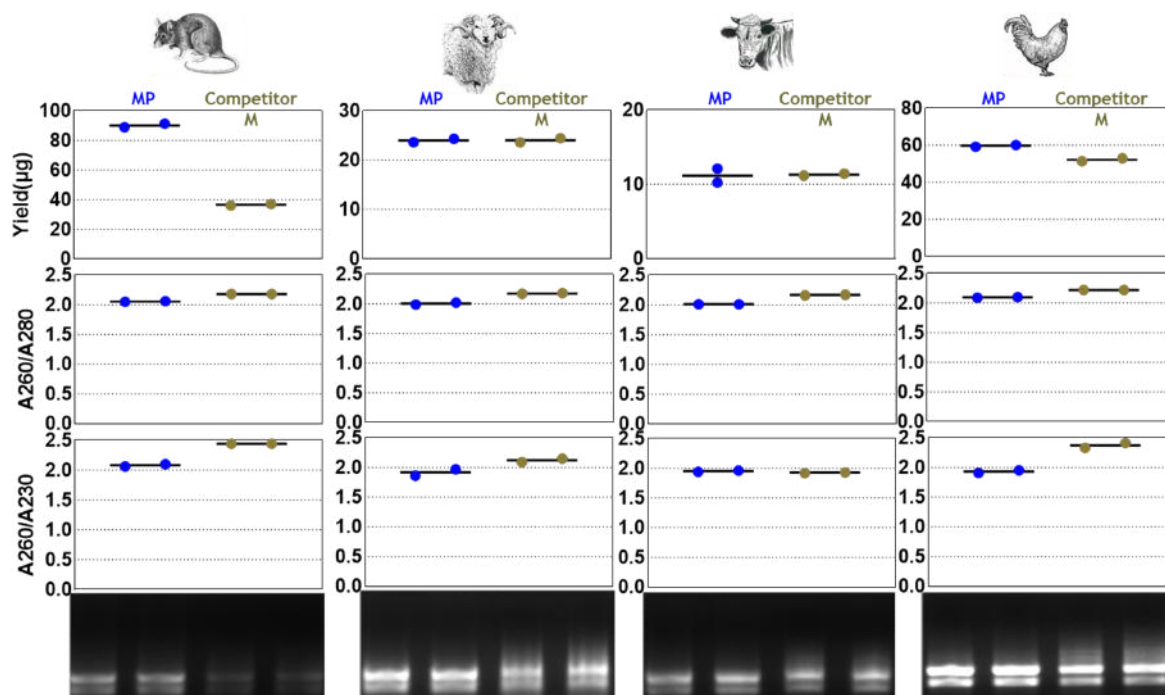


Figure 3: Performance evaluation of RNA extracted from animal fecal samples using the MagBeads FastRNA Kit for Feces (MP) compared to Competitor M. RNA was independently extracted from animal fecal samples (two extractions per sample, each dot on the plot represents one extraction). The RNA yield, purity (A260/A230 ratio) and integrity were assessed using spectrophotometry and agarose gel electrophoresis. In addition, the extracted RNA was also assessed for its amplifiability using qPCR and the Ct values given by MP are earlier than Competitor M. The horizontal bars indicate the median value.

ORDER INFORMATION

Description	Size	Catalogue Number
MagBeads FastRNA Kit for Feces	50 Preps	116588050
MagBeads FastRNA Kit for Feces (Ready-to-Use for MPure-32)	96 Preps	117040300
MagBeads FastRNA Kit for Feces (Ready-to-Use for MPure-96)	96 Preps	117040400



MAGBEADS FASTDNA KIT FOR BLOOD

MagBeads FastDNA Kit for Blood is intended for purification of total DNA for reliable PCR and Southern blotting. Samples up to 200 μ L can be processed and total DNA (e.g., genomic, viral, mitochondrial) can be purified from whole blood, plasma, serum, buffy coat, bone marrow, other body fluids, lymphocytes, cultured cells. **MagBeads FastDNA Kit for Blood** delivers fast and reliable results through the purification method of high binding magnetic particles.

FEATURES

- Purifies genomic DNA (gDNA) from fresh/frozen human whole blood (with common anticoagulants), buffy coat, and saliva.
- Unique magnetic beads enable fast DNA binding and efficient removal of impurities (proteins, salts) for high-quality gDNA.
- Magnetic beads and kit buffers ensure quick and effective purification in less than 45 minutes. Performance

PERFORMANCE

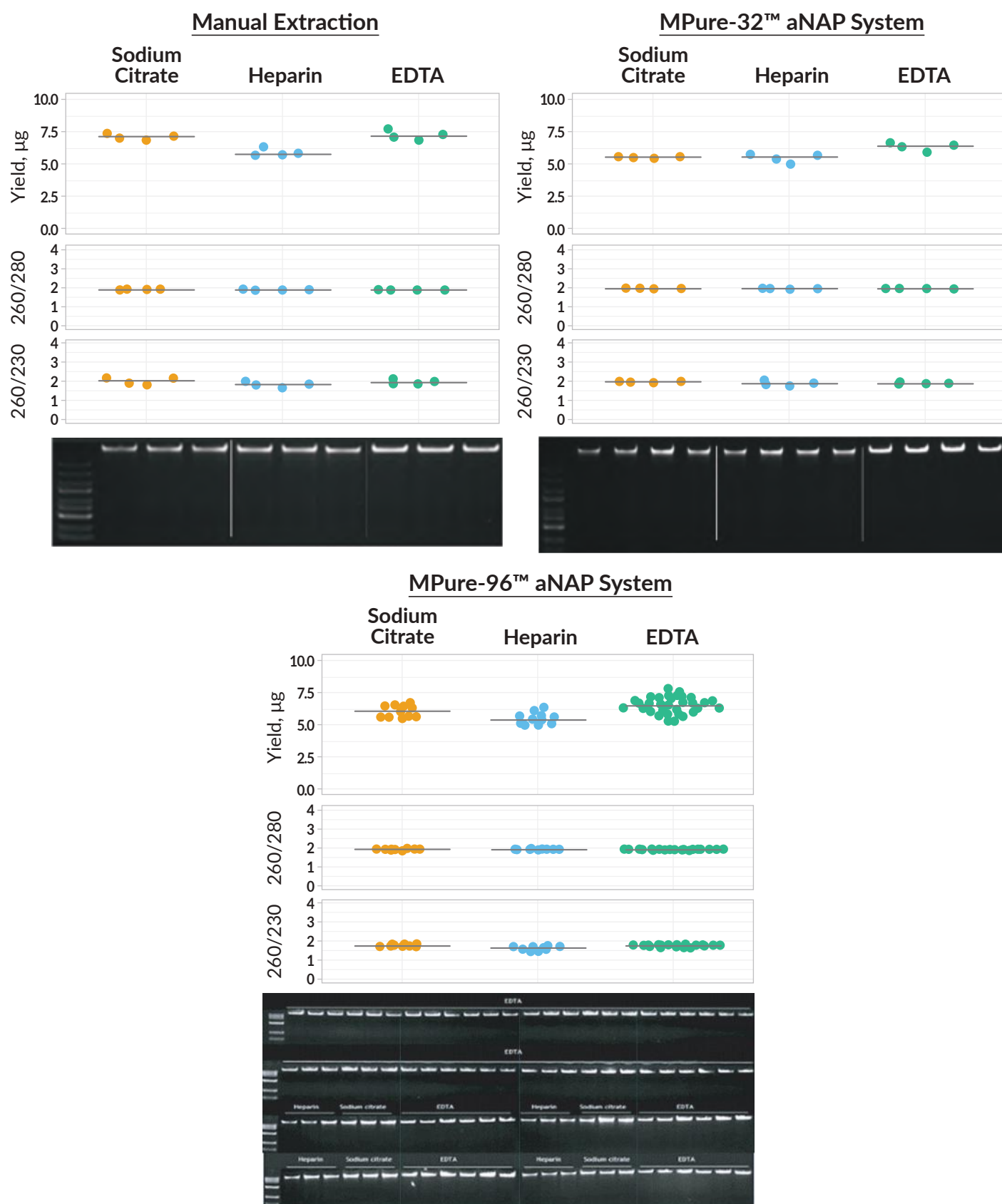


Figure 1: Extraction Efficiency of MagBeads FastDNA Kit for Blood Using Manual Method and MPure™ System. The MagBeads FastDNA Kit for Blood showed high-quality and consistent gDNA extraction, with comparable purity and yield across both manual and MPure™ extraction methods.

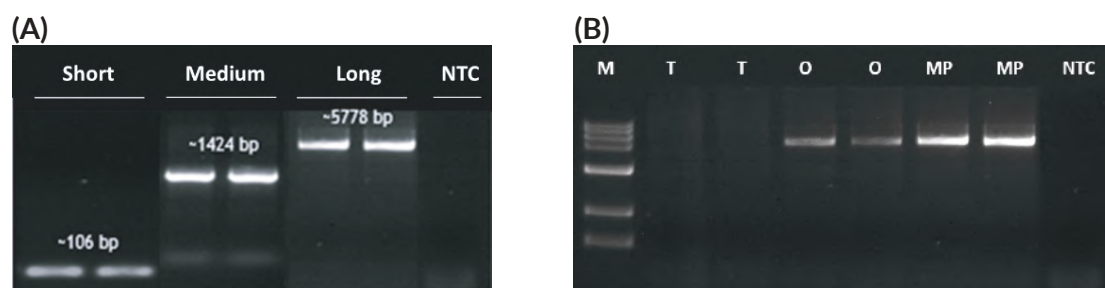


Figure 2: (A) gDNA was extracted from blood samples under different conditions and analyzed on a 1% agarose gel. Lanes are labeled as follows: “Short” (~1106 bp), “Medium” (~1424 bp), “Long” (~5778 bp), and “NTC” (Negative Template Control, no visible band). (B) Long fragments of the human BRCA gene were amplified via Endpoint PCR. DNA extracted with the MagBeads FastDNA Kit (MP) successfully produced the long fragment gene product, while DNA extracted with the Competitor T kit failed to amplify the long fragment.

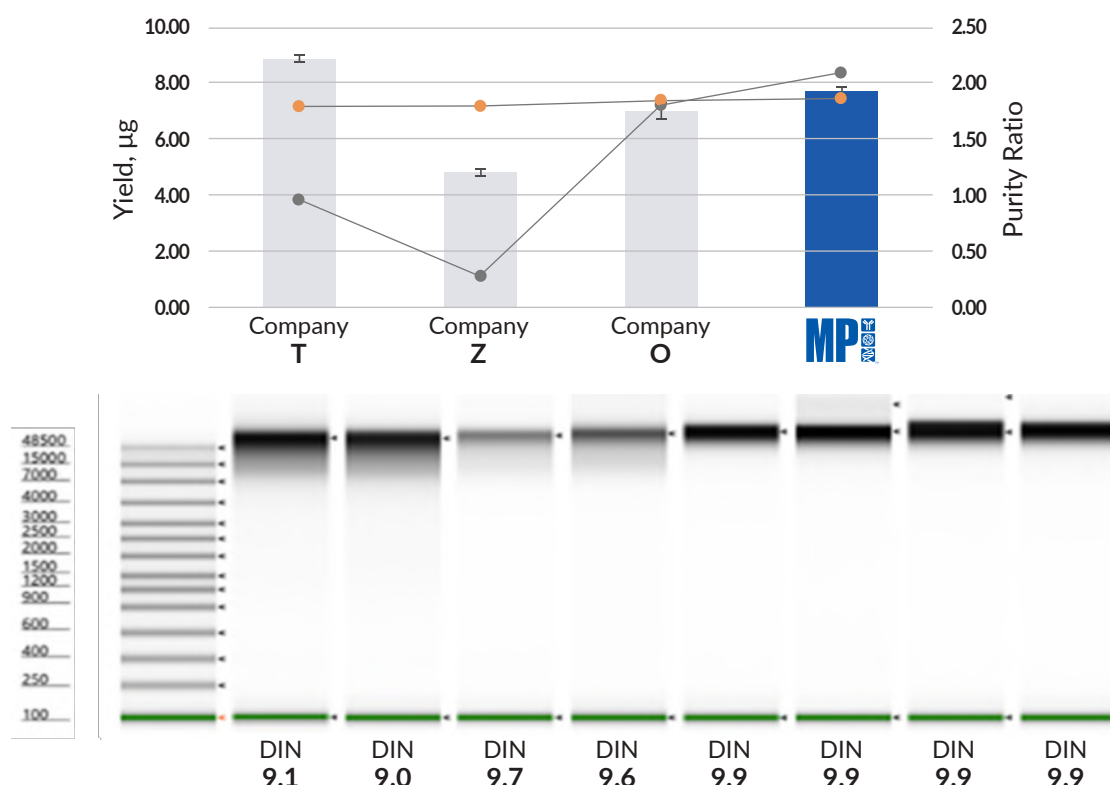


Figure 3: DNA Integrity Analysis of Blood gDNA Extracted with MP MagBeads FastDNA Kit for Blood. Genomic DNA was extracted from 200 µL blood using the MP MagBeads FastDNA Kit and compared to other competitor kits. The MP MagBeads kit yielded DNA with superior integrity and higher molecular weight, as assessed by the Agilent Technologies 4150 TapeStation Genomic DNA ScreenTape system.

ORDER INFORMATION

Description	Size	Catalogue Number
MagBeads FastDNA for Blood	96 Preps	116574096
MagBeads FastDNA for Blood (Ready-to-Use for MPure-32)	96 Preps	117033700
MagBeads FastDNA for Blood (Ready-to-Use for MPure-96)	96 Preps	117034700



MAGBEADS FASTRNA KIT FOR BLOOD

MagBeads FastRNA® Kit for Blood is a scalable and automatable (automatable versions available cat. no.117039100 & cat. no.117039200) magnetic bead-based RNA purification technology that is designed for total isolation of RNA from whole blood preserved in different anticoagulants (EDTA, Heparin and sodium citrate). RNA degradation prevention is the backbone of RNA purification. The use of our specially formulated Buffer MBL containing huge amounts of chaotropic ions omits the need of excessive homogenization and enables highly efficient lysis with the immediate inactivation of RNases, which are typically present in most biological materials.

The **MagBeads FastRNA® Kit for Blood** simplifies the RNA purification process by eliminating the need for complicated erythrocyte lysis and isolation of leukocyte pellet, making it hassle-free and time efficient. Contaminated DNA is removed by a DNase I treatment step. Simplified dual washing steps largely remove salts, metabolites, and macromolecular cellular components. Pure RNA extracts of high yield and purity, compatible with downstream applications such as RT-qPCR amplification, are then eluted under low ionic strength conditions with RNase-free water.

FEATURES

- Efficient RNA purification from whole blood preserved in EDTA, Heparin, or sodium citrate anticoagulants.
- Simplified workflow, eliminating the need for complex erythrocyte lysis or leukocyte pellet isolation.
- Maximizes RNA purity by removing contaminated DNA, ensuring high-quality RNA for downstream applications.
- Scalable and automatable, available in formats compatible with automation platforms for high-throughput use.

PERFORMANCE

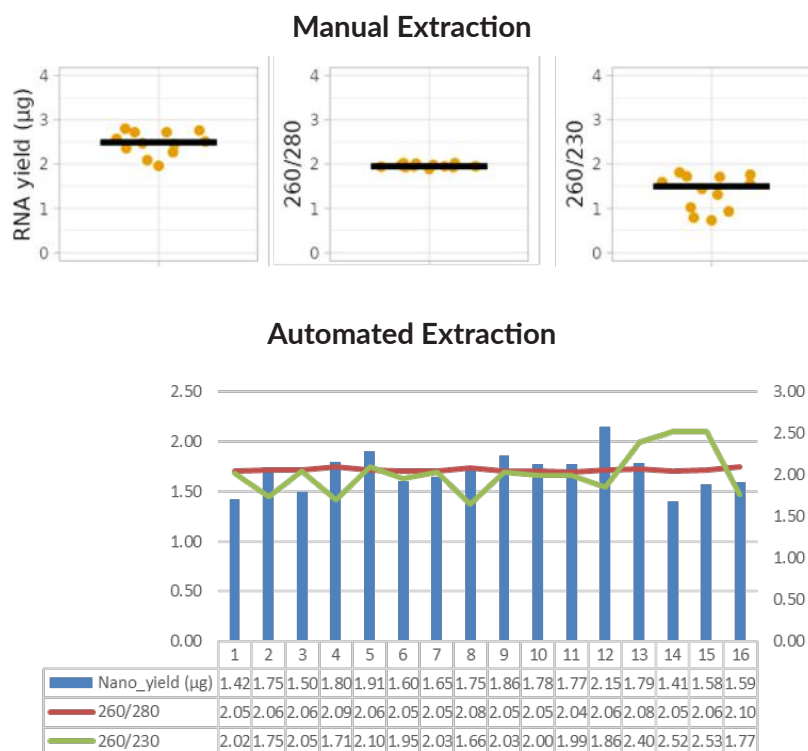


Figure 1: High Quality RNA Purification. MagBeads FastRNA® Kit for Blood delivers high yield and purity with consistent RNA extraction efficiency.

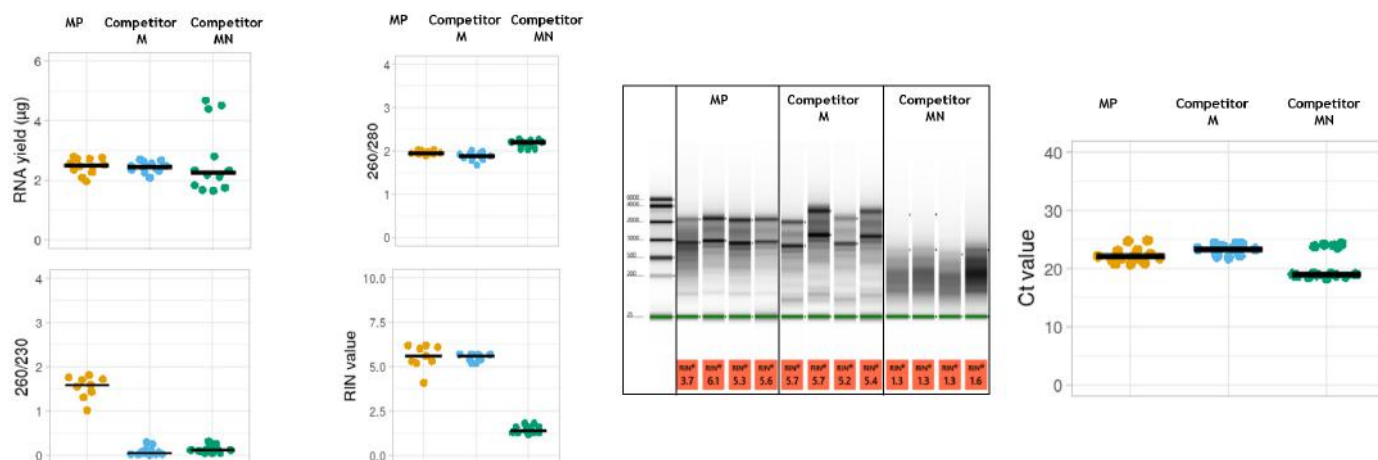


Figure 2: Evaluation of the performance of the MagBeads FastRNA® kit for blood compared to Competitor M and Competitor MN . RNA was independently extracted (three extractions of quadruplicates each) from MagBeads FastRNA® kit for Blood (MP), Competitor M or Competitor MN. The RNA yield, purity (260/230 ratio) integrity, and RIN were assessed using spectrophotometry and Agilent Technologies. In addition, the extracted RNA was also assessed for its amplifiability using qPCR and the Ct values given by MP are earlier than Competitor M. The horizontal bars indicate the median value.

ORDER INFORMATION

Description	Size	Catalogue Number
MagBeads FastRNA Kit for Blood	50 Preps	116586050
	5 Preps	116586000
MagBeads FastRNA Kit for Blood (Ready-to-Use for MPure-32)	96 Preps	117039100
MagBeads FastRNA Kit for Blood (Ready-to-Use for MPure-96)	96 Preps	117039200



MAGBEADS FASTDNA KIT FOR FFPE

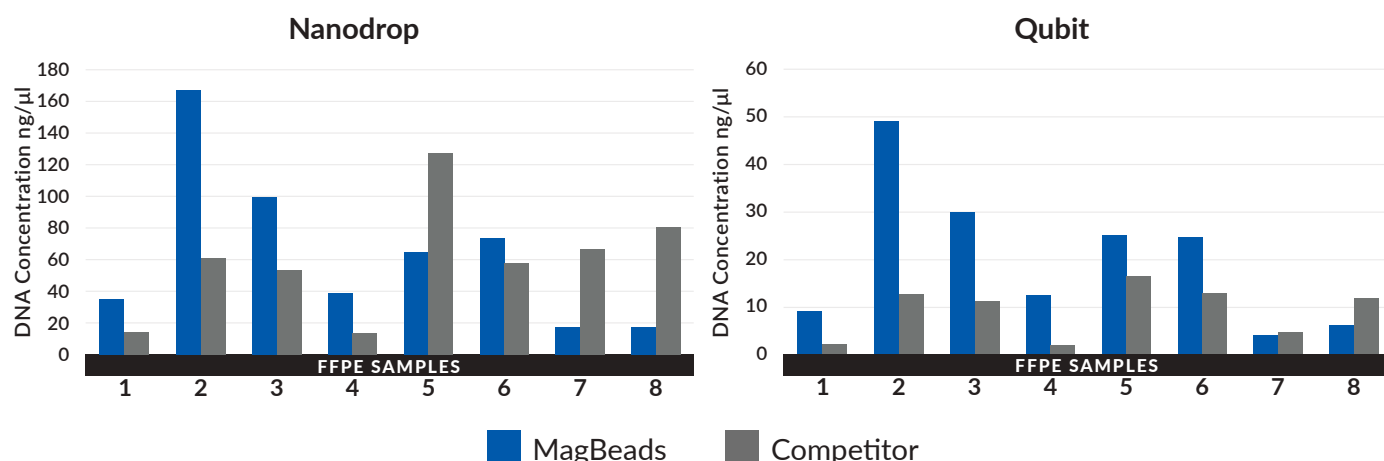
The **MagBeads FastDNA Kit for FFPE** is designed for purifying DNA from FFPE samples. The extraction can be accomplished through manual high salt binding, ethanol binding or automated MPure aNAP systems. High-salt binding is effective in removing pigments or polysaccharides from complex FFPE samples, thereby enhancing the purity of nucleic acid, and preventing blockages for further analysis. Ethanol mediated adsorption is optimal for improving nucleic acid yield.

FEATURES

- High yield of extracted DNA (with recovery rate of up to 90%)
- Various extraction methods are available to ensure the most optimal results
- High purity of extracted DNA (optimal A260/280 and A260/230 ratios)

PERFORMANCE

DNA concentration of FFPE samples extracted with MagBeads and competitor kit



DNA extraction was performed using the **MagBeads FastDNA Kit for FFPE** and a competitor kit on 8 FFPE samples.

Subsequently, the extracted DNA concentrations were measured using Nanodrop and Qubit. The data showed that the MagBeads FastDNA kit for FFPE yielded higher amounts of DNA as compared to the competitor kit. The average purity (not shown here) was similar for both kits, MagBeads: 1.815, Competitor: 1.795.

Cross Contamination Test for MagBeads FastDNA Kit for FFPE

Sample Type	96-Well	SRY Gene Ct Value	96-Well	SRY Gene Ct Value
Male	A1	22.7	A7	23.6
Female	B1	None	B7	None
Male	C1	23.2	C7	18.9
Female	D1	None	D7	None
Male	E1	25.3	E7	24.8
Female	F1	None	F7	None
Male	G1	23.2	G7	19.6
Female	H1	None	H7	None

8 male and female tumor FFPE tissue samples were extracted using **MagBeads FastDNA Kit for FFPE**.

Male and female samples were purposely cross added during automated extraction. PC detection shows no amplification for SRY gene in female samples, hence no cross contamination was detected.

ORDER INFORMATION

Description	Size	Catalogue Number
MagBeads FastDNA Kit for FFPE	96 Preps	116576096
MagBeads FastDNA Kit for FFPE (Ready-to-Use for MPure-32)	96 Preps	117033800
MagBeads FastDNA Kit for FFPE (Ready-to-Use for MPure-96)	96 Preps	117034800



MAGBEADS FASTRNA KIT FOR FFPE

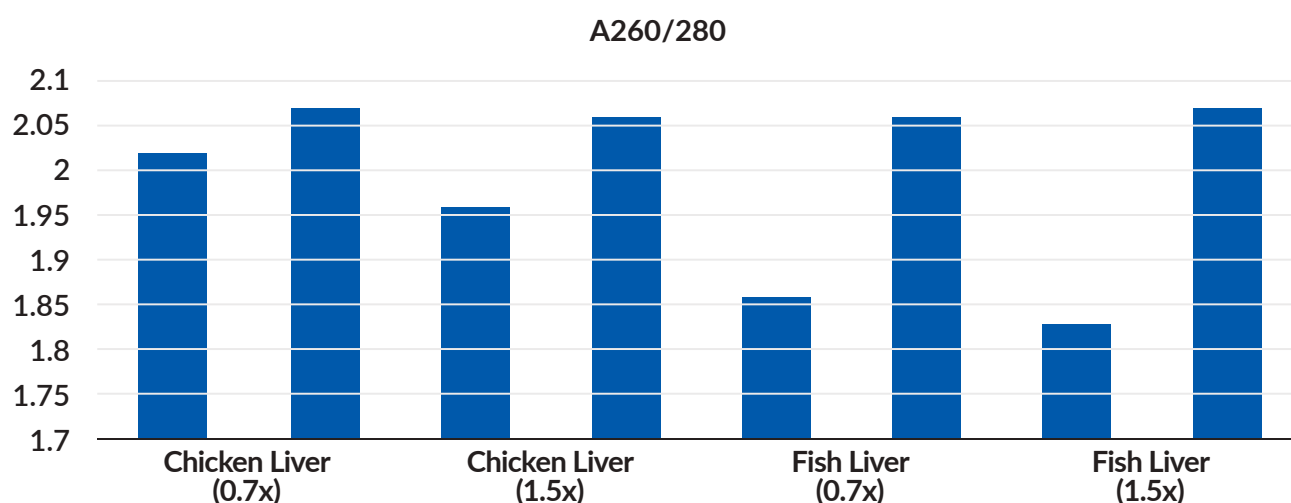
Formalin-fixed paraffin-embedded (FFPE) tissue section is one of the most challenging sample types for genetic or transcriptome analysis. However, it has become an important tool for researchers to use as a long-term preservation for tissue samples in histopathology. The quality and quantity of extracted nucleic acid can be significantly influenced by the process of fixation, embedding, and storage. **MagBeads FastRNA Kit for FFPE** provides a solution for this. The kit uses silica gel column purification technology and a unique solution system to efficiently extract purified RNA from complex FFPE tissue samples.

FEATURES

- Numerous challenging tissue samples tested
- DNA-free RNA is obtained through unique DNase digestion process
- Safety guaranteed without the use of hazardous chemical
- Less than 2 hours of processing time to obtain highly purified RNA for RT-PCR

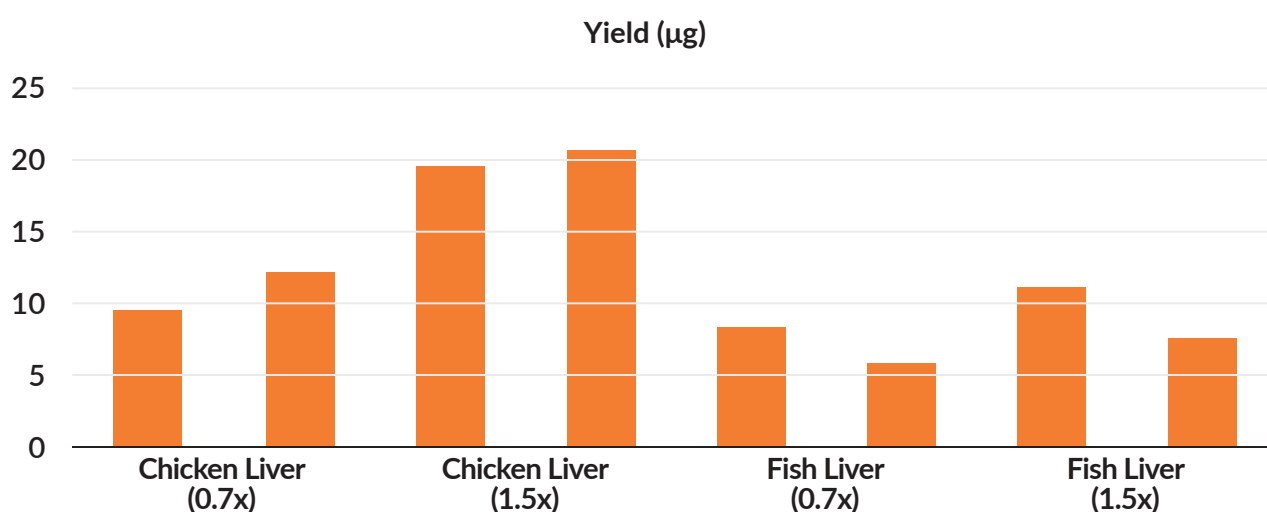
PERFORMANCE

RNA Purity was tested using Fish and Chicken Liver samples. RNA was extracted with MagBeads FastRNA Kit for FFPE at different ethanol concentration.



5 mg paraffin-embedded chicken and fish liver samples, preserved for a year, underwent RNA extraction using the **MagBeads FastRNA Kit for FFPE**. Different isopropanol concentrations (0.7x and 1.5x) were used for extraction of total and micro RNA.

RNA Yield was tested using Fish and Chicken Liver samples. RNA was extracted with MagBeads FastRNA Kit for FFPE at different ethanol concentration.



Around 5 µg to 20 µg of RNA were successfully extracted from all samples. The separation of large molecule RNA and small molecule RNA can be easily achieved by changing the concentration of ethanol.

ORDER INFORMATION

Description	Size	Catalogue Number
MagBeads FastRNA Kit for FFPE	192 Preps	116573192
MagBeads FastRNA Kit for FFPE (Ready-to-Use for MPure-32)	96 Preps	117033500
MagBeads FastRNA Kit for FFPE (Ready-to-Use for MPure-96)	96 Preps	117034500



MAGBEADS FASTDNA KIT FOR MICROBIOME

The **MagBeads FastDNA Kit for Microbiome** is an advanced genomic DNA (gDNA) extraction solution based on the next-generation silicon-based magnetic bead technology.

This kit is designed to deliver high-fidelity gDNA extraction from a diverse array of biological specimens, encompassing bacterial communities, a spectrum of bodily fluids, bronchoalveolar lavage fluids, and environmental samples such as soil.

The kit integrates an effective lysis mechanism, ensuring thorough cell lysis and subsequent DNA purification across a broad spectrum of microorganisms, including bacteria, archaea, and fungi.

The resulting gDNA is of high purity and suitable for numerous downstream molecular applications, such as Polymerase Chain Reaction (PCR), Quantitative Real-Time PCR (qRT-PCR), and metagenomic library construction, facilitating comprehensive genomic analyses.

FEATURES

- Efficiently extracts high-purity DNA from diverse samples, including bacterial communities, bodily fluids, and environmental samples like soil.
- Thorough DNA purification across bacteria, archaea, and fungi, producing DNA ready for PCR, qRT-PCR, and metagenomic studies.

PERFORMANCE

Microbial culture samples

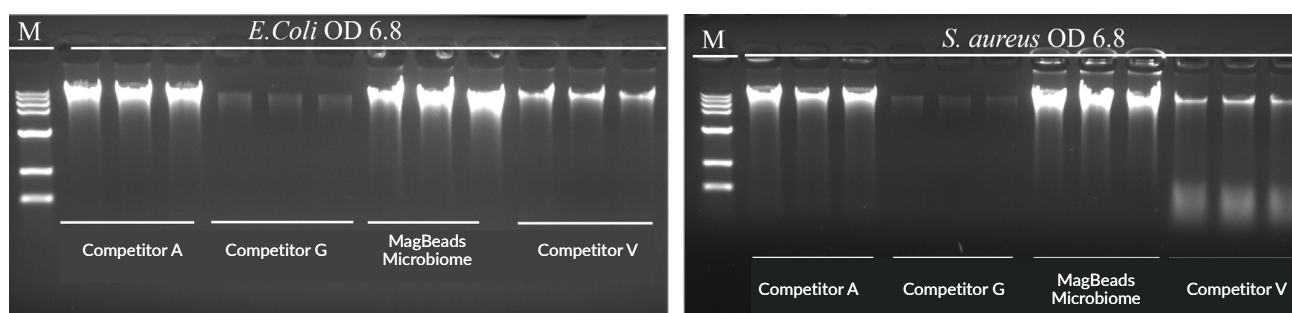
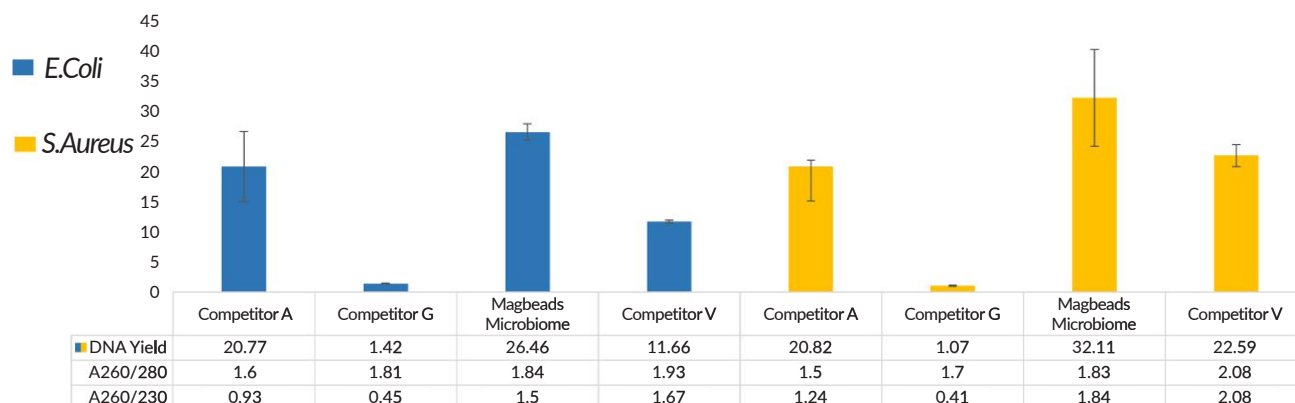


Figure 1: The MagBeads FastDNA Kit for Microbiome produced higher yield (µg) of DNA. Comparison of extraction of gDNA from two different strains of bacteria (~10⁹ cfu) using MagBeads FastDNA Kit for Microbiome and competitor kits. Bacteria strains: *Escherichia coli* (Blue), *Staphylococcus aureus* (Yellow); M: DNA marker, 15 kbp.

Bronchoalveolar lavage fluid (BALF)

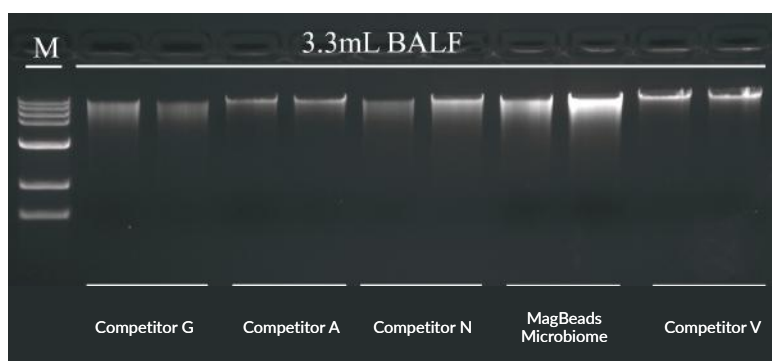
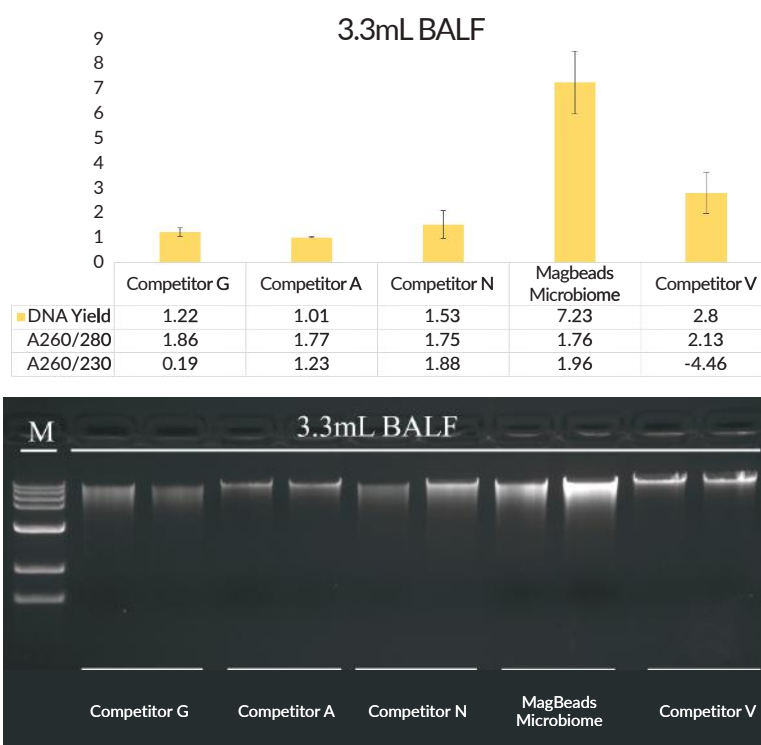


Figure 2: DNA extraction was performed using 3.3 mL of bronchoalveolar lavage fluid (BALF). The MagBeads FastDNA Kit for Microbiome produced the highest DNA yield and purity compared to the competitor kits tested. M: DNA marker, 15 kbp.

Yogurt

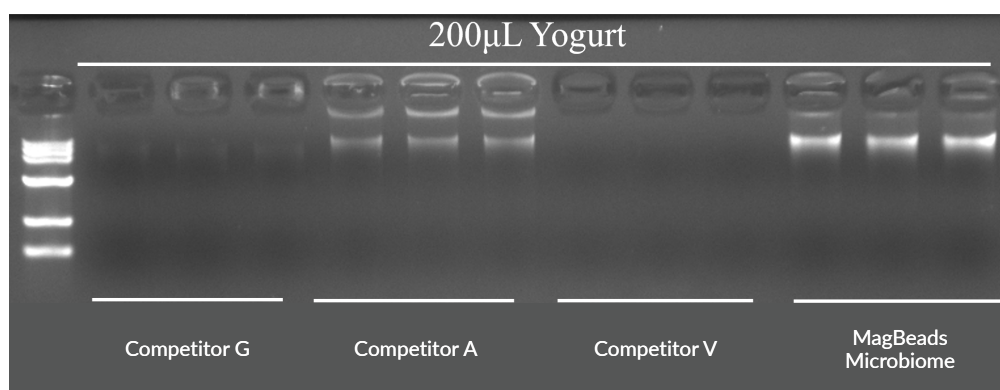
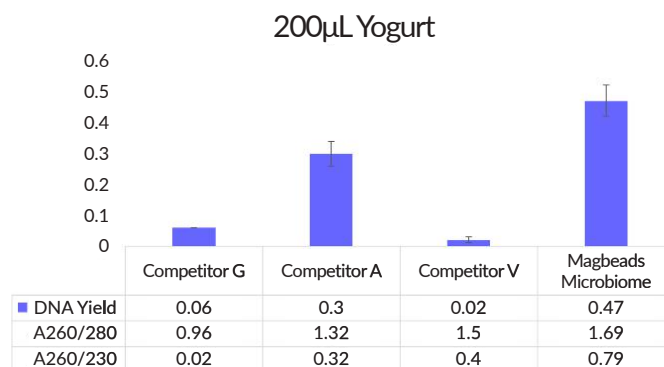


Figure 3: MagBeads FastDNA Kit for Microbiome gave high DNA yield and purity for 200 µL yogurt. DNA marker: 15 kbp.

DNA qPCR

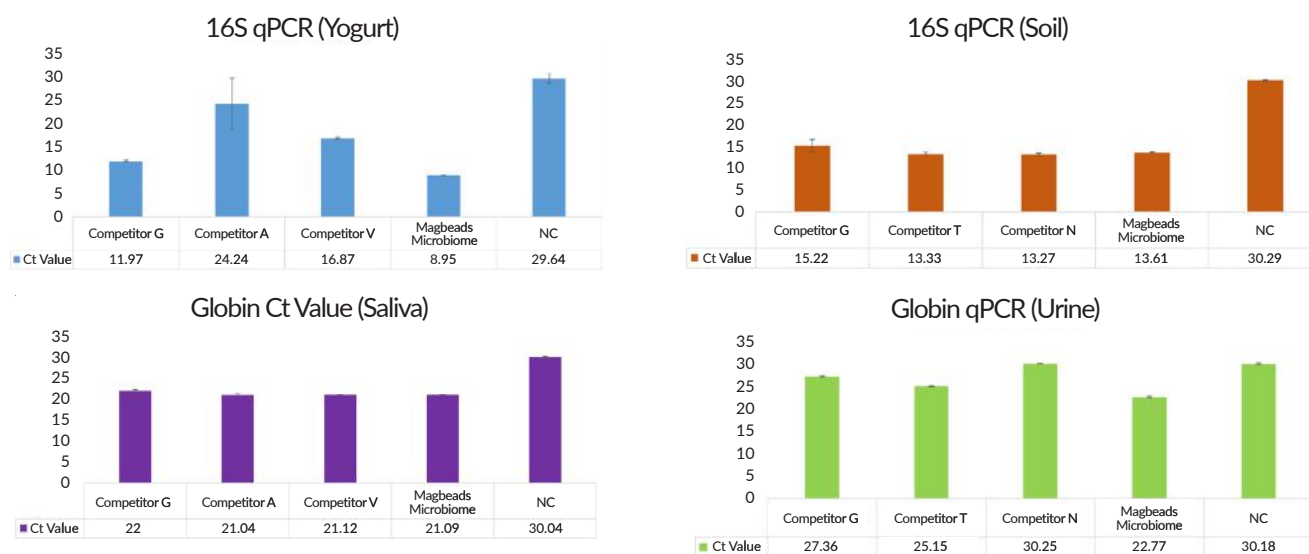


Figure 4: Comparison of threshold cycles (Ct) in qPCR amplification using equal quantities of gDNA (30 ng) isolated from yogurt, soil, saliva, and urine with the MagBeads FastDNA Kit for Microbiome and competitor kits. Targets were amplified using SYBR green technology with primers for 16S rRNA (197 bp) and Globin (400 bp).

ORDER INFORMATION

Description	Size	Catalogue Number
MagBeads FastDNA Kit for Microbiome	50 Preps	116583050
MagBeads FastDNA Kit for Microbiome (Ready-to-Use for MPure-32)	96 Preps	117038100
MagBeads FastDNA Kit for Microbiome (Ready-to-Use for MPure-96)	96 Preps	117038200



MAGBEADS FASTDNA KIT

The MagBeads FastDNA Kit is a versatile and comprehensive solution for a wide range of sample types. MagBeads FastDNA Kit is intended for rapid extraction of DNA from tissue, blood, microorganisms, FFPE samples, saliva, swab, hair, nail, fingerprint. Extracted DNA can be used directly for PCR, quantitative PCR, Southern Blot, detection of viral DNA and so on.

FEATURES

- Great versatility - suitable for a wide range of sample types including forensic samples
- High yield and purity, repeatable and consistent results
- High DNA integrity, even from samples that are hard-to-process

PERFORMANCE

	Sample	Amount	DNA Concentration (ng/ μ L)	A260/280	A260/230
1	Spleen	5 mg	509.97	1.86	2.19
2	Mouse Tail	20 mg	158.33	1.82	1.84
3	Cell	7 x 10 ⁵	59.95	1.89	2.30
4	Whole Blood	200 μ L	43.82	1.80	1.99
5	Dried Blood Spots	3 pieces	9.42	1.60	3.37
6	E.coli	1 mL	160.33	1.73	1.23
7	S.aureus	1 mL	84.92	1.78	1.81
8	Yeast	1 mL	41.89	1.72	0.85
9	Hair	6	2.68	1.24	0.45
10	Nail	30 mg	29.52	1.89	1.75
11	Dry Swab	1	16.99	1.80	1.59
12	Swab Preservative Fluid	200 μ L	6.96	1.49	1.05
13	Saliva	300 μ L	40.54	1.80	1.73
14	FFPE	5 mg	45.14	1.80	1.69
15	Semen	100 μ L	76.91	1.87	2.31
16	Seminal Spots	3 pieces	5.12	1.88	2.06

Table 1: Concentration (ng/ μ L) and purity results of extracted DNA from various sample types using the Magbeads FastDNA Kit.

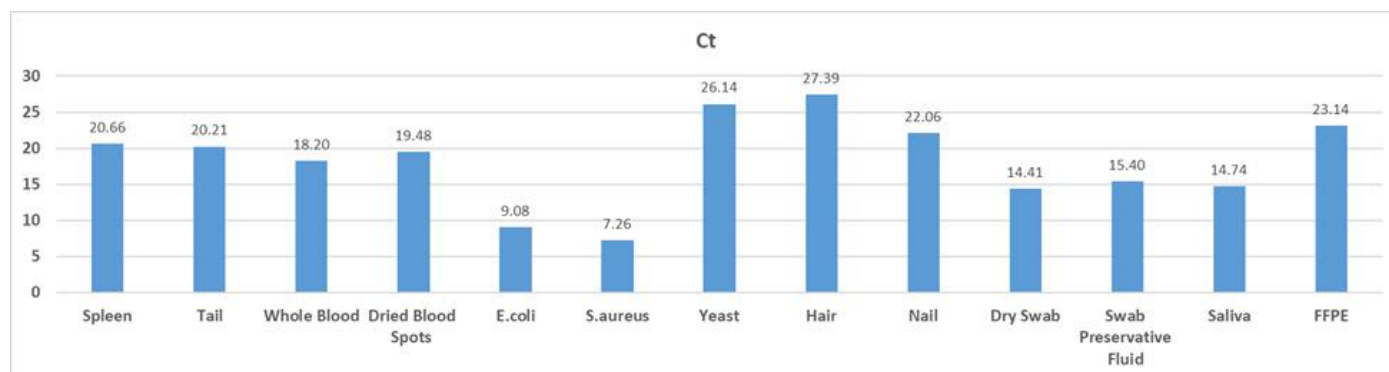


Figure 1: qPCR ct values of 100 ng DNA extracted from various types of samples using MagBeads FastDNA Kit

ORDER INFORMATION

Description	Size	Catalogue Number
MagBeads FastDNA Kit	192 Preps	116575192
MagBeads FastDNA Kit (Ready-to-Use for MPure-32)	96 Preps	117033600
MagBeads FastDNA Kit (Ready-to-Use for MPure-96)	96 Preps	117034600



MAGBEADS FASTRNA KIT

MagBeads FastRNA Kit – your ultimate solution for simple and rapid extraction of total RNA from tissue and cell culture samples. This kit is specifically designed to offer researchers a quick and easy method for RNA purification, without the need for phenol-chloroform extraction or alcohol precipitation. Based on superparamagnetic particle purification technology, the **MagBeads FastRNA Kit** allows for the efficient isolation of pure and intact RNA in just minutes, using MPure-96™ aNAP System.

The purified RNA obtained from this kit is suitable for a wide range of downstream applications such as RT-PCR, viral RNA testing, and more. Experience the convenience and efficiency of the **MagBeads FastRNA Kit** in your RNA purification workflow today.

FEATURES

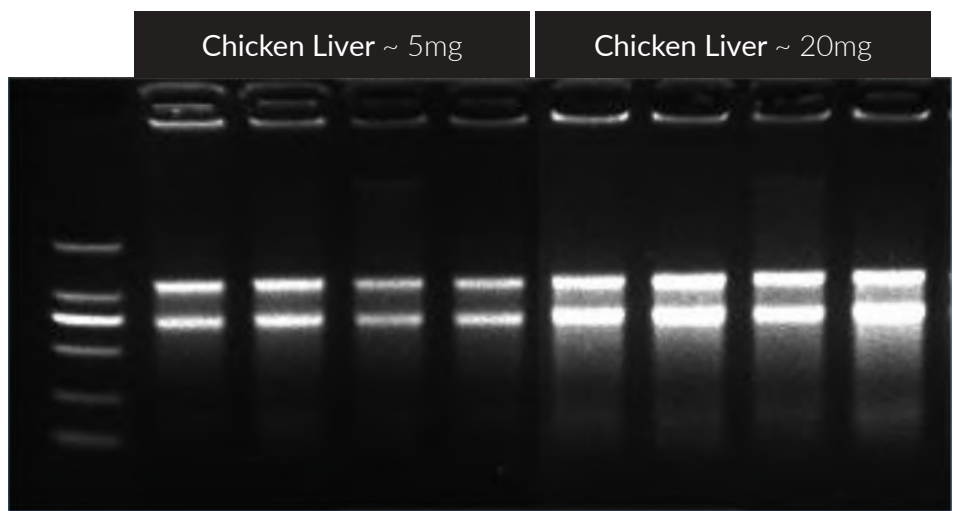
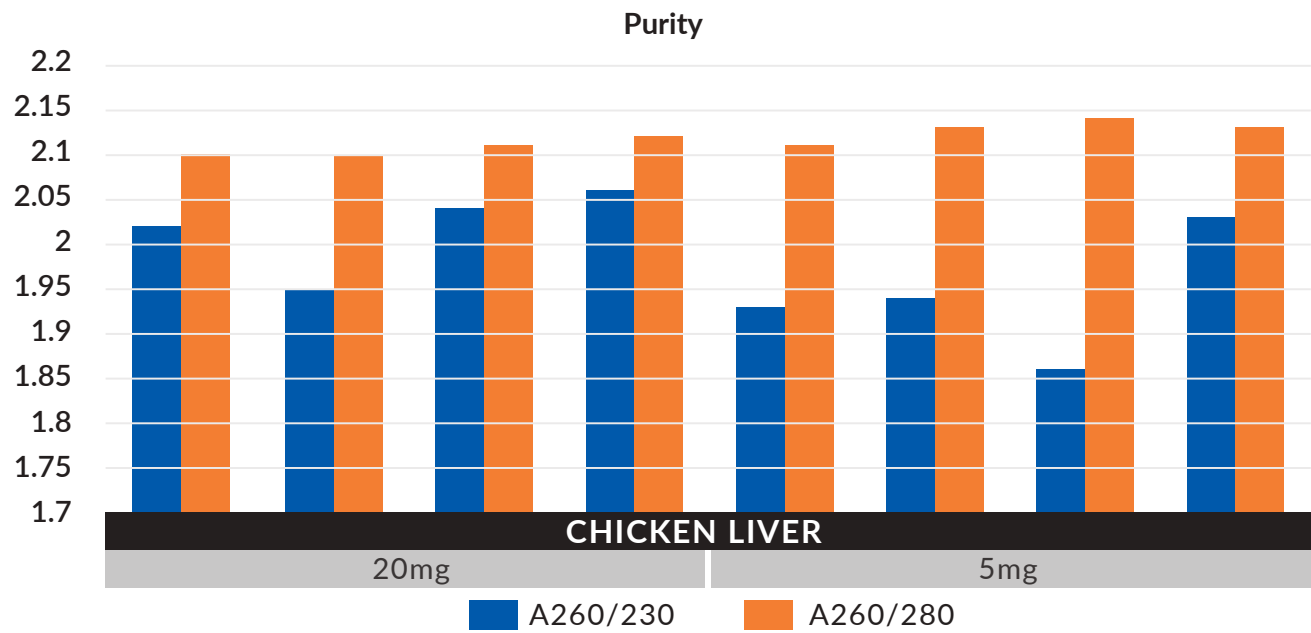
- Extraction process is less than 60 minutes
- Compatible with multiple sample sources including animal/plant cells and tissues
- Wide applicability across various automated systems

SAMPLE TYPES

- **Cell:** 1×10^7
- **Yeast cell:** $\leq 5 \times 10^6$
- **Animal Tissue:** ≤ 20 mg
- **Plant Tissue:** ≤ 100 mg

PERFORMANCE

Purity of extracted RNA from chicken liver sample using MagBeads FastRNA Kit



Gel electrophoresis of total RNA extracted from 5 mg and 20 mg of chicken liver samples. The intact and bright bands indicated the high quality of extracted RNA.

ORDER INFORMATION

Description	Size	Catalogue Number
MagBeads FastRNA Kit	96 Preps	116572096
MagBeads FastRNA Kit (Ready-to-Use for MPure-32)	96 Preps	117033400
MagBeads FastRNA Kit (Ready-to-Use for MPure-96)	96 Preps	117034400



MAGBEADS FASTDNA/RNA KIT FOR PATHOGEN

The **MagBeads FastDNA/RNA Kit for Pathogen** offers an advanced rapid nucleic acid extraction solution, based on the next-generation silicon-based magnetic bead technology. This kit is designed to deliver high-fidelity gDNA/RNA extraction from samples, such as bodily fluids, for detection requirements.

The kit features a streamlined extraction protocol that combines rapid processing with operational reliability, requiring only a single liquid-transfer step prior to automation. Complementing this efficiency, the integrated optimized lysis protocol ensures complete and consistent bacterial cell disruption, establishing a robust foundation for highly reliable nucleic acid detection outcomes.

To guarantee accurate results, this product effectively prevents exogenous nucleic acid contamination, thereby providing an accurate reflection of the sample's intrinsic species composition.

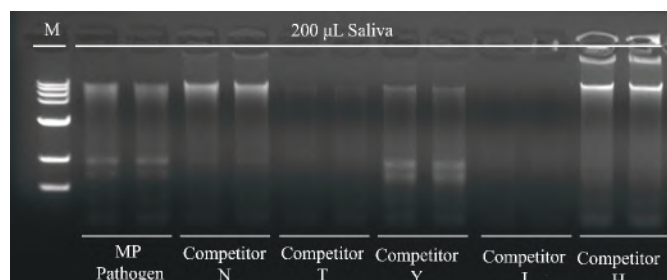
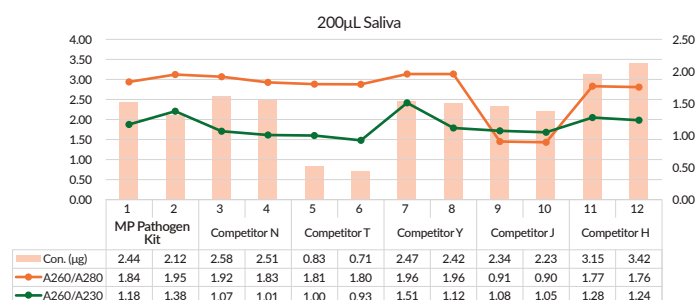
The nucleic acid isolated through this methodology is characterized by its high purity, making it suitable for a wide array of downstream molecular applications. It is particularly well-suited for applications such as PCR, RT-PCR, and the construction of metagenomic libraries.

FEATURES

- Single liquid-transfer step reduces hands-on time, minimizes human error, and boosts sample throughput
- Effectively prevents exogenous nucleic acid contamination, guaranteeing accurate and reliable sample composition.
- Supports a wide range of downstream applications, including PCR, RT-PCR, and metagenomic library preparation.

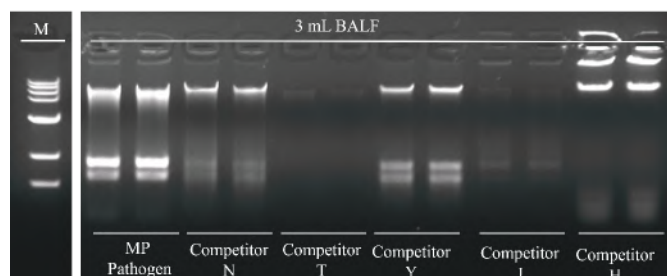
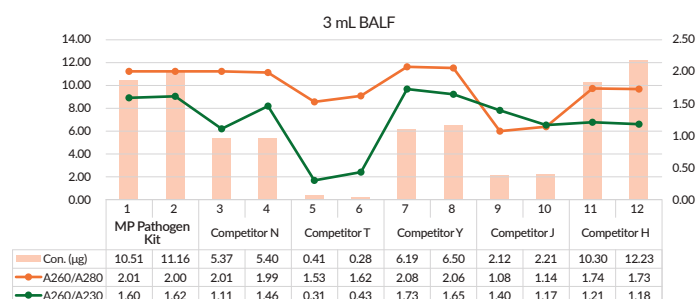
PERFORMANCE

Saliva



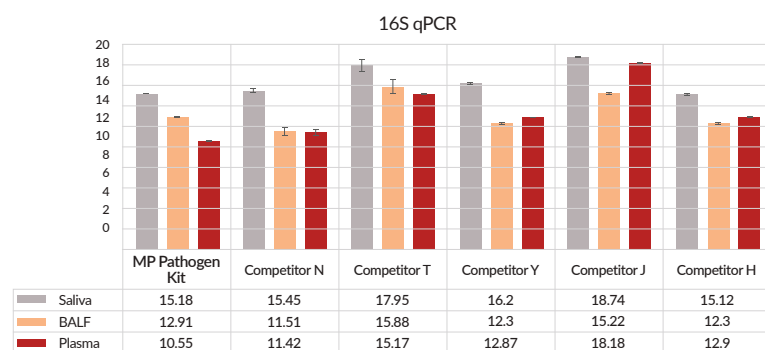
High-quality nucleic acids extracted from 200 µL saliva using the MagBeads FastDNA/RNA Kit for Pathogen. The gel image demonstrates a proper DNA-to-RNA ratio, with intact electrophoretic bands and no detectable degradation, confirming the kit's superior nucleic acid integrity. (M: 15 kbp DNA marker).

Bronchoalveolar lavage fluid (BALF)



Superior nucleic acid yield and purity from 3.3 mL BALF using the MagBeads FastDNA/RNA Kit for Pathogen. This kit produced the highest DNA yield and best purity when compared to competitor kits. (M: 15 kbp DNA marker).

DNA qPCR



Comparative qPCR analysis of gDNA isolated with MagBeads FastDNA/RNA Kit for Pathogen and Competitors. This figure displays the threshold cycles (Ct) from qPCR amplifications performed using equal quantities (30 ng) of gDNA isolated from saliva, BALF, and plasma samples. Targets were amplified using SYBR green technology with 16S rRNA (197 bp) and Globin (400 bp) primers.

ORDER INFORMATION

Description	Size	Catalogue Number
MagBeads FastDNA/RNA Kit for Pathogen	50 Preps	116589050
MagBeads FastDNA/RNA Kit for Pathogen (Ready-to-Use for MPure-32)	96 Preps	117040500
MagBeads FastDNA/RNA Kit for Pathogen (Ready-to-Use for MPure-96)	96 Preps	117040600



MAGBEADS FAST CIRCULATING DNA KIT

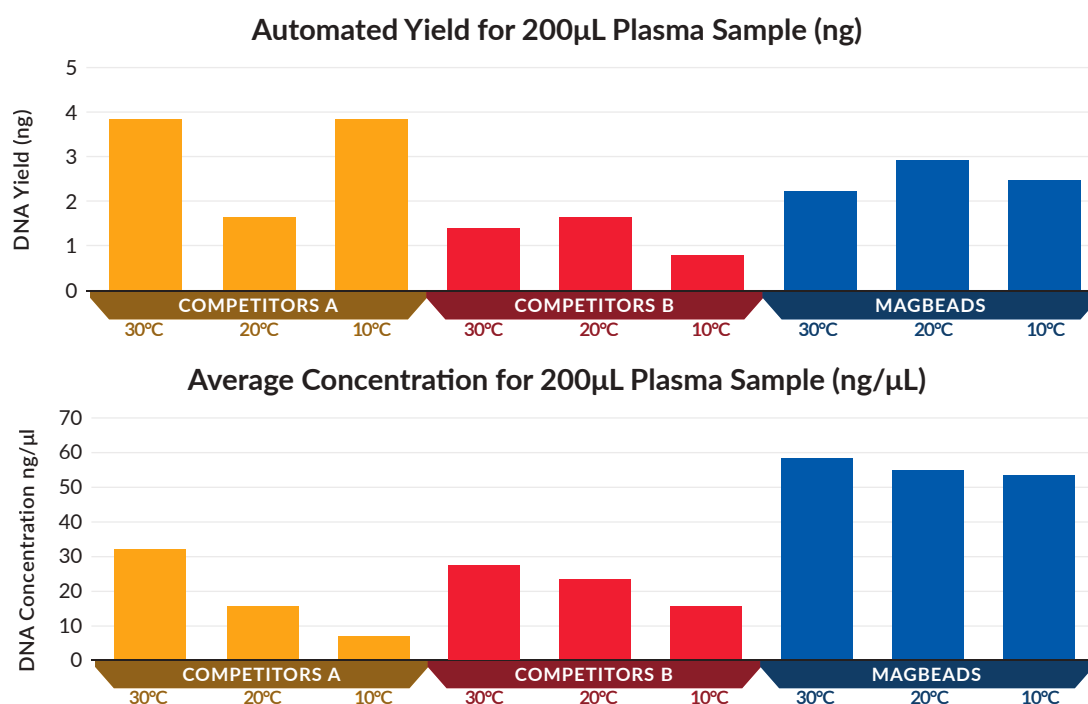
Circulating DNA or cfDNA are fragments of nucleic acids that flow into the bloodstream due to cell death. They typically carry important genetic information from the originated cells. Thus, making them invaluable resources to cancer diagnosis, liquid biopsy, patient organ health, and more. **MagBeads Fast Circulating DNA Kit** is designed for purification of high-quality circulating DNA (cfDNA) from cell-free body fluids (such as plasma and serum).

FEATURES

- Wide range sample processing volume of 0.2 – 0.6 mL
- Flexibility to choose either automated or manual purification workflow
- High quality carrier RNA to help with DNA stability and yield

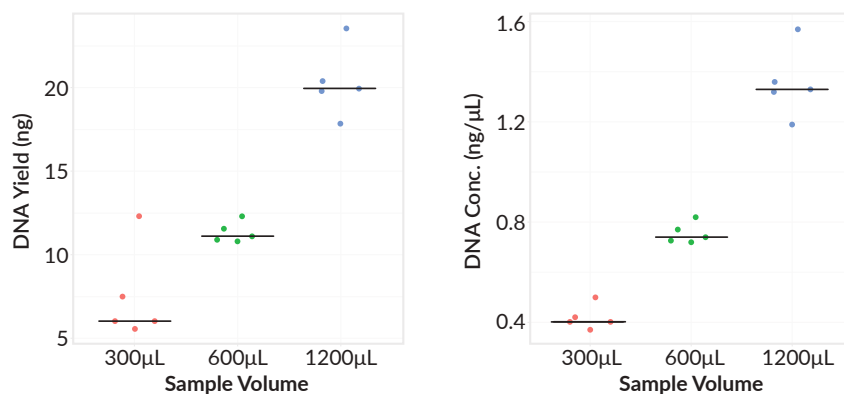
PERFORMANCE

Comparison of yield and concentration of extracted DNA among Competitor A, Competitor B, and MagBeads Fast Circulating DNA kit.



The figure shows the DNA yield (top) and concentration (bottom) results from 200μL plasma samples from pregnant women. The concentration of extracted DNA was significantly higher for MagBeads Fast Circulating DNA Kit at three working temperatures (10°C, 20°C, and 30°C).

Relationship between DNA Amount/Concentration and Sample Volume (extracted using MagBeads Fast Circulating DNA Kit)



cfDNA from five pregnant women's plasma sample were extracted using **MagBeads Fast Circulating DNA Kit**. DNA amounts from 300μL, 600μL, and 1.2mL sample volumes were eluted with 15μL buffer. Results show a reliable linear relationship between the DNA yield/concentration and the sample volumes (300μL and 600μL and 1.2mL).

ORDER INFORMATION

Description	Size	Catalogue Number
MagBeads Fast Circulating DNA Kit	192 Preps	116577192
MagBeads Fast Circulating DNA Kit (Ready-to-Use for MPure-32)	96 Preps	117033900
MagBeads Fast Circulating DNA Kit (Ready-to-Use for MPure-96)	96 Preps	117034900



MAGBEADS FASTDNA/RNA KIT FOR VIRUS

The primary challenge faced by the market is the limited availability of simultaneous extraction kits for viral DNA/RNA, and even when available, the results often remain compromised. MagBeads FastDNA/RNA Kit for Virus is designed to effectively extract total viral nucleic acid from cell-free/low-content cell biological samples. PK/Carrier RNA is included in the kit to optimize precipitation and monitor the extraction efficiency. The purified DNA/RNA obtained through this process is suitable for RT-PCR and PCR detection purposes.

FEATURES

- High yield of extracted DNA/RNA
- Reliable extraction from low-copy viral samples
- Extraction time is under 40 minutes, process can be sped up with MPure aNAP system
- Safe - does not contain hazardous chemicals, e.g., phenol chloroform

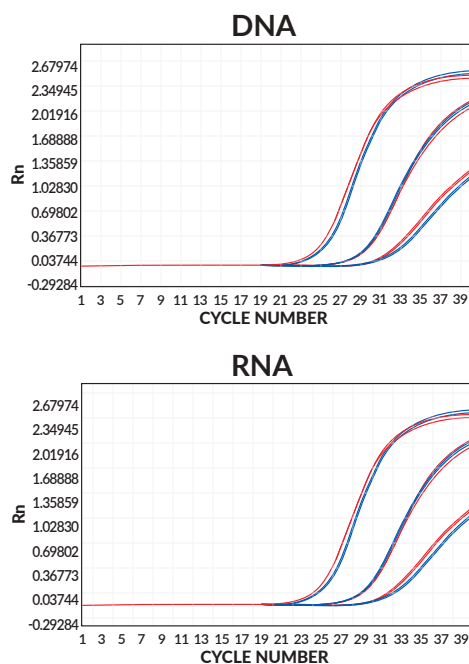
SAMPLE TYPES

- Body fluids
- Serum/plasma
- Soaking solutions
- Tissue homogenate supernatant
- Culture supernatant

PERFORMANCE

Comparison of Ct Values from Viral DNA/RNA extracted using MagBeads FastDNA/RNA Kit for Virus and Competitor A.

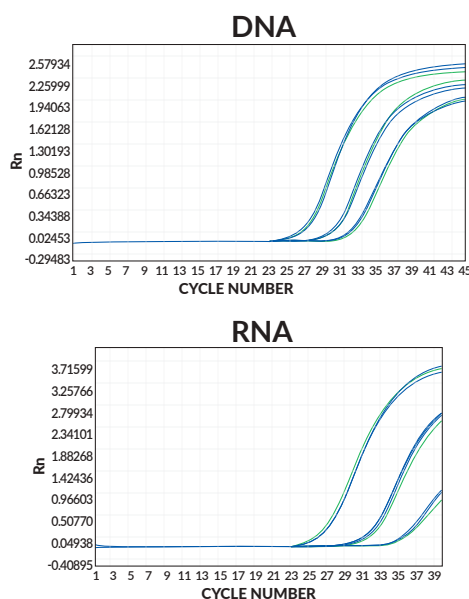
Manual Extraction



Samples	Ct of Viral DNA	Ct of Viral RNA
Competitor A (CE Certified) - 10^5	26.10	23.67
	26.60	23.56
Competitor A (CE Certified) - 10^4	29.61	28.55
	30.03	28.61
Competitor A (CE Certified) - 10^3	32.94	31.04
	32.75	31.19
MagBeads FastDNA/RNA Kit for Virus- 10^5	26.45	24.11
	26.59	24.19
MagBeads FastDNA/RNA Kit for Virus- 10^4	29.81	28.40
	30.05	28.62
MagBeads FastDNA/RNA Kit for Virus- 10^3	33.22	31.67
	33.73	31.50

■ MagBeads ■ Competitor A

Automated Extraction



Samples	Ct of Viral DNA	Ct of Viral RNA
Competitor A (CE Certified) - 10^5	26.19	24.84
Competitor A (CE Certified) - 10^4	29.77	30.91
Competitor A (CE Certified) - 10^3	32.13	35.01
MagBeads FastDNA/RNA Kit for Virus- 10^5	26.03	25.13
	26.42	25.23
MagBeads FastDNA/RNA Kit for Virus- 10^4	29.47	30.70
	29.78	30.33
MagBeads FastDNA/RNA Kit for Virus- 10^3	31.62	34.70
	31.90	34.46

■ MagBeads ■ Competitor A

The extraction efficiency of **MagBeads FastDNA/RNA Kit for Virus** is comparable to that of competitor A, which is CE certified. The extraction results were measured using both an automated nucleic acid purification system and manual sample preparation. When compared with competitor A, **MagBeads FastDNA/RNA Kit for Virus** demonstrated compatibility with both methods and the ability to successfully extract viral DNA/RNA from viral samples with concentrations as low as 10^3 copies/mL.

ORDER INFORMATION

Description	Size	Catalogue Number
MagBeads FastDNA/RNA Kit for Virus	192 Preps	116571192
MagBeads FastDNA/RNA Kit for Virus (Ready-to-Use for MPure-32)	96 Preps	117033300
MagBeads FastDNA/RNA Kit for Virus (Ready-to-Use for MPure-96)	96 Preps	117034300



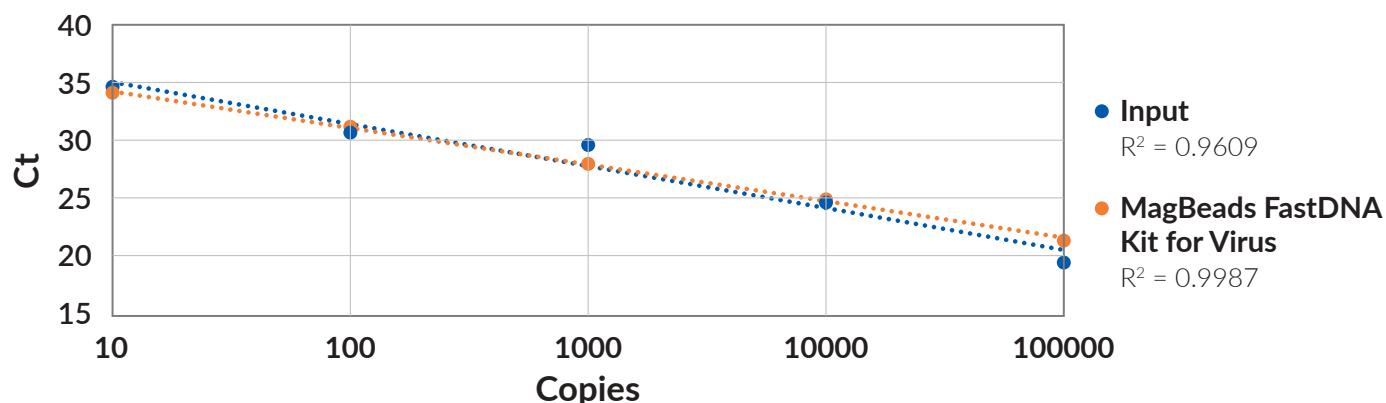
MAGBEADS FASTRNA KIT FOR VIRUS

The study of viruses is critical for understanding their impact on human health and disease. In order to conduct research on these infectious agents, scientists rely on high-quality isolation and purification of viral RNA. One of the key challenges in studying viruses is the isolation and purification of high-quality viral RNA, which is essential for downstream molecular analyses. This process is often time-consuming, tedious, and requires a high level of expertise. To overcome these challenges, the **MagBeads FastRNA Kit for Virus** has been designed to provide researchers with a fast, efficient, and reliable method for extracting viral RNA from various sample types.

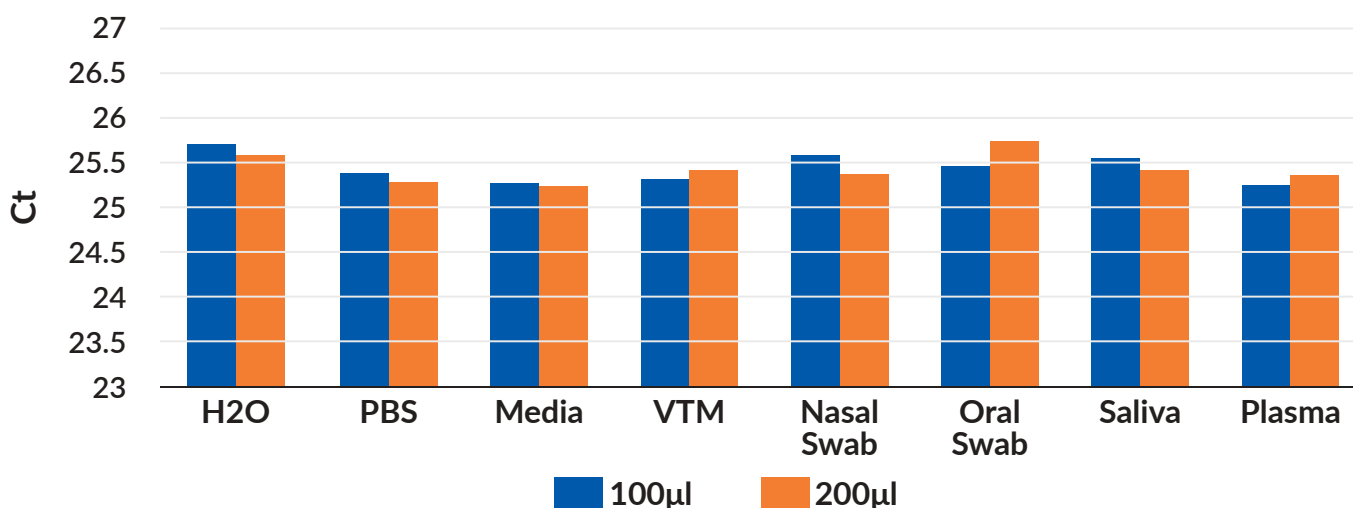
The **MagBeads FastRNA Kit for Virus** is specifically optimized for viral RNA extraction, providing high yield and purity. The extracted RNA can be directly used for downstream applications such as RT-PCR, qPCR, and sequencing; hence, enabling researchers to better understand viral infections and develop effective treatments. With its simple protocol and fast processing time, the **MagBeads FastRNA Kit for Virus** is an essential tool for isolation of viral RNA from a wide variety of viruses. The intended use of this kit is for general utilization; its performance may exhibit variability depending on the type of virus sample.

PERFORMANCE

Real time RT-PCR of 10^1 to 10^5 copies of Quantitative Genomic RNA from Influenza B virus (ATCC VR-1883DQ). High RNA recovery is achieved, with $R^2 = 0.9987$ for RNA extracted using MagBeads FastRNA Kit for Virus.



Real time RT-PCR of RNA extracted from various virus-spiked samples. The same amount of Influenza B virus is spiked into 100 μ L or 200 μ L of various samples, followed by RNA extraction using MagBeads FastRNA Kit for Virus. Similar Ct is obtained for the different samples. This kit is suitable for viral RNA extraction using samples from cell culture media, swabs, and bodily fluids.



ORDER INFORMATION

Description	Size	Catalogue Number
MagBeads FastRNA Kit for Virus	50 Preps	116578050
MagBeads FastRNA Kit for Virus (Ready-to-Use for MPure-32)	96 Preps	117035100
MagBeads FastRNA Kit for Virus (Ready-to-Use for MPure-96)	96 Preps	117036100



MAGBEADS PLASMID MINIPREP KIT

The **MagBeads Plasmid Miniprep Kit** offers a scalable and automatable purification method using magnetic bead technology, suitable for extracting both high and low copy number plasmids. This kit efficiently yields plasmid DNA (2–20 µg) from 0.5–5 mL of overnight *E. coli* cultures, leveraging paramagnetic beads for rapid processing. Its magnetic technology enhances user-friendliness, making it ideal for both small sample sizes and high-throughput automated nucleic acid purification.

FEATURES

- Yields 2 - 20 µg of plasmid DNA from 0.5 - 5 mL of overnight *E. coli* cultures.
- Suitable for high and low copy number plasmids.
- Available in automated prefilled formats.

PERFORMANCE

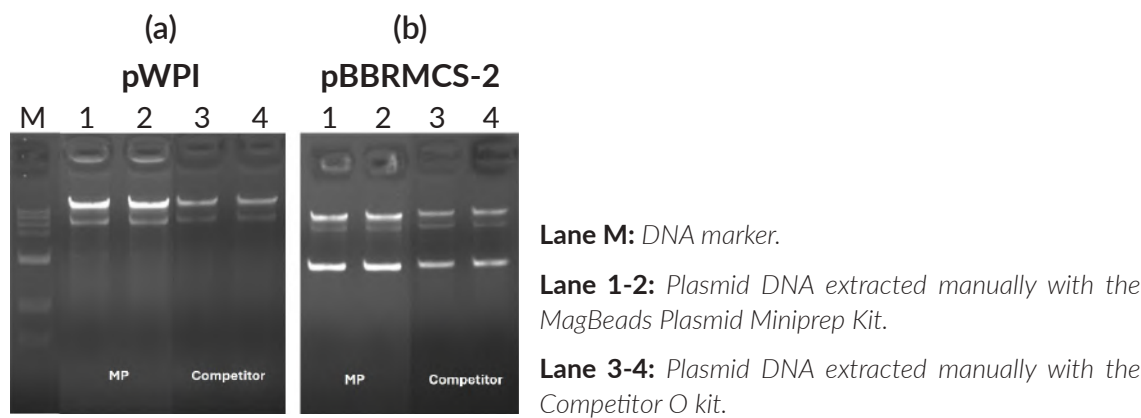


Figure 1: Agarose gel electrophoresis comparing plasmid DNA extracted using the MagBeads Plasmid Miniprep Kit and Competitor O kit. (a) Results for pWPI plasmid. (b) Results for pBBRMCS-2 plasmid.

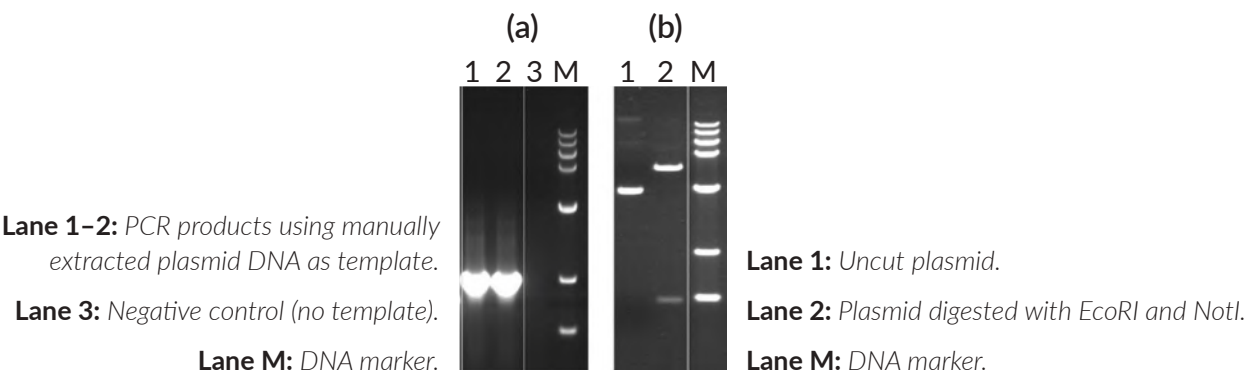


Figure 2: Agarose gel electrophoresis of plasmids extracted using the MagBeads Plasmid Miniprep Kit, demonstrating downstream applications: (a) PCR amplification and (b) restriction digestion with *EcoRI* and *NotI*.

ORDER INFORMATION

Description	Size	Catalogue Number
MagBeads Plasmid Miniprep Kit	50 Preps	116587050
MagBeads Plasmid Miniprep Kit (Ready-to-Use for MPure-32)	96 Preps	117040100
MagBeads Plasmid Miniprep Kit (Ready-to-Use for MPure-96)	96 Preps	117040200



EXPLORE THE AUTOMATION OPTIONS TO FURTHER ENLARGE YOUR THROUGHPUT

Unlock Peak Efficiency and Achieve Superior Results with MPure™ aNAP Systems.

Sample Processing Workflow



Various kits to suit your study field

Viral pathogen and disease study

- MagBeads FastRNA Kit
- MagBeads Fast DNA/RNA for Virus
- MagBeads Fast RNA Kit for Virus
- MagBeads FastDNA/RNA Kit for Pathogen

Dietary/Ecological/Environmental microbiome research

- MagBeads FastDNA Kit for Soil
- MagBeads FastDNA Kit for Feces
- MagBeads FastDNA Kit

Human and infectious disease diagnosis research

- MagBeads FastDNA Kit for FFPE
- MagBeads FastRNA Kit for FFPE
- MagBeads FastDNA Kit for Blood
- MagBeads FastRNA Kit for Blood
- MagBeads Fast Circulating DNA Kit

Why MPure™ aNAP System

✓ Top-notch Performance

Designed for but not limited to MagBeads Kits for simultaneous sample processing and purification of nucleic acids

✓ Time saving

Average processing time between 30-60 minutes
High throughput of up to 32 or 96 samples

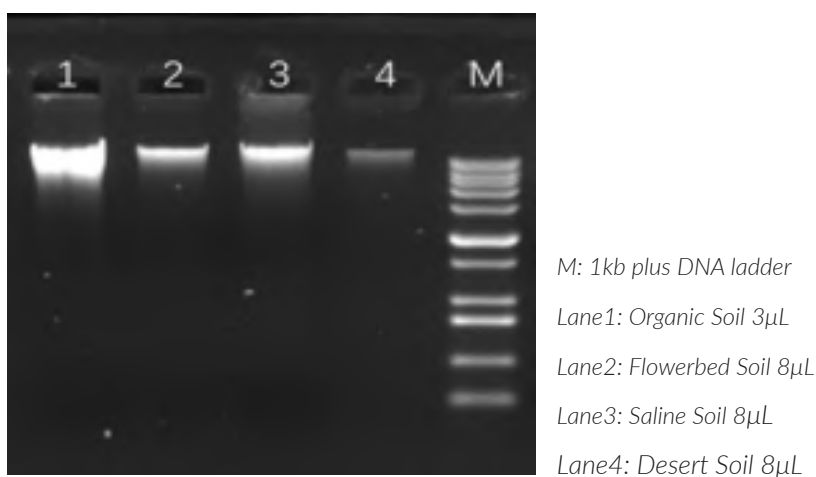
✓ Safe and user-friendly

Intuitive design and UI for faster navigation and experiment setups
UV and temperature control allow trustworthy result
Effective cross-contamination control from aerosol

PERFORMANCE

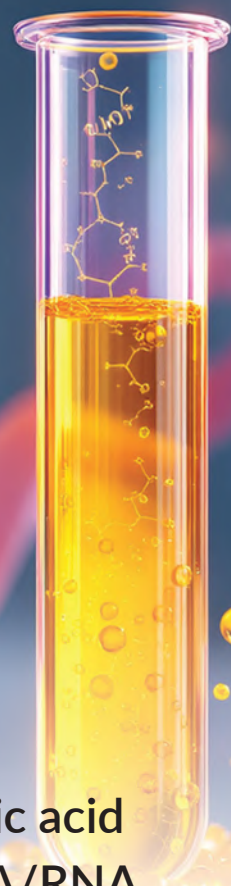
The performance of the **MPure™ aNAP System** instruments have been extensively evaluated with MagBeads Purification Kits. The following data show the high yield and purity of genomic DNA (gDNA) extracted from various soil samples and feces samples.

gDNA extracted from various soil samples using MagBeads FastDNA Kit for Feces (top) and Soil (bottom).



SPECIFICATION

Model	MPure-32™	MPure-96™
Catalogue Number	EMC043 (CE version) EMC043D (RUO version)	EMC044 (CE version) EMC044D (RUO version)
Run Time	45 - 60 min	25 - 60 min
Max Throughput	32 samples	96 samples
Weight (NW)	21 kg	95 kg
Dimensions (WxDxH)	38 x 35 x 37 cm	87 x 57.5 x 70 cm
Power Supply	3.2A 100-240V	AC 220-240V
Processing Volume	50 µL - 1000 µL	50 µL - 1600 µL
Magnetic Rod	>4,300 gauss	>3,900 gauss
Spin Speed	-	3,000 rpm
Temperature Control	1 set	4 sets
Heating Block	2 pcs	4 pcs
Heating	RT - 70°C	RT - 130°C
UV & HEPA	UV only	UV & HEPA available
Display	5.5' Touchscreen	7' Touchscreen
Application Video	<div><p>MPure-32</p></div> <div><p>MPure-96</p></div>	
Scan the QR Code to watch how you can automate your workflow with our solutions		



MagBeads Kits employ a state-of-the-art nucleic acid purification method to extract high quality DNA/RNA.

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