MagBeads Purification Kit

MP BIOMEDICALS

www.mpbio.com

MPCAT-MB202610-01

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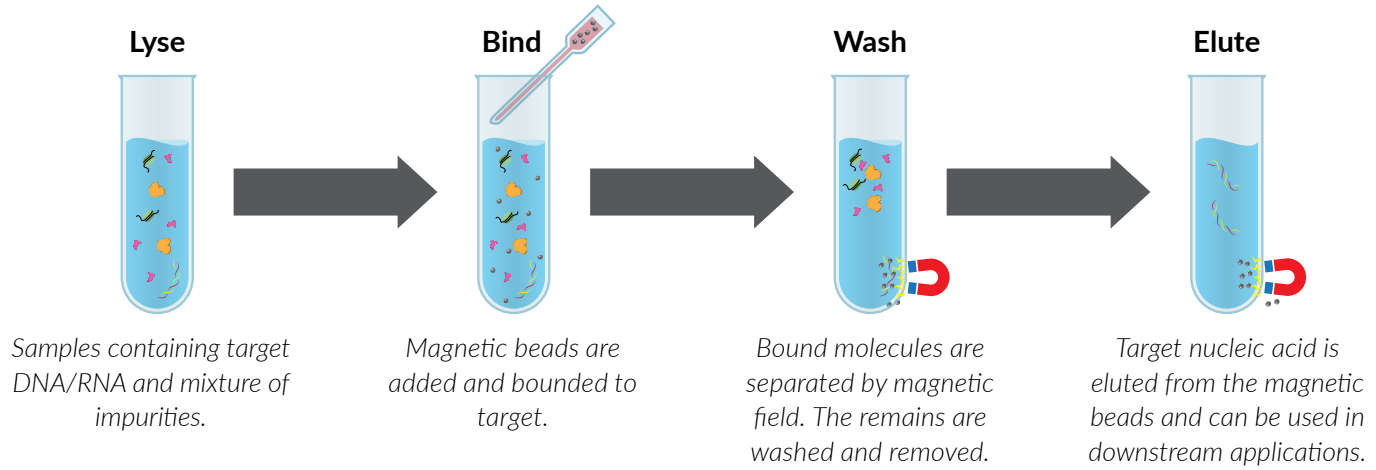
The MagBeads Kits employ a state-of-the-art nucleic acid purification method to extract high quality DNA/RNA. These kits eradicate the requirement for the phenol-chloroform method, replacing it with a magnetic bead-based purification technique that selectively binds DNA/RNA and eliminates the impurities.

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	• 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	• 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.

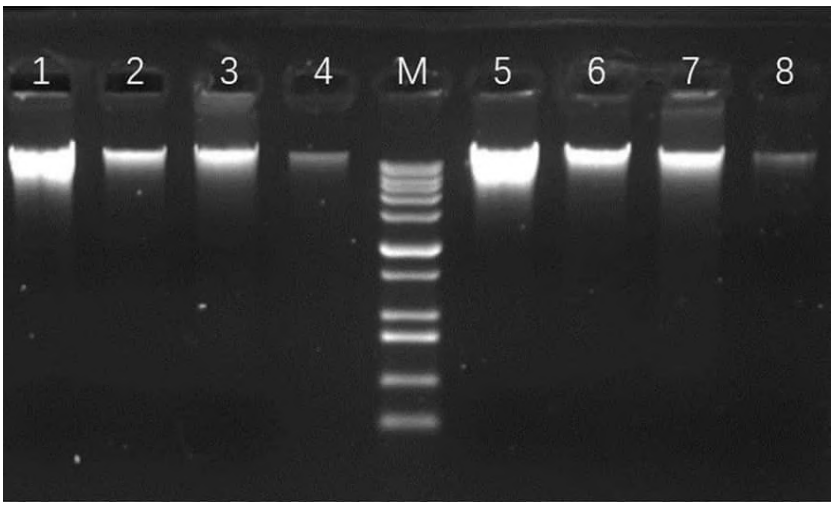
FEATURES

- 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

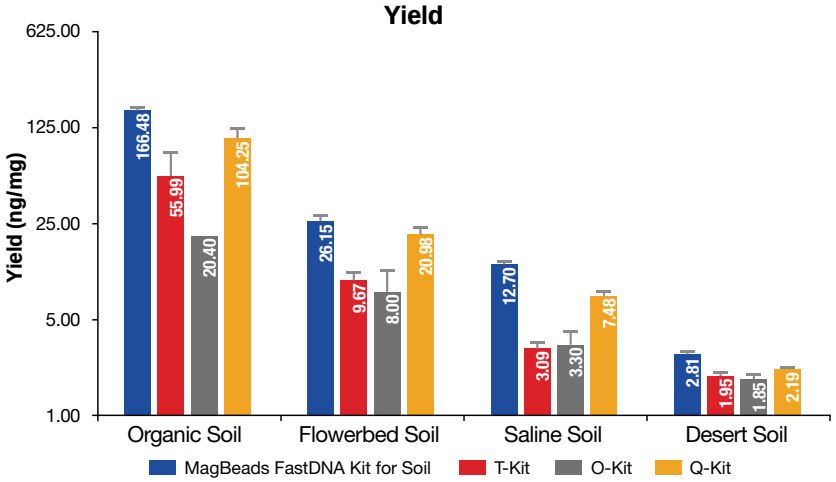
DNA yield and purity from different soil samples using MagBeads FastDNA Kit for Soil



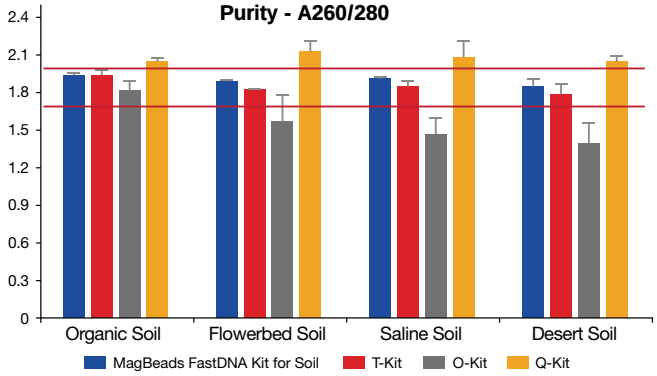
M: *1kb plus DNA ladder,* ***Lane 1-4:*** *Automation,* ***Lane 5-8:*** *Manual,*
Lane 1&5: *100 mg Organic Soil,* ***Lane 2&6:*** *100 mg Flowerbed Soil,*
Lane 3&7: *250 mg Saline Soil,* ***Lane 4&8:*** *250 mg Desert Soil*

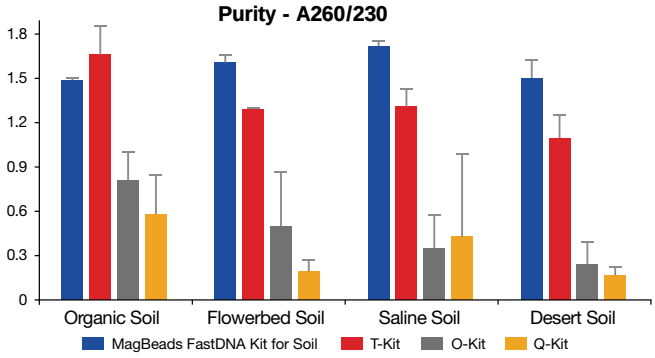
PERFORMANCE

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



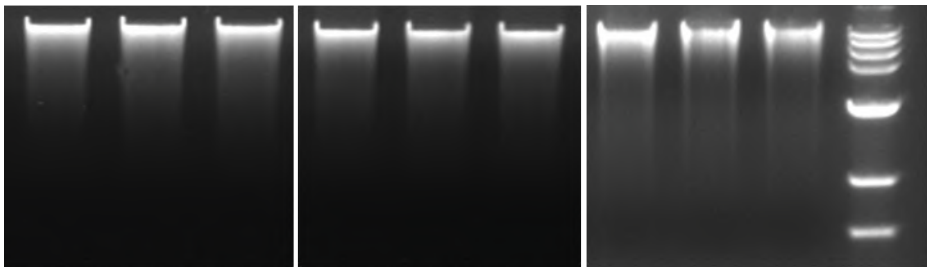
The **MagBeads FastDNA Kit for Soil** *was tested against three competitors' kits, it showed a higher yield across all samples.*





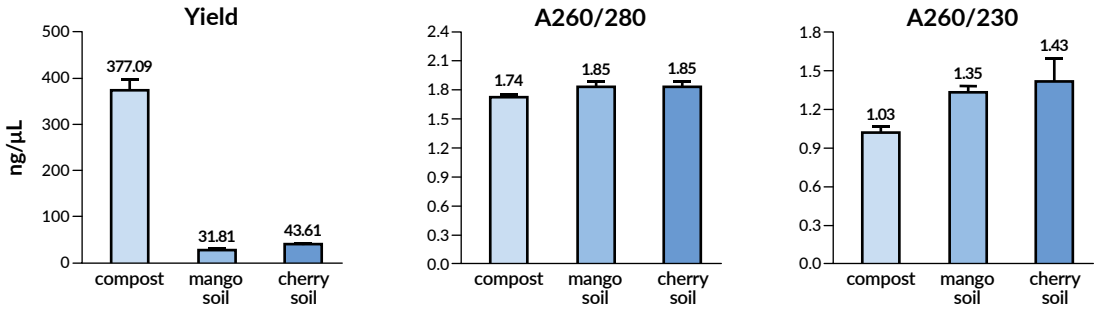
Purity was assessed by UV spectrophotometry. It consistently achieved high purity with the optimal ratio of 1.70 – 2.0 for A260/280 and >1.0 for A260/230.

MagBeads FastDNA Kit for Soil
(Ready-to-Use for MagFlex-96™)



compost 250mg | mango soil 250mg | cherry soil 250mg

gDNA extracted from different soil samples using MagBeads FastDNA Kit for Soil, analyzed using 1% agarose gel electrophoresis.



Yield and purity of gDNA extracted from different soil samples using MagBeads FastDNA Kit for Soil.

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 Soil (Ready-to-Use for MagFlex-96)	96 Preps	119607096

MAGBEADS FASTRNA KIT FOR SOIL

The **MagBeads FastRNA Kit for Soil** offers an efficient solution for RNA purification from various soil samples. It is designed for compatibility with the automated platforms like the MagFlex-96 and MPure aNAP Systems. The magnetic beads used in MagBeads FastRNA Kit for Soil simplifies the RNA purification process by eliminating complicated DNA removal step, ensuring highly efficient and specific binding of RNA. Specialized wash buffers provided in the kit ensure high washing efficiency by eliminating proteins, salts, and other impurities through a short wash procedure. The nucleic acid isolated is of high quality, free from contaminants, and fully compatible with downstream applications such as PCR and other molecular techniques.

FEATURES

- Standardized for 500 mg soil samples, ideal for low-biomass environments.
- Delivers high-purity RNA yields of up to 20 µg per preparation.
- Complete extraction process from raw soil to purified RNA in 60 minutes.

PERFORMANCE

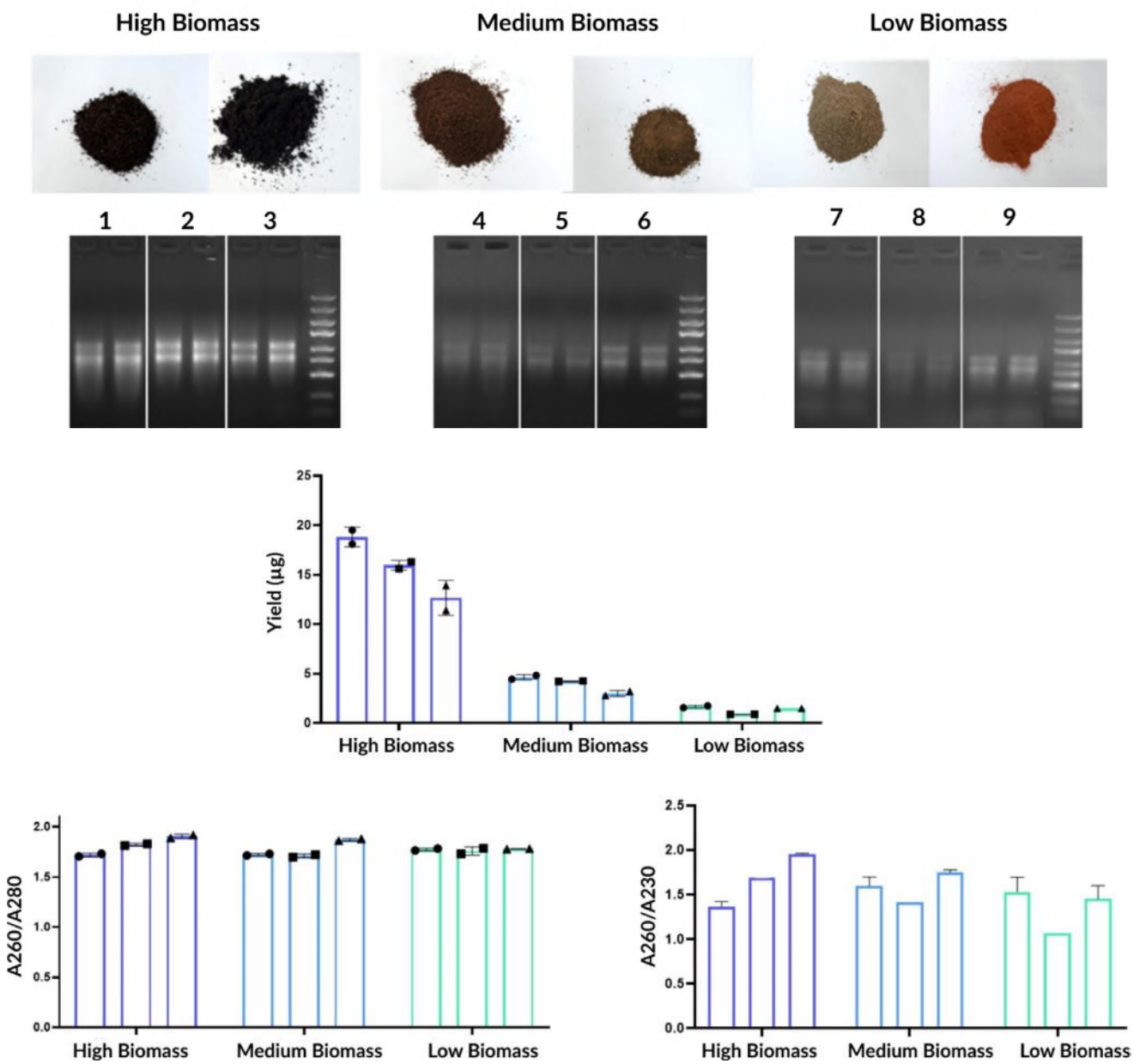


Figure 1. Performance of the MagBeads FastRNA Kit for Soil across soil samples with different biomass levels.

RNA was extracted from soil samples representing high-, medium-, and low-biomass conditions. Representative gel images show successful RNA recovery with minimal gDNA contamination across all sample types. Bar graphs summarize RNA yield (µg), A260/A280 ratio, and A260/A230 ratio for each biomass group. The results demonstrate that the MagBeads FastRNA Kit for Soil provides consistent RNA isolation with good purity and performance across a wide range of soil sample types.

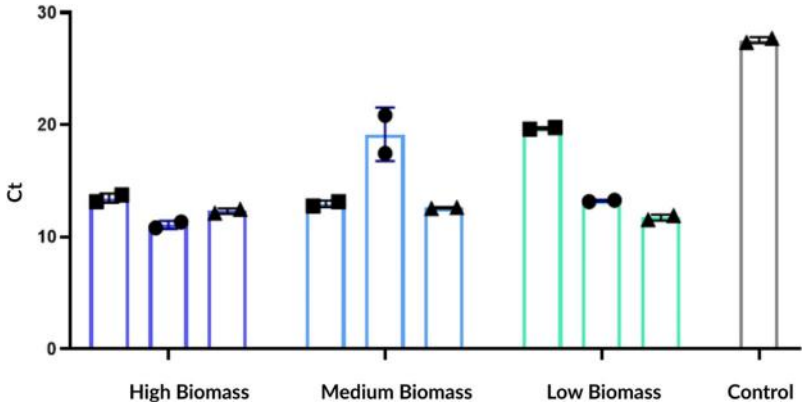


Figure 2. Amplifiability of RNA extracted with MagBeads FastRNA Kit for Soil

RNA extracted from various soil types was subjected to RT-qPCR targeting 16S rRNA. Consistent Ct values and amplification curves demonstrate the removal of inhibitors and compatibility with sensitive downstream applications including RT-qPCR.

ORDER INFORMATION

Description	Size	Catalogue Number
MagBeads FastRNA Kit for Soil	50 Preps	116667050
Magbeads FastRNA Kit for Soil (Ready-to-Use for MPure-32)	96 Preps	117040900
MagBeads FastRNA Kit for Soil (Ready-to-Use for MPure-96)	96 Preps	117041100
MagBeads FastRNA Kit for Soil (Ready-to-Use for MagFlex-96)	96 Preps	119619096

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.

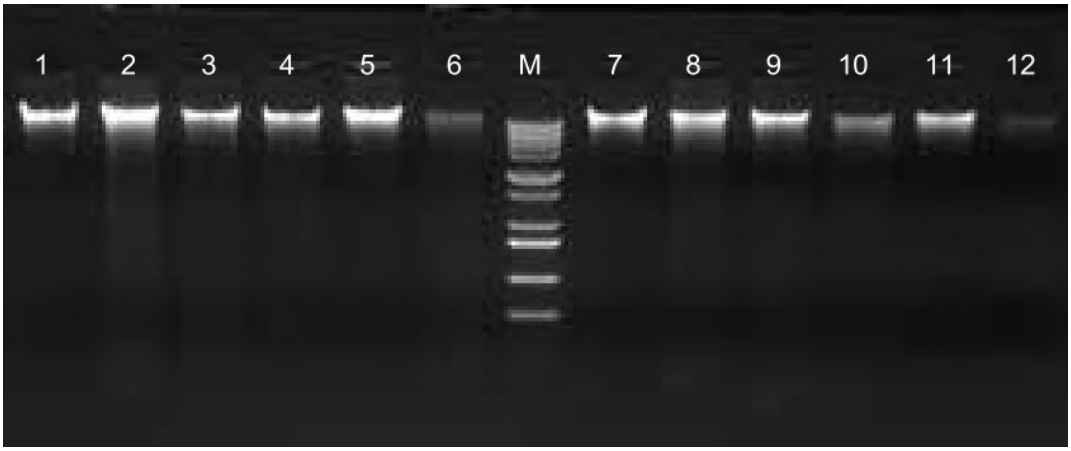
FEATURES

- 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

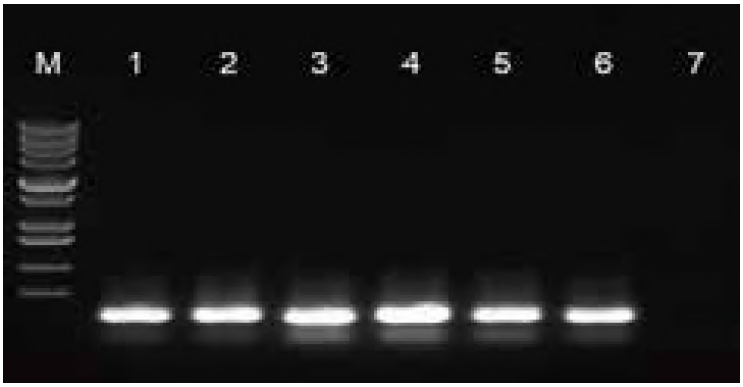
DNA yield and purity from different fecal samples extracted with MagBeads FastDNA Kit for Feces



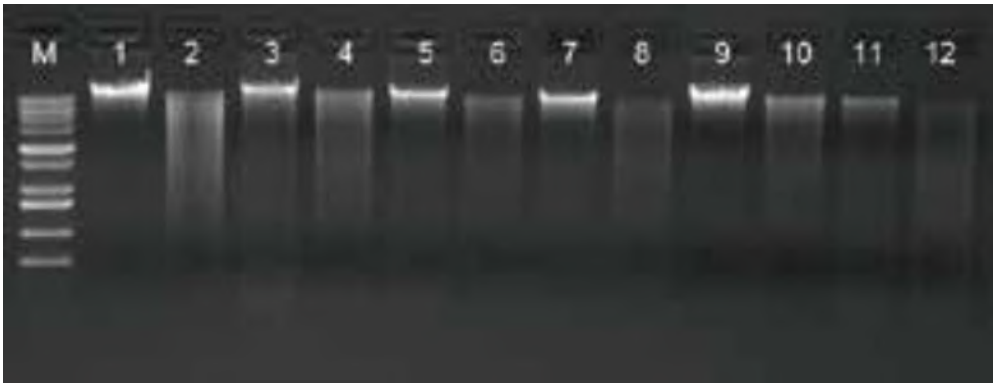
M: *1kb plus DNA ladder,* ***Lane 1-6:*** *Manual,* ***Lane 7-12:*** *Automation,* ***Lane 1&7:*** *30 mg Swine Feces,* ***Lane 2&8:*** *Mouse Feces,* ***Lane 3&9:*** *30 mg Human Feces,* ***Lane 4&10:*** *150 mg Chicken Feces,* ***Lane 5&11:*** *150mg Bovine Feces,* ***Lane 6&12:*** *150mg Elephant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

PERFORMANCE

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

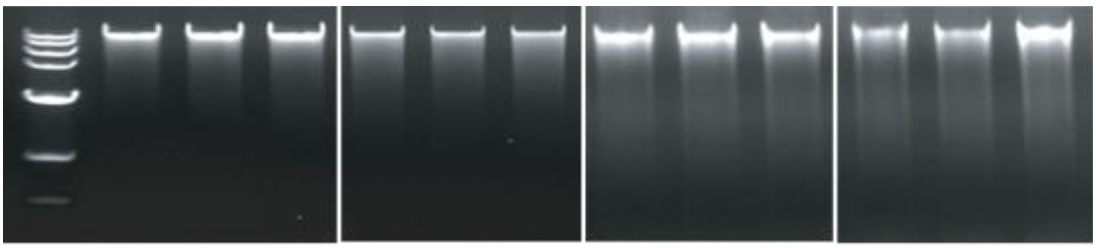


M:*1kb plus DNA ladder,* ***Lane 1:*** *Swine Feces,* ***Lane 2:*** *Mouse Feces,*
Lane 3: *Human Feces,* ***Lane 4:*** *Chicken Feces,* ***Lane 5:*** *Bovine Feces,*
Lane 6: *Elephant Feces,* ***Lane 7:*** *Negative Control*



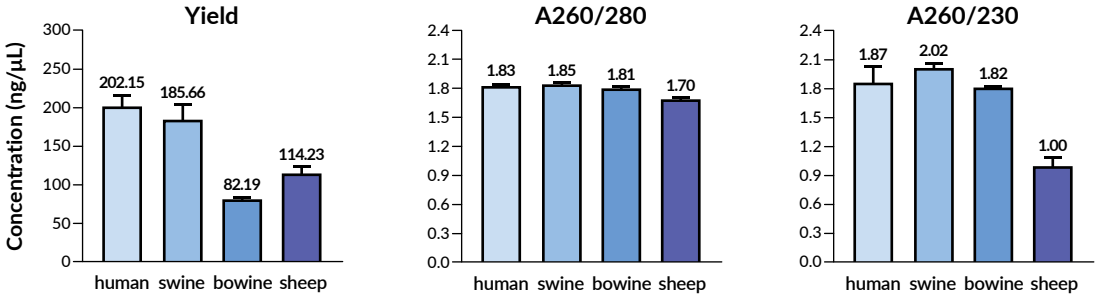
M:*1kb plus DNA ladder,* ***Lane 1&2:*** *Swine,* ***Lane 3&4:*** *Mouse,* ***Lane 5&6:*** *Human,*
Lane 7&8: *Chicken,* ***Lane 9&10:*** *Bovine,* ***Lane 11&12:*** *Elephant,*
Lane 1/3/5/7/9/11: *Before digestion,* ***Lane 2/4/6/8/10:*** *After digestion*

MagBeads FastDNA Kit for Feces
(Ready-to-Use for MagFlex-96™)



human 100mg swine 100mg bovine 100mg sheep 100mg

gDNA extracted from different feces samples using the MagBeads FastDNA Kit for Feces.



Yield and purity of gDNA extracted from different feces samples using the MagBeads FastDNA Kit for Feces.

ORDER INFORMATION

Description	Size	Catalogue Number
MagBeads FastDNA Kit for Feces	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 FastDNA Kit for Feces (Ready-to-Use for MagFlex-96)	96 Preps	119608096
MagBeads FastDNA Kit for Feces (CE)	50 Preps	75270-050
MagBeads FastDNA Kit for Feces (Ready-to-Use for MagFlex-96) (CE)	96 Preps	75270-050A

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

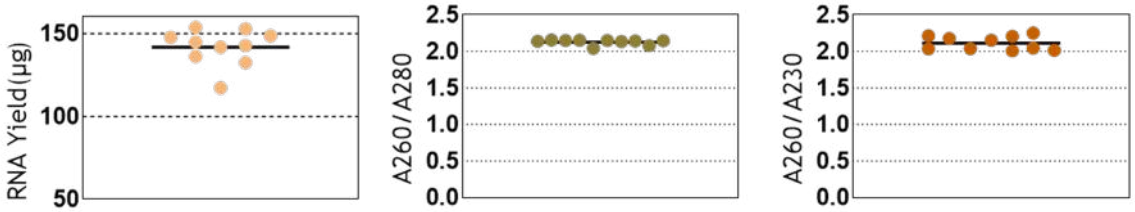


Figure 1. RNA Yield and Purity from Fecal Samples Extracted with MagBeads FastRNA Kit for Feces. RNA yield and purity (A260/A280 and A260/A230 ratios) obtained from three human fecal sources. Each dot represents an individual sample processed with the MagBeads FastRNA Kit for Feces.

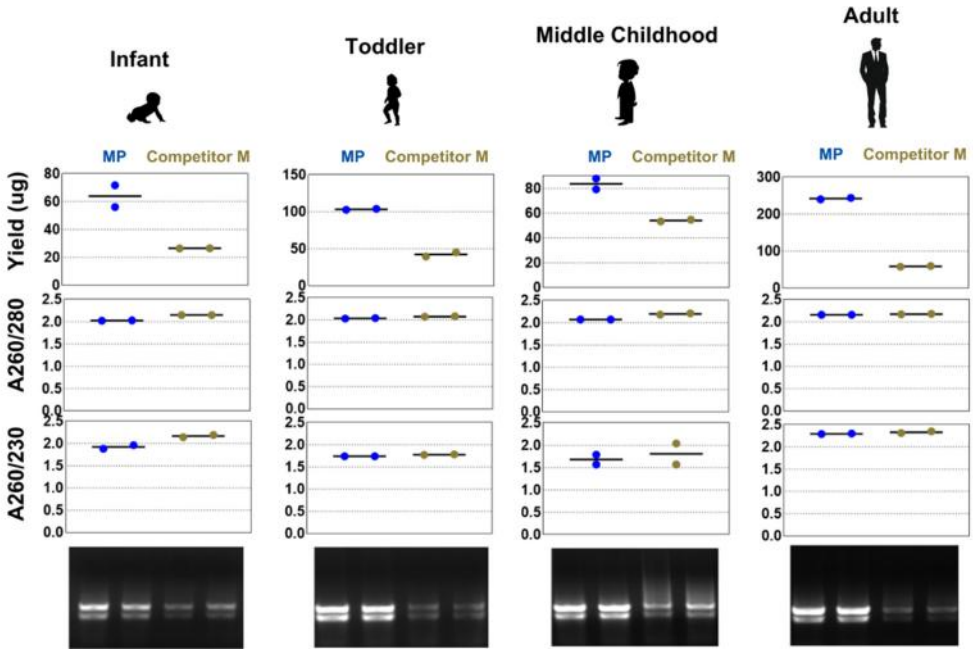
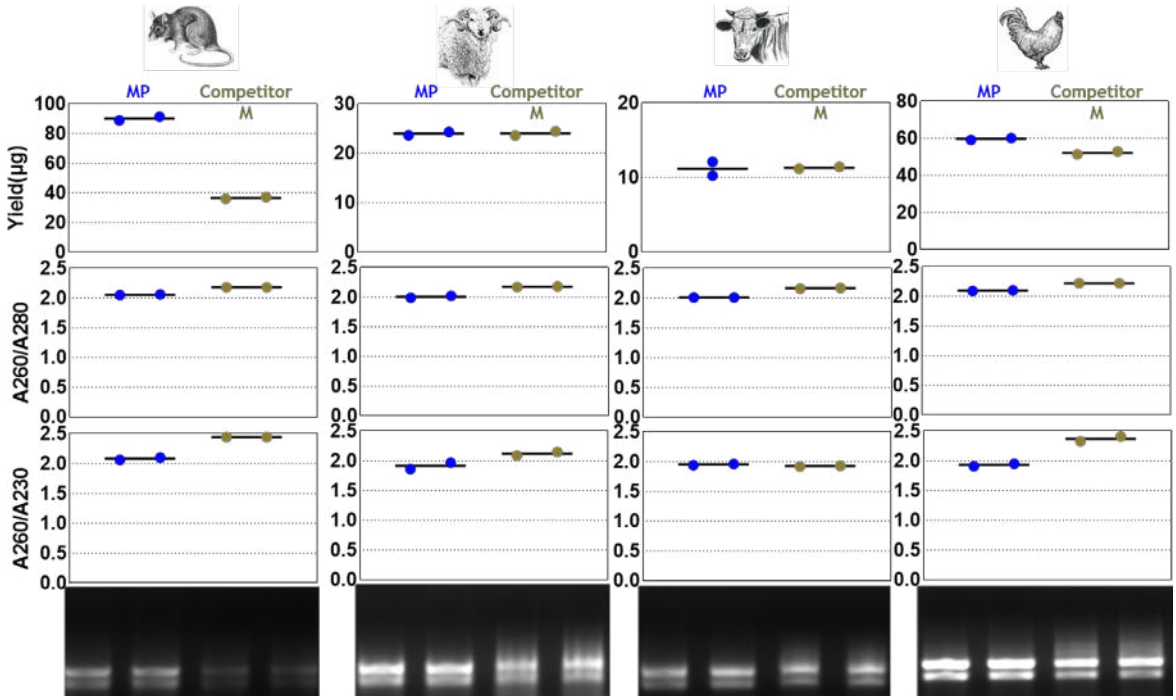


Figure 2. Performance evaluation of RNA extracted from human fecal samples using the MagBeads FastRNA Kit for Feces (MP) compared to Competitor M. RNA was independently extracted from human fecal samples (two extractions per sample, each dot on the plot represents one extraction). The RNA yield, purity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



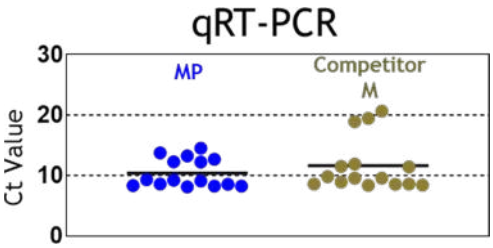


Figure 3: Performance evaluation of RNA extracted from animal fecal samples using the MagBeads FastRNA Kit for Feces (MP) compared to Competitor M. RNA was independently extracted from animal fecal samples (two extractions per sample, each dot on the plot represents one extraction). The RNA yield, purity (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 MAXPURE KIT FOR FECES

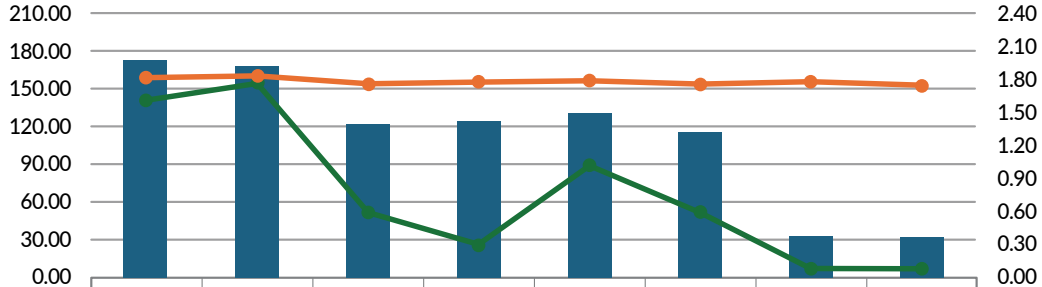
Feces samples are processed using Lysing Matrix E tubes with MP Biomedicals FastPrep® Instruments, achieving complete lysis of host cells, bacteria, fungi, viruses, protists, and other microorganisms within 40 seconds. The kit is compatible with most automated nucleic acid extraction platforms and also supports manual operation.

A key feature of this kit is its specially formulated reagent system, designed to effectively remove common PCR inhibitors and contaminants—including polysaccharides, heme, bile acids, humic acids, phenolics, and enzymatic inhibitors—from complex fecal matrices. This ensures the extraction of inhibitor-free, high-integrity genomic DNA suitable for demanding downstream applications such as PCR, restriction digestion, electrophoresis, sequencing, and more.

FEATURES

- Specialized in removing common stool inhibitors (e.g., polysaccharides, heme, bile acids, humic acids, phenolics), releasing inhibitor-free DNA
- Works with 30–300 mg fecal input and produces gDNA suitable for applications such as PCR and sequencing.
- Fast and high-efficiency lysis using Lysing Matrix E with FastPrep®, enabling complete lysis of host cells plus microbes.

PERFORMANCE



	MP	MP	Competitor O	Competitor O	Competitor T	Competitor T	Competitor Q	Competitor Q
Yield(ng/mg)	172.67	162.67	122.00	124.20	130.67	116.00	33.37	32.20
A260/280	1.82	1.83	1.76	1.78	1.79	1.76	1.78	1.75
A260/230	1.61	1.77	0.59	0.30	1.02	0.59	0.08	0.08

Figure 1: gDNA extracted from mouse feces* using MagBeads FastDNA MaxPure Kit for Feces and competitor kits.

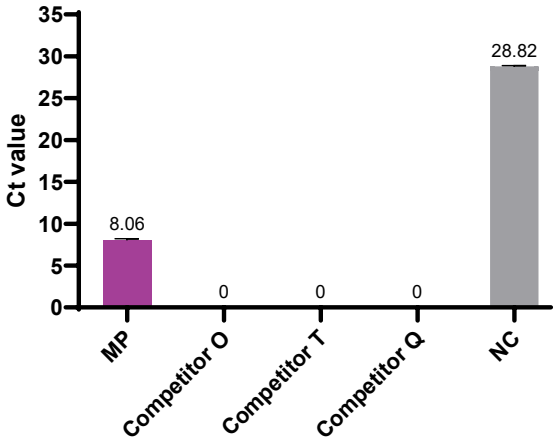


Figure 2: qPCR of 100ng gDNA extracted from mouse feces* using MagBeads FastDNA MaxPure Kit for Feces and competitor kits.

** This mouse fecal sample is known to contain challenging inhibitors such as DSS, hemoglobin, and bile acids.*

ORDER INFORMATION

Description	Size	Catalogue Number
MagBeads FastDNA MaxPure Kit for Feces	384 Preps	116598384
	50 Preps	116598050
MagBeads FastDNA MaxPure Kit for Feces (Ready-to-Use for MPure-32)	96 Preps	117040700
MagBeads FastDNA MaxPure Kit for Feces (Ready-to-Use for MPure-96)	96 Preps	117040800
MagBeads FastDNA MaxPure Kit for Feces (Ready-to-Use for MagFlex-96)	96 Preps	119618096

MAGBEADS DSS-REMOVAL FASTRNA KIT FOR FECES

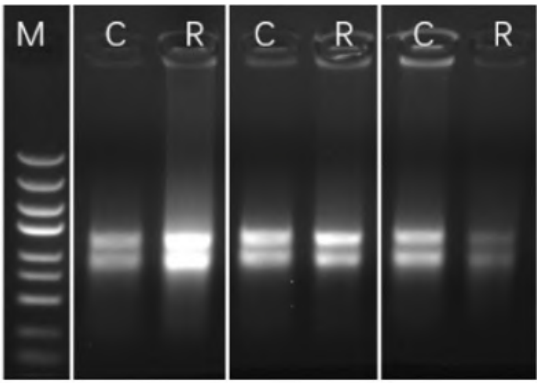
The MagBeads DSS-Removal FastRNA Kit for Feces is a scalable and automatable magnetic bead-based RNA purification technology, designed for the efficient isolation of total RNA from DSS-contaminated fecal samples.

Dextran sodium sulfate (DSS) is routinely used in animal studies to induce stable and reproducible colitis models, which closely simulate the clinical and histological manifestations of human inflammatory bowel disease (IBD), especially ulcerative colitis. Nevertheless, residual DSS in fecal samples from DSS-treated animals can inhibit real-time quantitative PCR (RT-qPCR) reactions, which is a major cause of experimental errors in downstream molecular analysis. This kit effectively addresses the technical difficulties in processing diverse fecal samples and greatly simplifies the fecal RNA purification procedure, delivering a user-friendly and time-saving experimental workflow. The built-in DSS removal procedure and DNase I treatment efficiently eliminate residual DSS contaminants and genomic DNA contamination from samples, ensuring high yield and high purity of extracted total RNA.

FEATURES

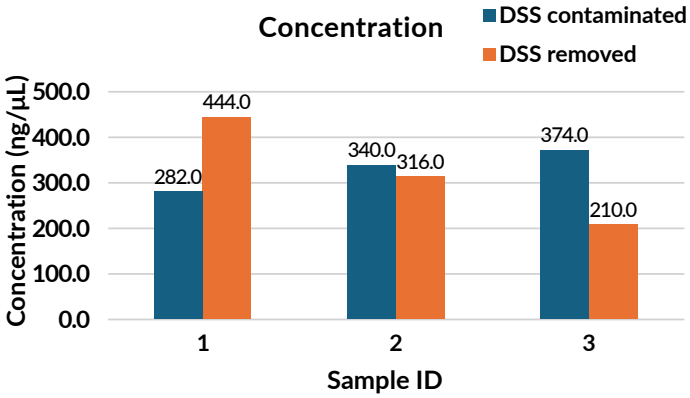
- Specialized DSS-Removal Technology – Specifically designed for RNA isolation from DSS-contaminated fecal samples, effectively removing residual DSS
- Integrated DNase I Treatment – Efficiently removes genomic DNA contamination during the extraction workflow, improving RNA purity and enhancing downstream assay performance.
- MagBeads-Based Purification Technology – Effectively processes diverse fecal samples while reducing hands-on time and workflow complexity.
- High-Quality RNA for Downstream Applications – Produces RNA that can be directly applied to various downstream experiments, including RT-qPCR amplification and other molecular detection applications.

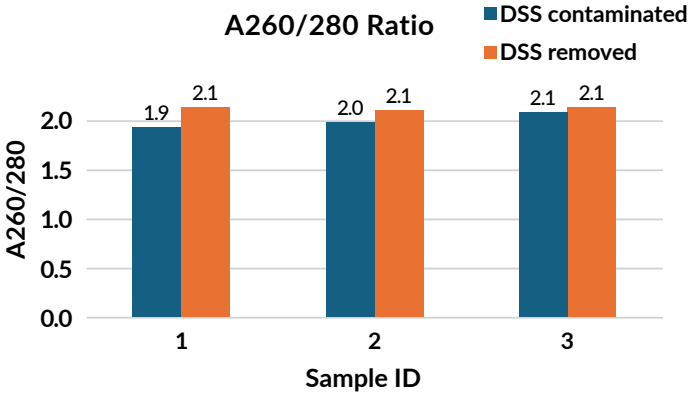
PERFORMANCE



Sample ID: 1 2 3

C: DSS contaminated; R: DSS removed





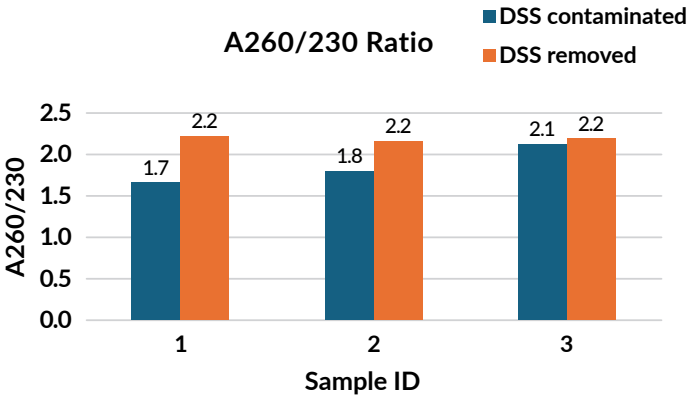


Figure 1: *RNA yield and purity (A260/A280 and A260/A230 ratios) obtained from mouse feces (sample 1&2) and mouse intestinal contents (sample 3) using the MagBeads DSS-Removal FastRNA Kit for Feces. The impact of DSS removal on RNA yield and purity may vary depending on the sample type, but remains consistently positive.*

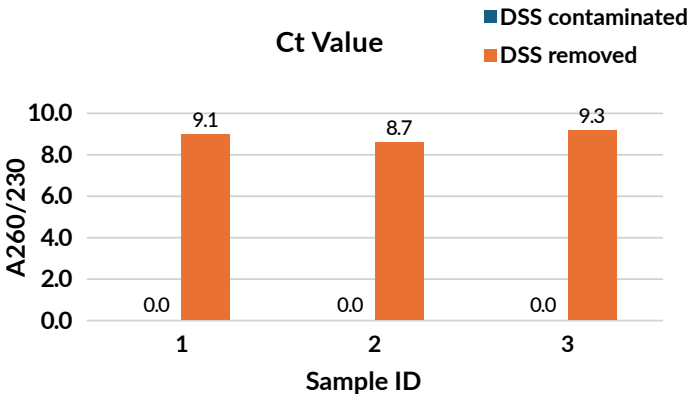


Figure 2: *When the purified RNA was used as a template for RT-qPCR, samples processed with the MagBeads DSS-Removal FastRNA Kit for Feces showed robust amplification, whereas those without DSS removal exhibited severe inhibition.*

ORDER INFORMATION

Description	Size	Catalogue Number
MagBeads DSS-Removal FastRNA Kit for Feces	50 Preps	116588050M
MagBeads DSS-Removal FastRNA Kit for Feces (Ready-To-Use for MPure-32™)	96 Preps	117040300M
MagBeads DSS-Removal FastRNA Kit for Feces (Ready-To-Use for MPure-96™)	96 Preps	117040400M

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 µL 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

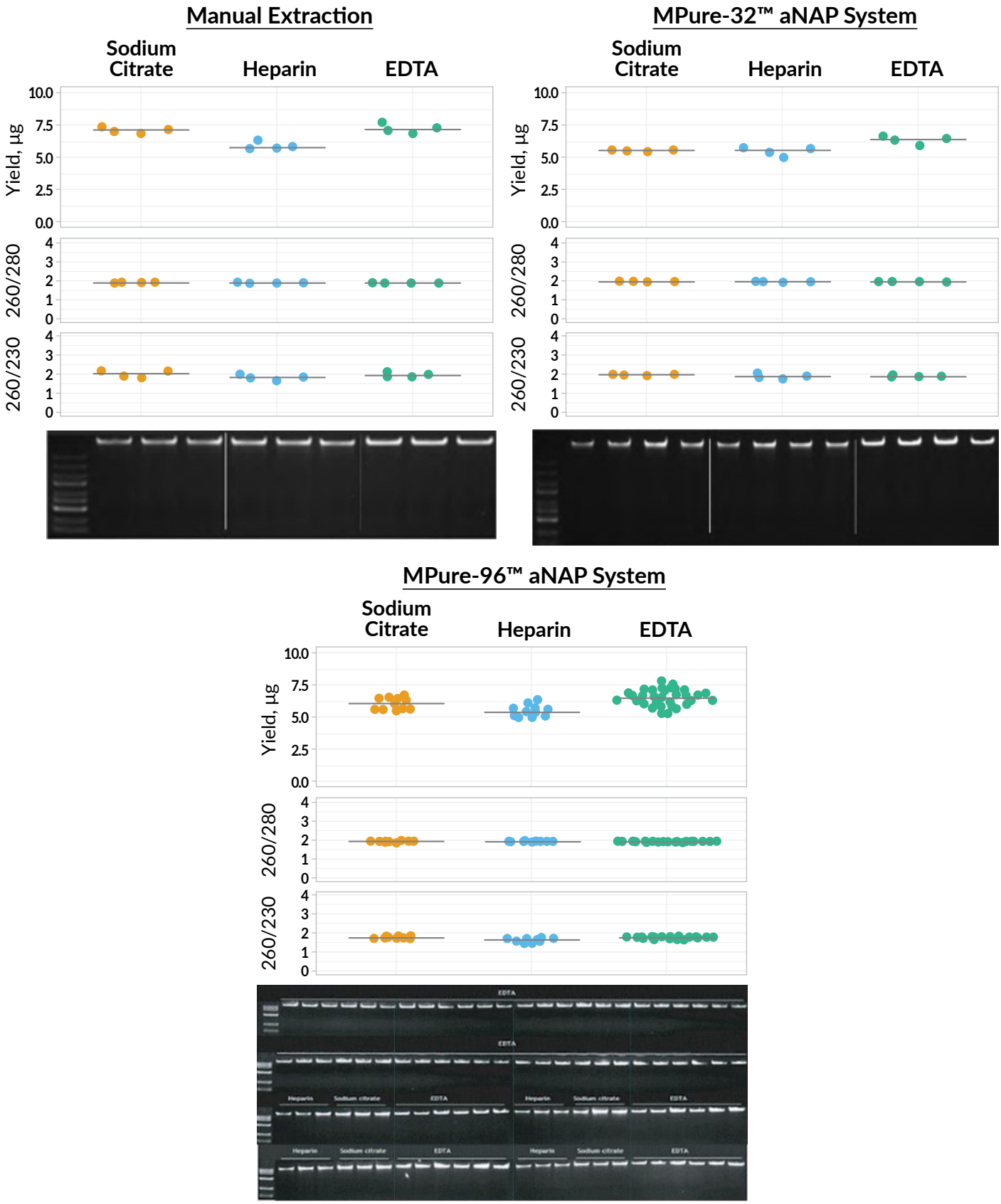


Figure 1: Extraction Efficiency of MagBeads FastDNA Kit for Blood Using Manual Method and MPure™ System. The MagBeads FastDNA Kit for Blood showed high-quality and consistent gDNA extraction, with comparable purity and yield across both manual and MPure™ extraction methods.

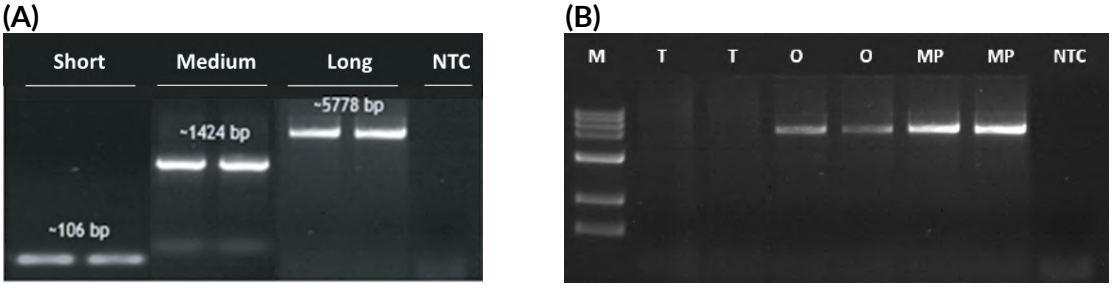


Figure 2: (A) gDNA was extracted from blood samples under different conditions and analyzed on a 1% agarose gel. Lanes are labeled as follows: "Short" (~1106 bp), "Medium" (~1424 bp), "Long" (~5778 bp), and "NTC" (Negative Template Control, no visible band). (B) Long fragments of the human BRCA gene 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.

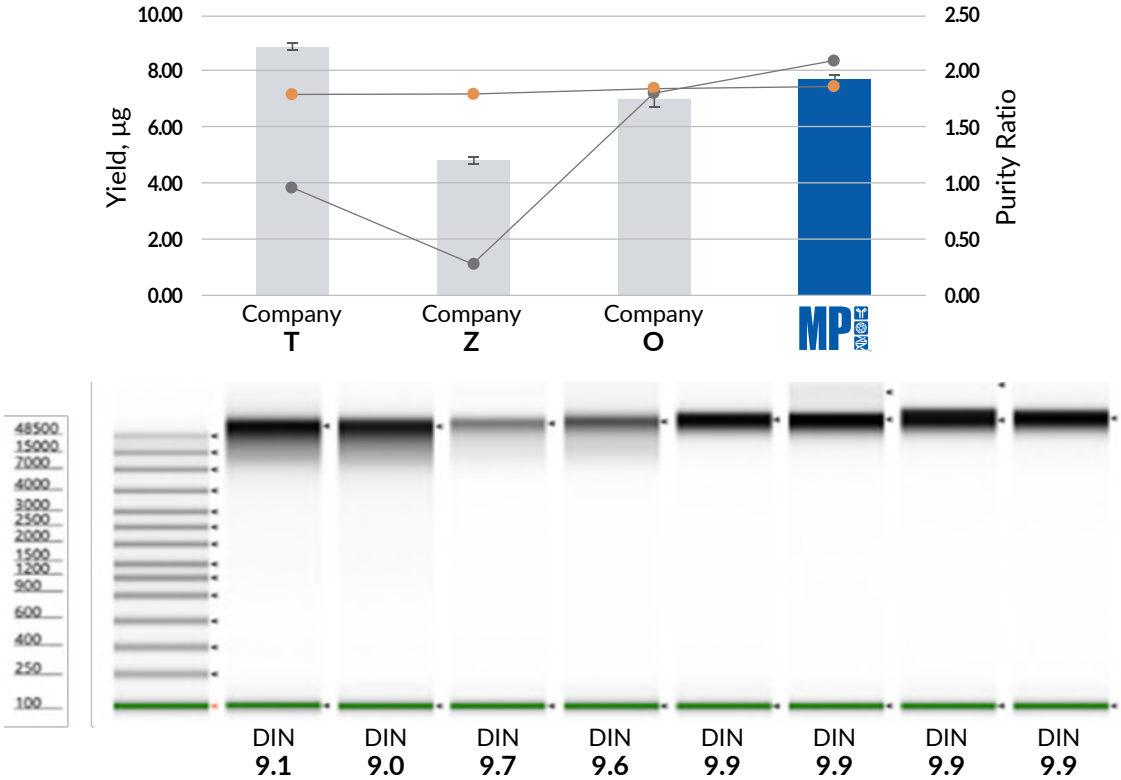
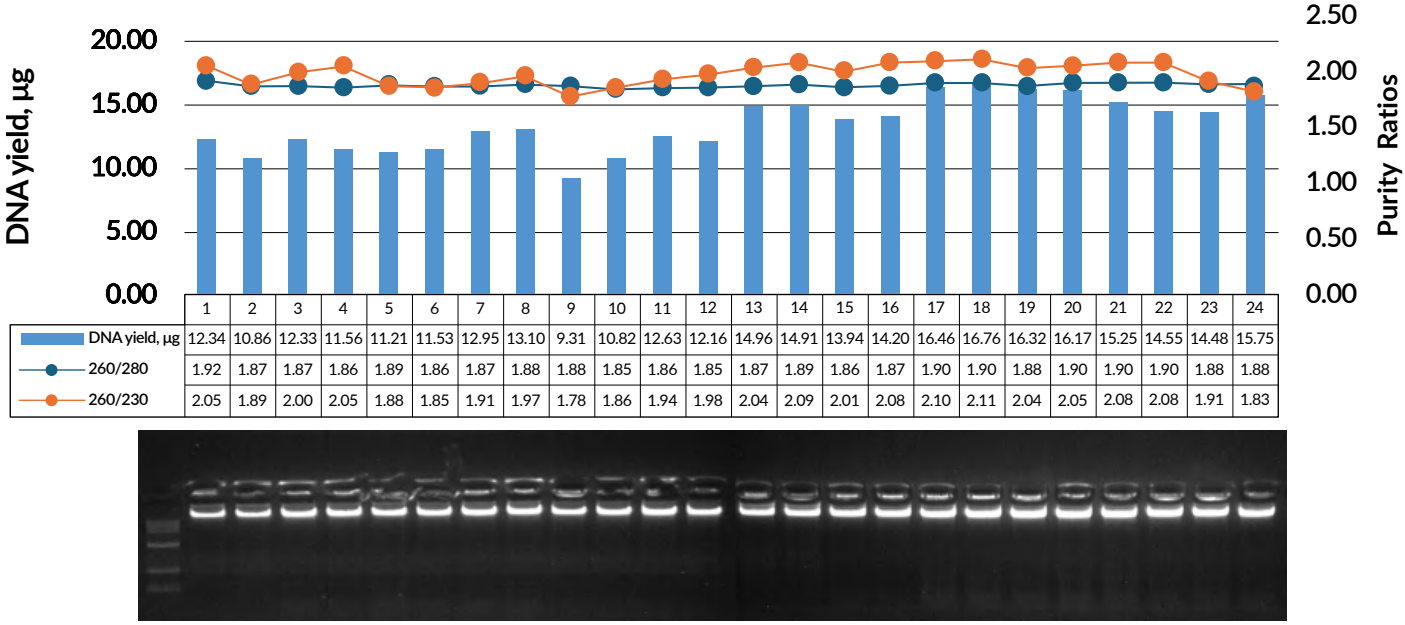


Figure 3: DNA Integrity Analysis of Blood gDNA Extracted with MP MagBeads FastDNA Kit for Blood. Genomic DNA was extracted from 200 µL blood using the MP MagBeads FastDNA Kit and compared to other competitor kits. The MP MagBeads kit yielded DNA with superior integrity and higher molecular weight, as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

MagBeads FastDNA Kit for Blood
(Ready-to-Use for MagFlex-96™)



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
DNA yield, µg	12.34	10.86	12.33	11.56	11.21	11.53	12.95	13.10	9.31	10.82	12.63	12.16	14.96	14.91	13.94	14.20	16.46	16.76	16.32	16.17	15.25	14.55	14.48	15.75
260/280	1.92	1.87	1.87	1.86	1.89	1.86	1.87	1.88	1.88	1.85	1.86	1.85	1.87	1.89	1.86	1.87	1.90	1.90	1.88	1.90	1.90	1.90	1.88	1.88
260/230	2.05	1.89	2.00	2.05	1.88	1.85	1.91	1.97	1.78	1.86	1.94	1.98	2.04	2.09	2.01	2.08	2.10	2.11	2.04	2.05	2.08	2.08	1.91	1.83

Figure 1: Performance of Magbeads FastDNA Kit for Blood with varying blood volumes from different individuals. The Magbeads FastDNA Kit for Blood demonstrated good reproducibility across wells. Wells 1–12: 400 µL EDTA blood; Wells 13–24: 500 µL EDTA blood. Improved DNA yield was observed with higher input volume.

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 FastDNA for Blood (Ready-to-Use for MagFlex-96)	96 Preps	119610096
MagBeads FastDNA for Blood (CE)	96 Preps	75260-096
MagBeads FastDNA for Blood (Ready-to-Use for MagFlex-96) (CE)	96 Preps	75260-096A

MAGBEADS FASTRNA KIT FOR BLOOD

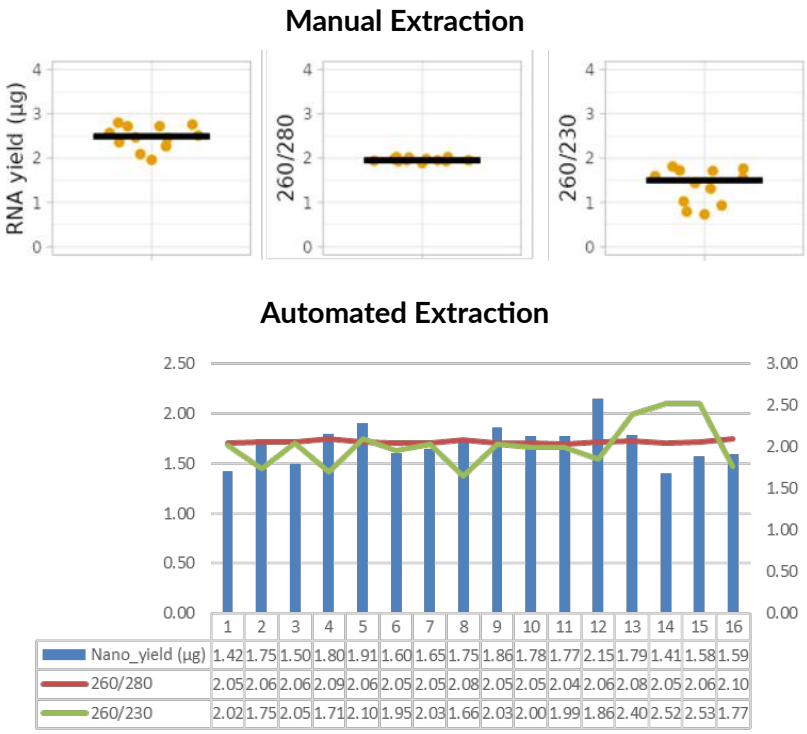
MagBeads FastRNA Kit for Blood is a scalable and automatable (automatable versions available cat. no.117039100 & cat. no.117039200) magnetic bead-based RNA purification technology that is designed for total isolation of RNA from whole blood preserved in different anticoagulants (EDTA, Heparin and sodium 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



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Nano_yield (µg)	1.42	1.75	1.50	1.80	1.91	1.60	1.65	1.75	1.86	1.78	1.77	2.15	1.79	1.41	1.58	1.59
260/280	2.05	2.06	2.06	2.09	2.06	2.05	2.05	2.08	2.05	2.05	2.04	2.06	2.08	2.05	2.06	2.10
260/230	2.02	1.75	2.05	1.71	2.10	1.95	2.03	1.66	2.03	2.00	1.99	1.86	2.40	2.52	2.53	1.77

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

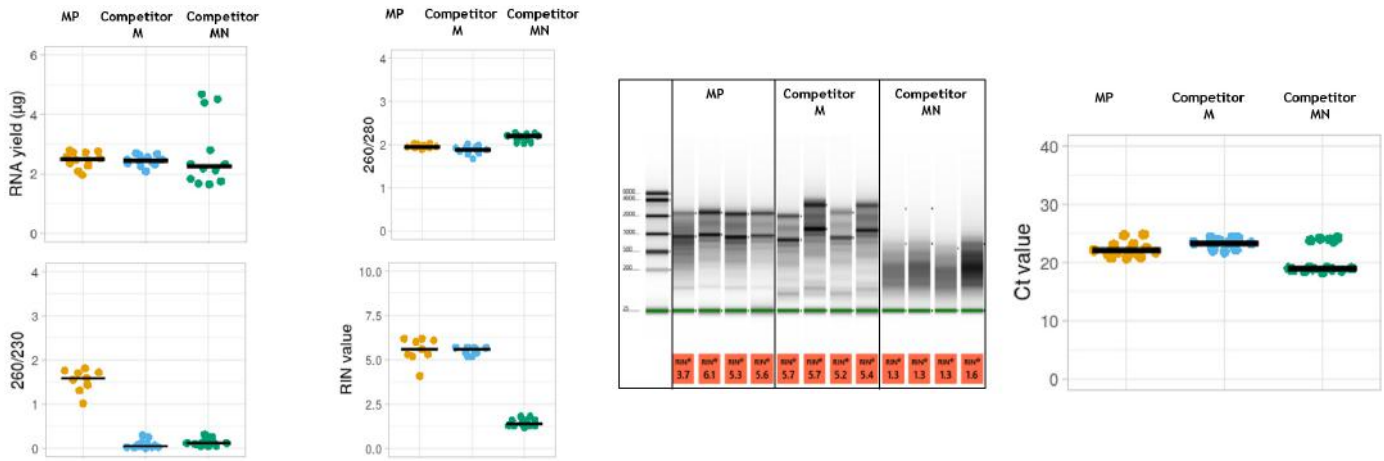
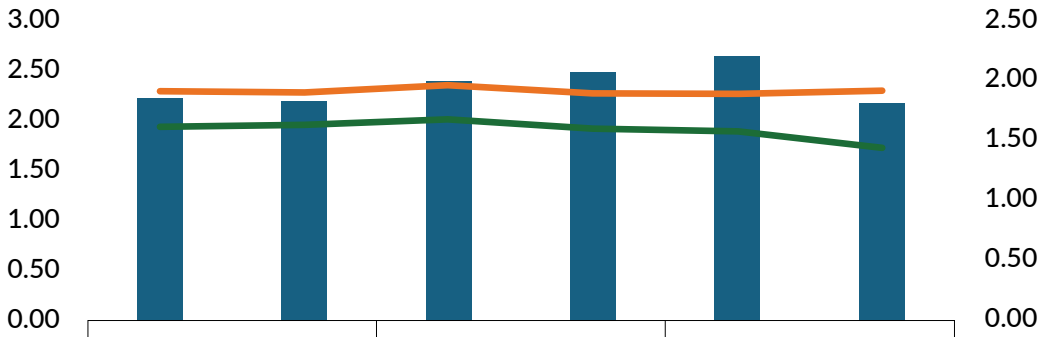
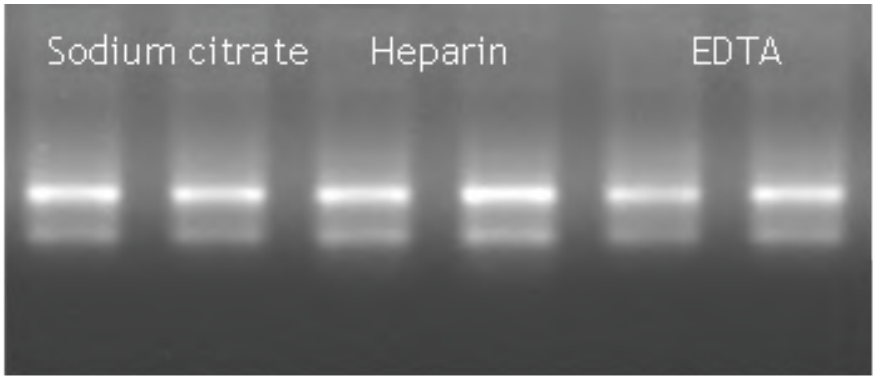


Figure 2: Evaluation of the performance of the MagBeads FastRNA kit for blood compared to Competitor M and Competitor MN . RNA was independently extracted (three extractions of quadruplicates each) from MagBeads FastRNA kit for Blood (MP), Competitor M or Competitor MN. The RNA yield, purity (260/230 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.

MagBeads FastRNA Kit for Blood
(Ready-to-Use for MagFlex-96™)



	Sodium Citrate		Heparin		EDTA	
Yield (µg)	2.22	2.20	2.39	2.48	2.64	2.16
260/280	1.91	1.90	1.96	1.89	1.88	1.91
260/230	1.61	1.62	1.67	1.60	1.57	1.44



High Quality RNA Purification. MagBeads FastRNA Kit for Blood offers high quality and highly consistent RNA extraction efficiency from blood of various anti-coagulants.

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 FastRNA Kit for Blood (Ready-to-Use for MagFlex-96)	96 Preps	119609096

MAGBEADS FASTDNA KIT FOR FFPE

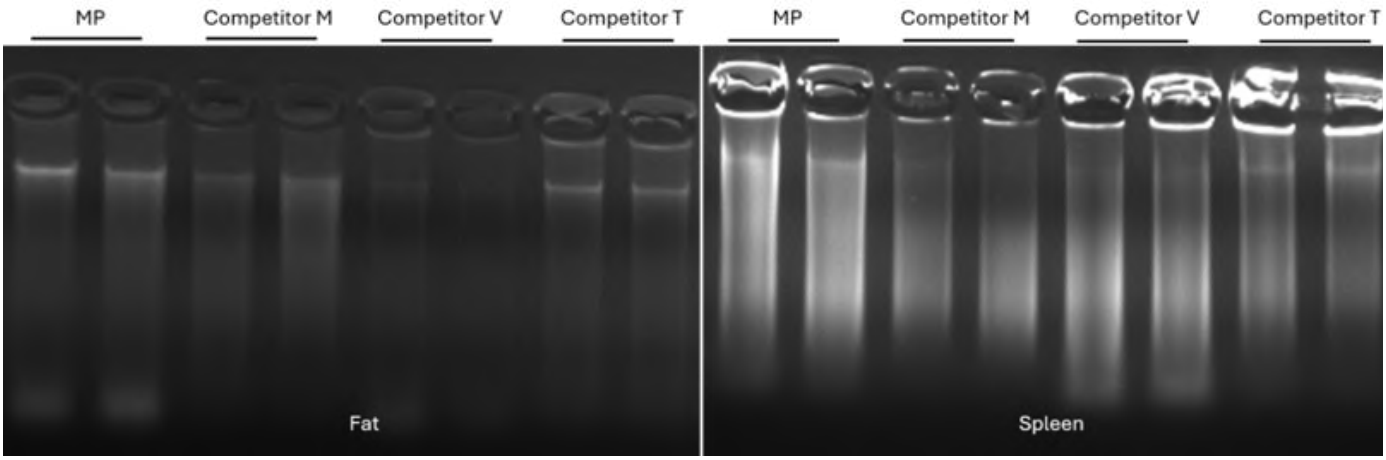
The MagBeads FastDNA Kit for FFPE offers an efficient solution for DNA purification from FFPE and formalin-fixed samples. The magnetic beads simplify the DNA purification process, ensuring highly efficient and specific binding of DNA. Specialized wash buffers provided in the kit ensure high washing efficiency by eliminating proteins, salts, and other impurities through a short wash procedure. The nucleic acid isolated is of high quality, free from contaminants, and fully compatible with downstream applications such as qPCR and other molecular techniques.

FEATURES

- Optimized for FFPE & Formalin-Fixed Samples – Efficiently isolates DNA from challenging fixed tissue samples using a dedicated workflow.
- Magnetic Bead–Based Purification – Provides efficient and specific DNA binding, with specialized wash buffers that remove proteins, salts, and other impurities.
- Ready-to-Use, Prefilled Format – Simplifies setup for both manual magnetic rack workflows and automated extraction systems, enabling convenient and streamlined DNA purification.
- High-Quality DNA for Downstream Applications – Produces purified DNA with minimal RNA contamination and suitable purity for applications such as qPCR and other molecular techniques.

PERFORMANCE

Sample	Kit	Yield (µg)	A260/A280	A260/A230
10 mg Fat	MP	1.74	1.98	2.46
	Competitor M	1.54	1.81	0.92
	Competitor V	0.58	1.90	1.50
	Competitor T	1.21	1.81	3.22
2 mg Spleen	MP	18.00	1.91	2.31
	Competitor M	5.23	1.91	1.81
	Competitor V	7.64	1.94	2.13
	Competitor T	8.72	1.89	2.26



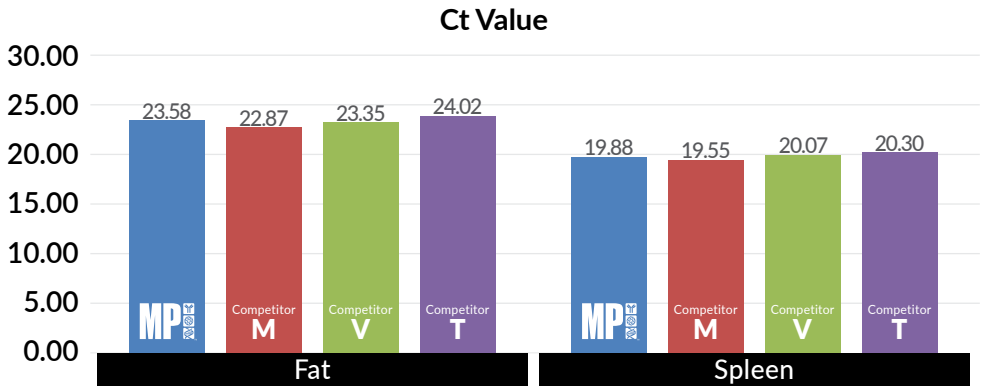


Figure 1: *The MagBeads FastDNA Kit for FFPE delivers high DNA yield and purity from fat and spleen samples, with clear gel electrophoresis results and comparable qPCR Ct values, demonstrating reliable DNA recovery suitable for downstream molecular applications.*

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 FastDNA Kit for FFPE (Ready-to-Use for MagFlex-96)	96 Preps	119622096

MAGBEADS FASTRNA KIT FOR FFPE

MagBeads FastRNA Kit for FFPE is a high-performance RNA extraction kit for formaldehyde- or paraformaldehyde-fixed, paraffin-embedded (FFPE) tissues. Utilizing advanced magnetic-bead technology, this kit enables convenient and efficient isolation of RNA from a wide variety of FFPE tissue samples. The purification protocol requires no sophisticated equipment and involves minimal handling, making it suitable for any laboratory setting.

RNA obtained from multiple types of tissue using this kit has shown high integrity and purity and is ready for use in downstream applications, including real-time PCR and next-generation sequencing (NGS).

The kit incorporates specialized formulations that address the unique challenges of FFPE samples. During formalin fixation, nucleic acids undergo crosslinking with proteins and chemical modifications that lead to fragmentation. The MagBeads FastRNA Kit for FFPE is optimized to reverse formaldehyde-induced crosslinking.

Due to fixation and embedding procedures, nucleic acids in FFPE samples are often heavily fragmented and modified by formaldehyde. While the MagBeads FastRNA Kit for FFPE is optimized to minimize the effects of the formaldehyde modification, RNA purified with this kit is not recommended for downstream applications that require full-length RNA.

The kit is automation-friendly and can be adapted for use on various open-platform automated systems, enabling high-throughput processing of up to 96 samples simultaneously. This flexibility makes it suitable for both manual processing in small-scale experiments and automated workflows in large-scale studies.

FEATURES

- Reverses formaldehyde-induced crosslinking for efficient RNA recovery from fixed tissue samples.
- Delivers pure, high-quality RNA ready for real-time PCR and NGS.
- Seamlessly scales from benchtop processing to automated workflows capable of handling up to 96 samples simultaneously.

PERFORMANCE

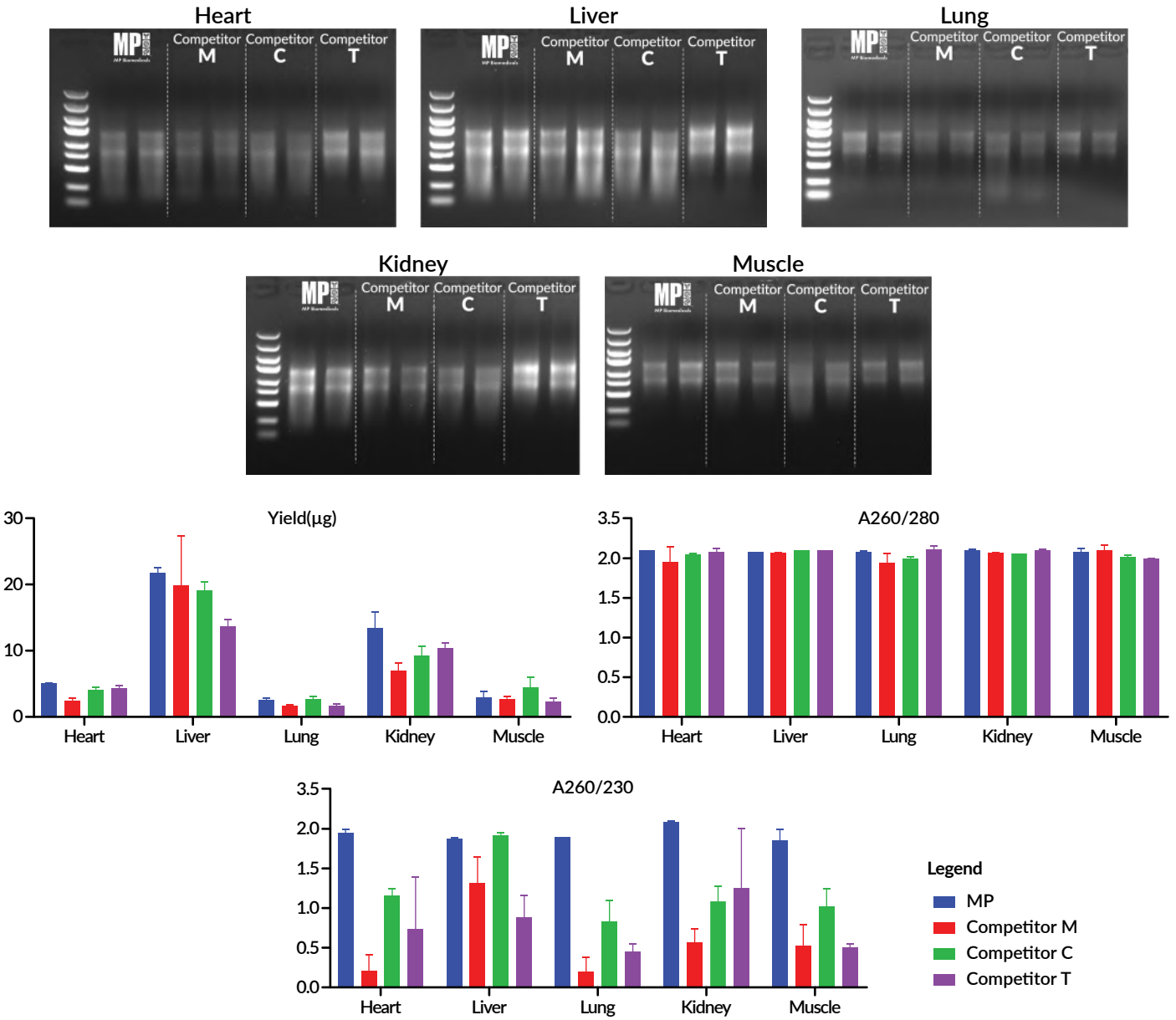


Figure 1: Quality and quantity of RNA extracted from various FFPE tissues using the MagBeads FastRNA Kit for FFPE and three competitor kits. *RNA yield, A260/230 ratio, and A260/280 ratio were determined by spectrophotometry using RNA extracted from 2 mg of each tissue sample.*

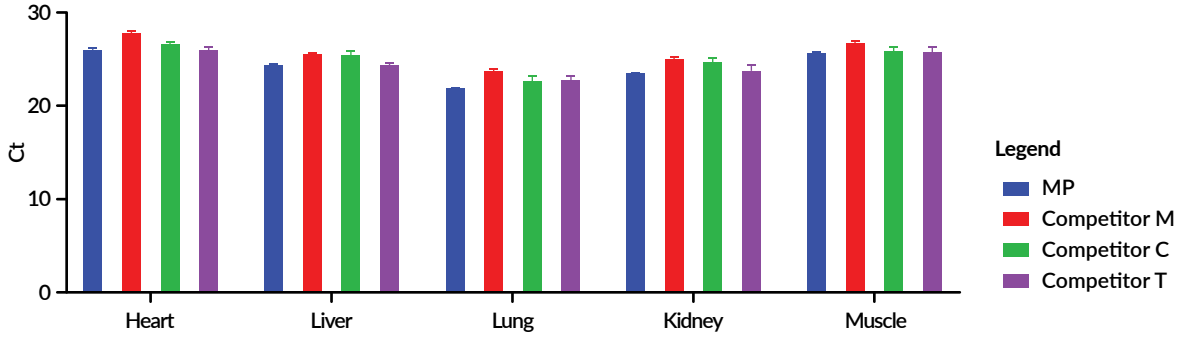


Figure 2: Amplifiability of RNA extracted with MagBeads FastRNA Kit for FFPE. *qPCR threshold cycle (Ct) values were compared using equal input amounts of RNA (30 ng). Targets were amplified using SYBR Green technology.*

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 FastRNA Kit for FFPE (Ready-to-Use for MagFlex-96)	96 Preps	119615096

MAGBEADS FASTDNA/RNA KIT FOR FFPE

The MagBeads FastDNA/RNA Kit for FFPE enables sequential isolation of DNA and RNA from the same formalin-fixed, paraffin-embedded (FFPE) sample, allowing efficient use of limited sample material. The specially formulated buffers not only efficiently lyse the sample and reverse formaldehyde-induced crosslinking but also ensure differential separation of DNA and RNA to avoid cross-contamination. Following sample lysis, binding buffer and magnetic beads are added to the sample for DNA binding , while RNA remains in the supernatant. RNA is then captured by adding magnetic beads and isopropanol to the supernatant. Specialized wash buffers provided in the kit ensure high washing efficiency by eliminating proteins, salts, and other impurities through a short wash procedure.

When sequential separation is not required, the kit can also be used independently to purify either DNA or RNA from FFPE samples. It is designed for compatibility with automated platforms like the MagFlex-96 and MPure aNAP Systems. The nucleic acid isolated is of high quality, free from contaminants, and fully compatible with downstream applications such as qPCR and other molecular techniques.

FEATURES

- Sequential DNA & RNA Recovery from the Same Sample – Enables sequential isolation of DNA and RNA from a single FFPE sample, allowing efficient use of limited sample material.
- Optimized for FFPE & Formalin-Fixed Samples – Efficiently isolates DNA and RNA from challenging fixed tissue samples using a dedicated workflow.
- Ready-to-Use, Prefilled Format – Simplifies manual DNA and RNA purification using a magnetic rack.
- High-Quality DNA & RNA for Downstream Applications – Produces purified DNA and RNA with higher yield and suitable purity for applications such as qPCR and other molecular techniques.

PERFORMANCE

Sample	Kit	DNA			RNA		
		Nano (ng/ µL)	A260/A280	A260/A230	Yield (µg)	A260/A280	A260/A230
2 mg Liver	MP	49.43	1.85	2.25	208.90	1.08	2.00
		57.75	1.90	2.26	239.70	2.06	1.94
	Competitor M	54.50	1.79	0.55	176.30	2.09	2.12
		64.96	1.93	2.00	133.2	2.08	2.06
2 mg Kidney	MP	62.14	1.90	2.30	203.70	2.00	2.13
		52.14	1.88	2.03	234.7	1.99	2.10
	Competitor M	78.35	1.92	1.90	62.95	2.07	2.17
		77.69	1.90	1.69	88.62	2.07	2.11
2 mg Lung	MP	88.12	1.90	2.35	106.3	1.99	2.18
		55.30	1.89	1.92	58.41	1.99	2.09
	Competitor M	44.17	1.91	1.97	8.28	1.70	1.32
		58.56	1.93	2.00	10.37	1.81	1.68
2mg Muscle	MP	12.32	1.84	1.40	31.57	2.06	1.80
		11.67	1.87	1.05	29.37	2.08	1.74
	Competitor M	13.85	1.93	1.56	5.30	1.73	1.20
		18.62	1.81	0.63	8.37	1.84	1.34
2mg Fat	MP	11.51	1.81	1.11	29.82	2.04	1.92
		9.07	1.83	1.92	27.09	2.08	1.92
	Competitor M	22.95	1.87	1.32	19.13	1.89	1.25
		15.04	1.88	1.52	13.46	1.98	1.68

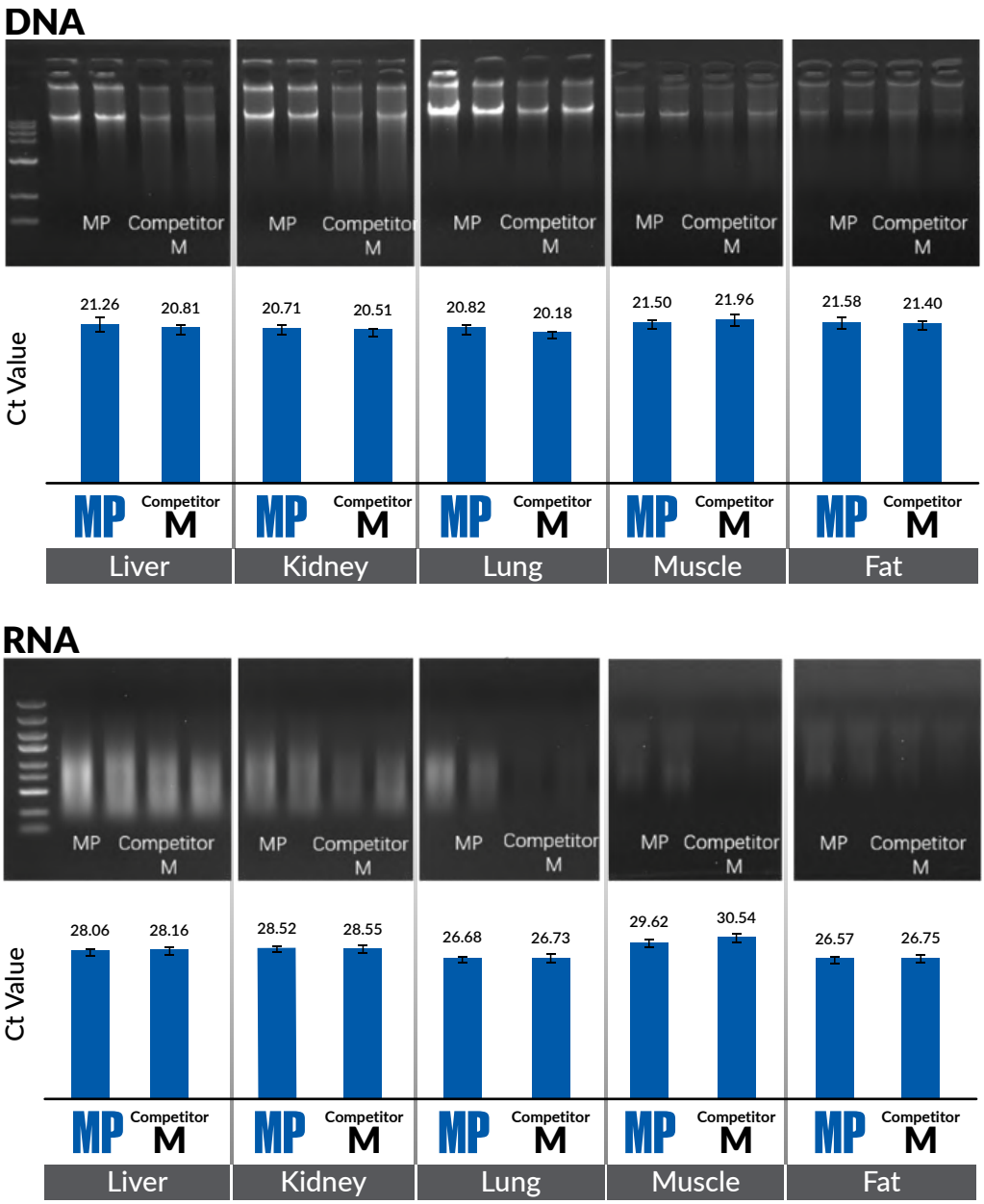


Figure 1: *The MagBeads FastDNA/RNA Kit for FFPE delivers high DNA & RNA yield and purity from various samples, with clear gel electrophoresis results and comparable qPCR Ct values, demonstrating reliable DNA & RNA recovery suitable for downstream molecular applications.*

ORDER INFORMATION

Description	Size	Catalogue Number
MagBeads FastDNA/RNA Kit for FFPE	50 Preps	116769050
MagBeads FastDNA/RNA Kit for FFPE (Ready-to-Use for MPure-32)	96 Preps	117041500
MagBeads FastDNA/RNA Kit for FFPE (Ready-to-Use for MPure-96)	96 Preps	117041600
MagBeads FastDNA/RNA Kit for FFPE (Ready-to-Use for MagFlex-96)	96 Preps	119624096

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.

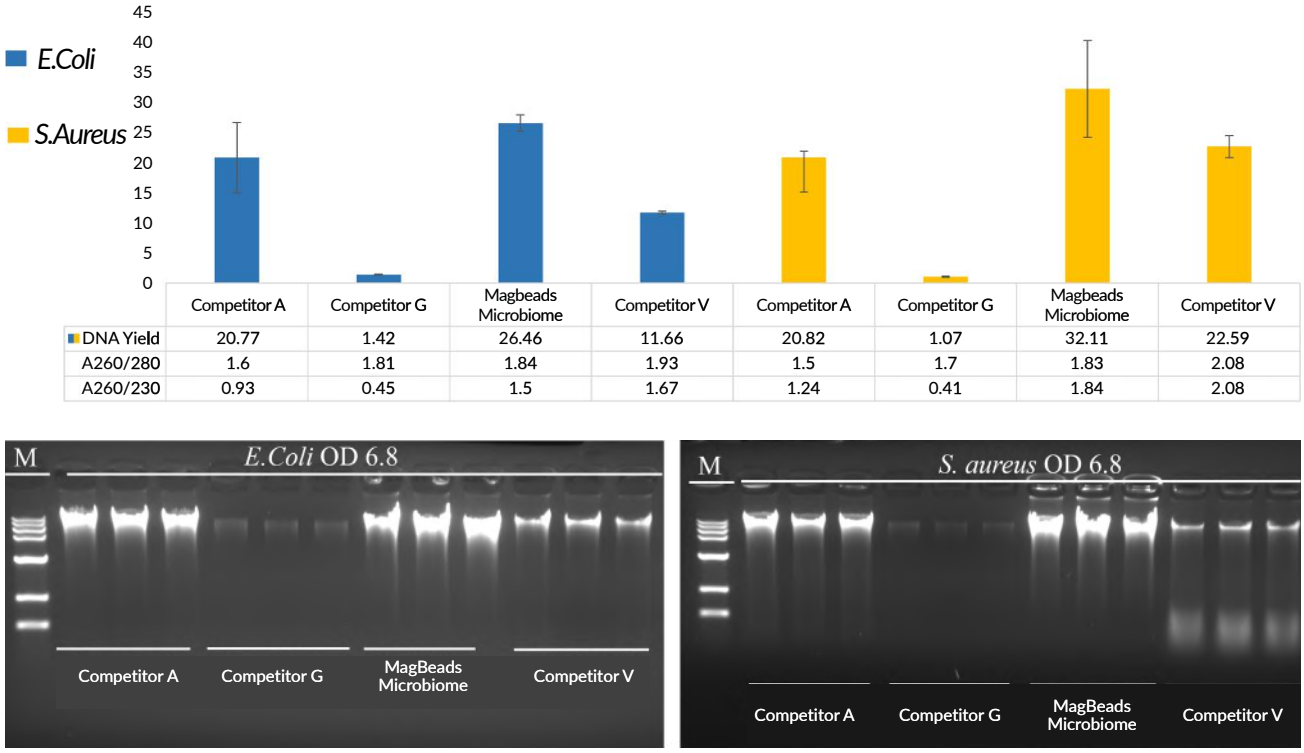
The resulting gDNA is of high purity and suitable for numerous downstream molecular applications, such as Polymerase Chain Reaction (PCR), Quantitative Real-Time PCR (qRT-PCR), and metagenomic library construction, facilitating comprehensive genomic analyses.

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

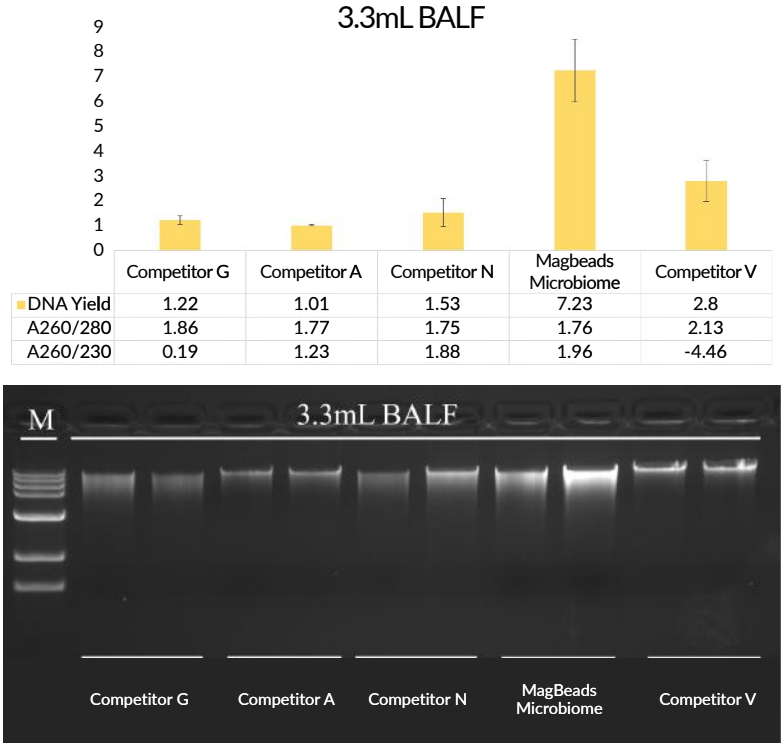
Microbial culture samples



	Competitor A	Competitor G	Magbeads Microbiome	Competitor V	Competitor A	Competitor G	Magbeads Microbiome	Competitor V
DNA Yield	20.77	1.42	26.46	11.66	20.82	1.07	32.11	22.59
A260/280	1.6	1.81	1.84	1.93	1.5	1.7	1.83	2.08
A260/230	0.93	0.45	1.5	1.67	1.24	0.41	1.84	2.08

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 (~10^9 cfu) using MagBeads FastDNA Kit for Microbiome and competitors kits. Bacteria strains: Escherichia coli (Blue), Staphylococcus aureus (Yellow); M: DNA marker, 15 kbp.*

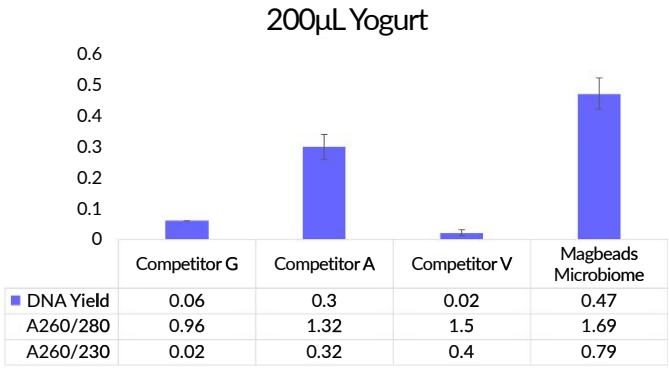
Bronchoalveolar lavage fluid (BALF)



	Competitor G	Competitor A	Competitor N	Magbeads Microbiome	Competitor V
DNA Yield	1.22	1.01	1.53	7.23	2.8
A260/280	1.86	1.77	1.75	1.76	2.13
A260/230	0.19	1.23	1.88	1.96	-4.46

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



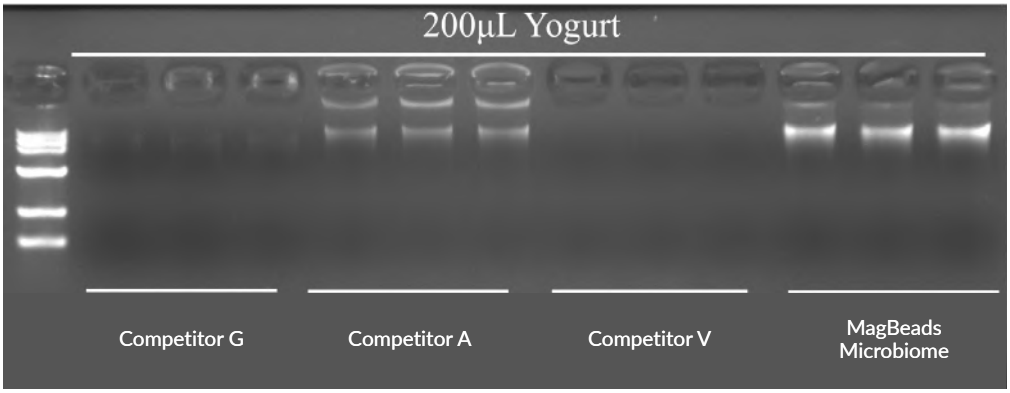


Figure 3: *MagBeads FastDNA Kit for Microbiome gave high DNA yield and purity for 200 µL yogurt. DNA marker: 15 kbp.*

DNA qPCR

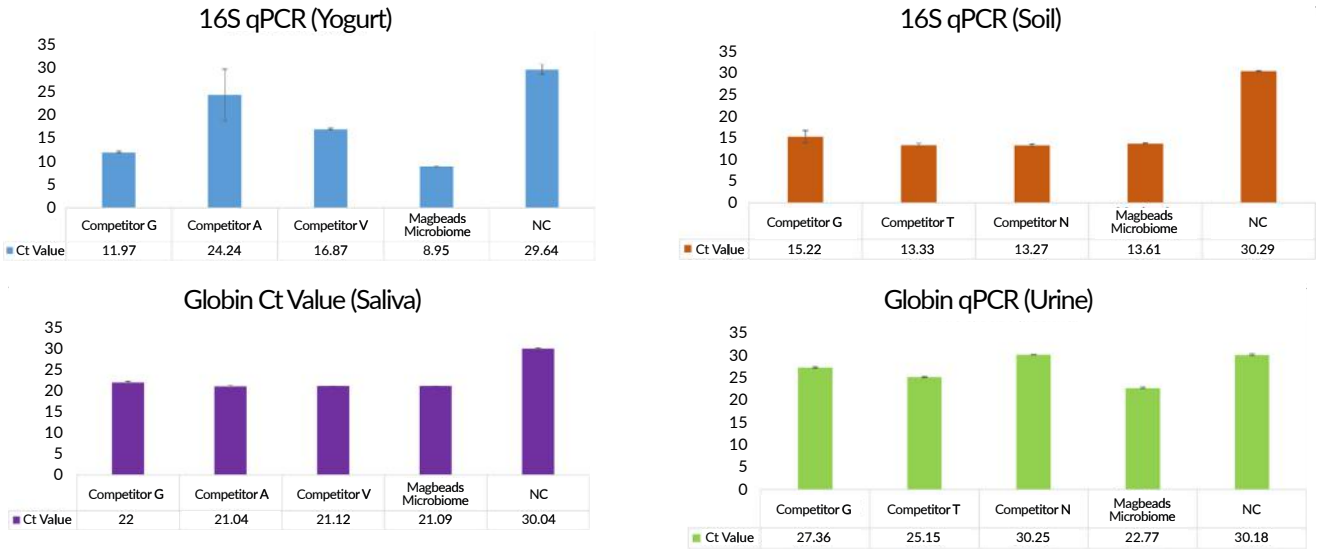
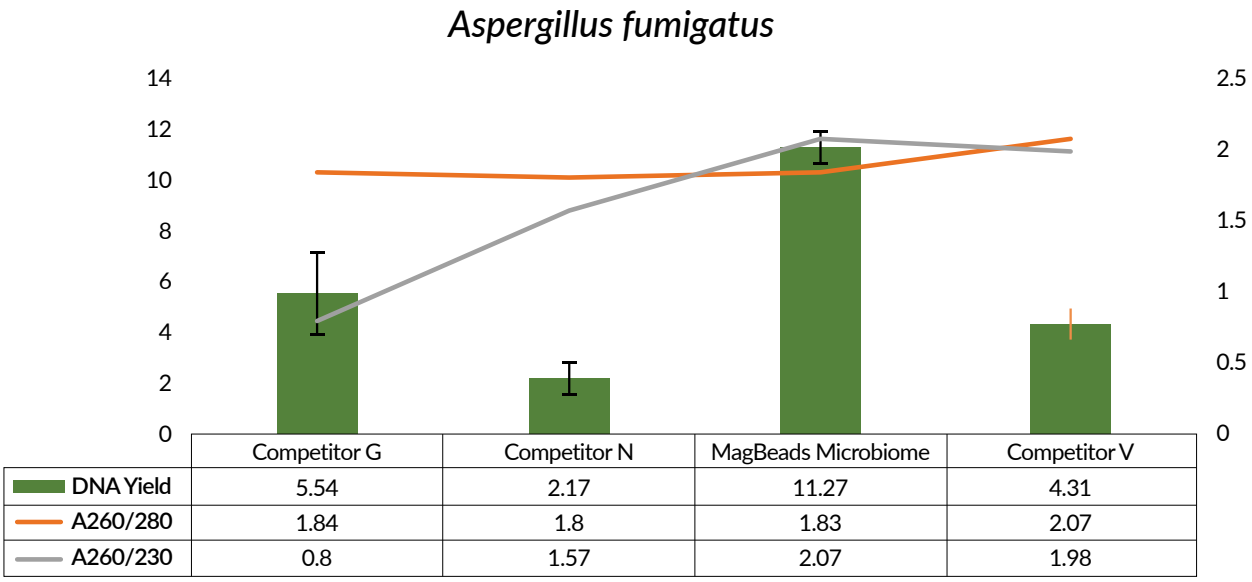
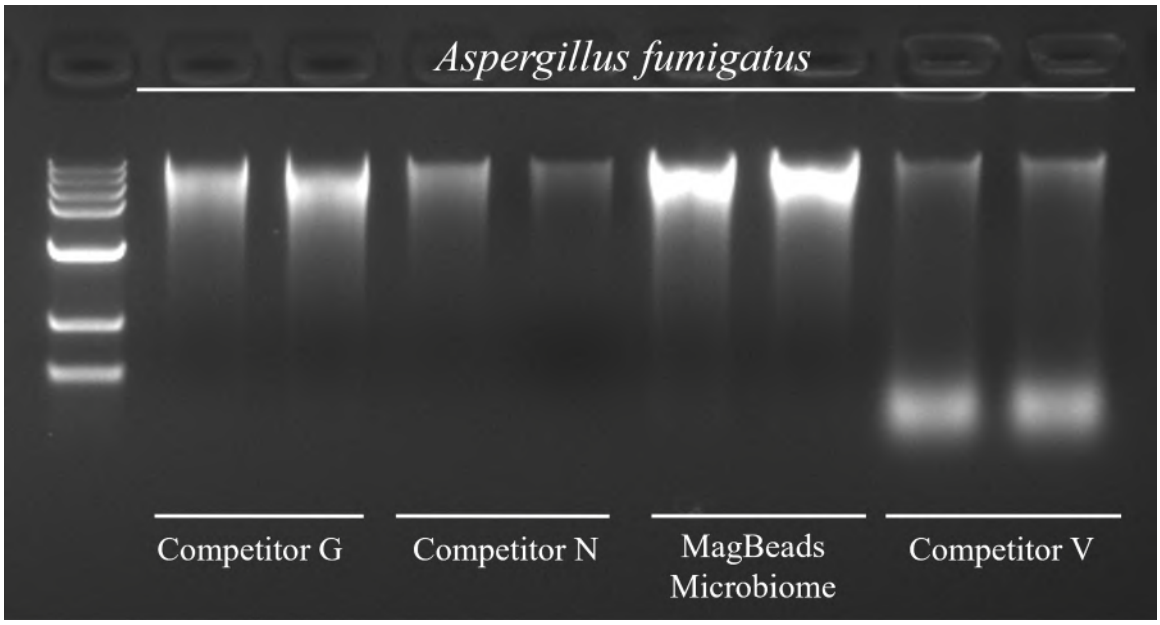


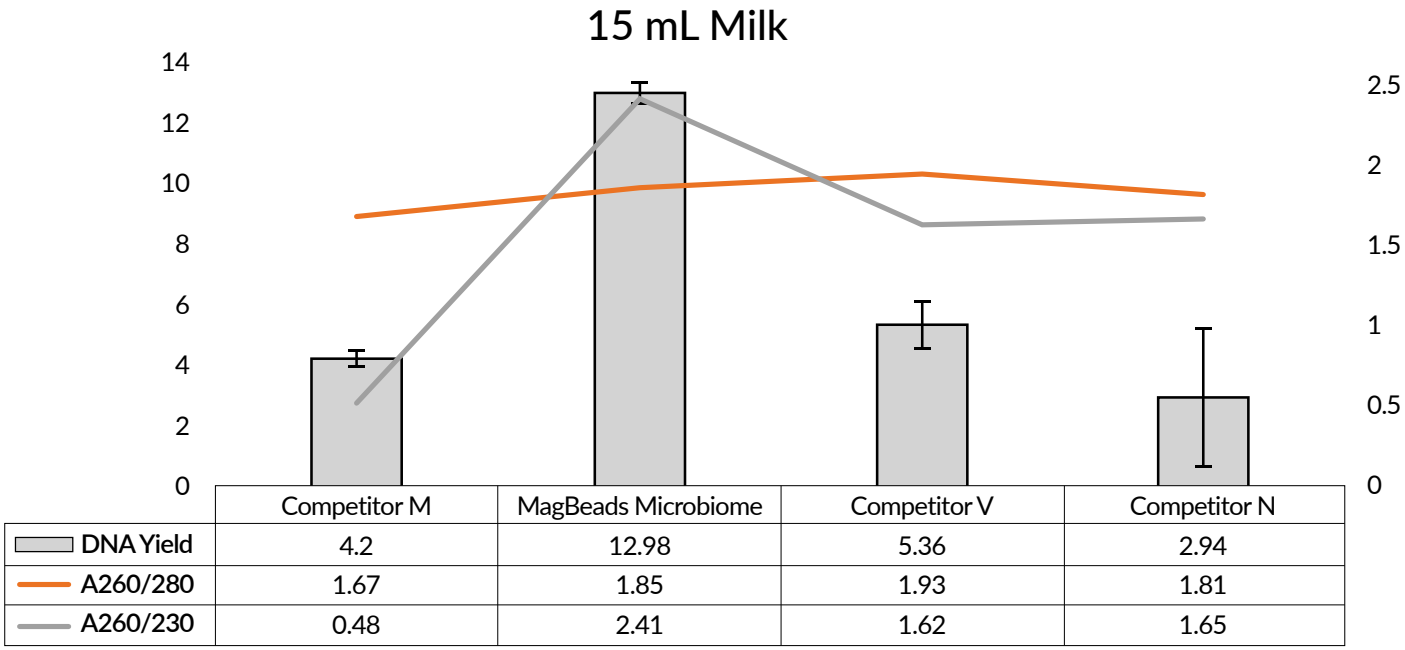
Figure 4: *Comparison of threshold cycles (Ct) in qPCR amplification using equal quantities of gDNA (30 ng) isolated from yogurt, soil, saliva, and urine with the MagBeads FastDNA Kit for Microbiome and competitor kits. Targets were amplified using SYBR green technology with primers for 16S rRNA (197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

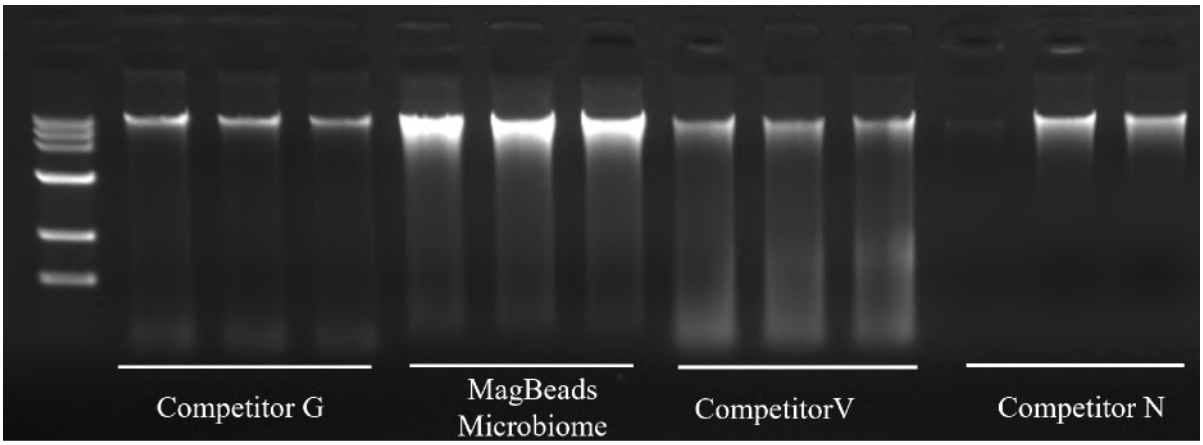
MagBeads FastDNA Kit for Microbiome
(Ready-to-Use for MagFlex-96™)





Comparison of genomic DNA extraction from two different microbial strains (~10^7 CFU) using the MagBeads FastDNA Kit for Microbiome and competitor kits. The MagBeads FastDNA Kit for Microbiome produced higher DNA yield (µg). M: DNA marker, 15 kb.





DNA extraction was performed using 15 mL of milk. The MagBeads FastDNA Kit for Microbiome produced the highest DNA yield and purity compared to competitor kits tested. M: DNA marker, 15 kb.

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 for Microbiome (Ready-to-Use for MagFlex-96)	96 Preps	119613096

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/µL)	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	7×10^5	59.95	1.89	2.30
4	Whole Blood	200 µL	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 µL	6.96	1.49	1.05
13	Saliva	300 µL	40.54	1.80	1.73
14	FFPE	5 mg	45.14	1.80	1.69
15	Semen	100 uL	76.91	1.87	2.31
16	Seminal Spots	3 pieces	5.12	1.88	2.06

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

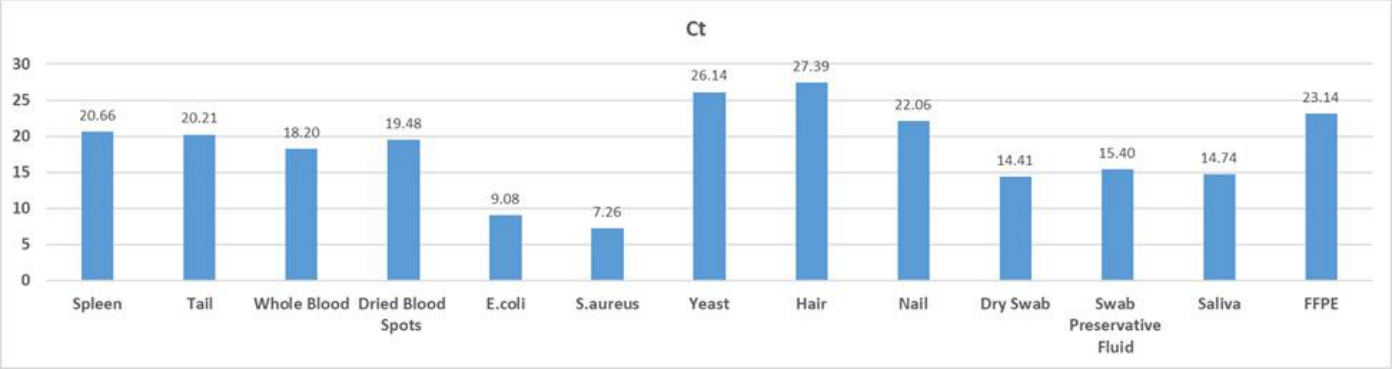
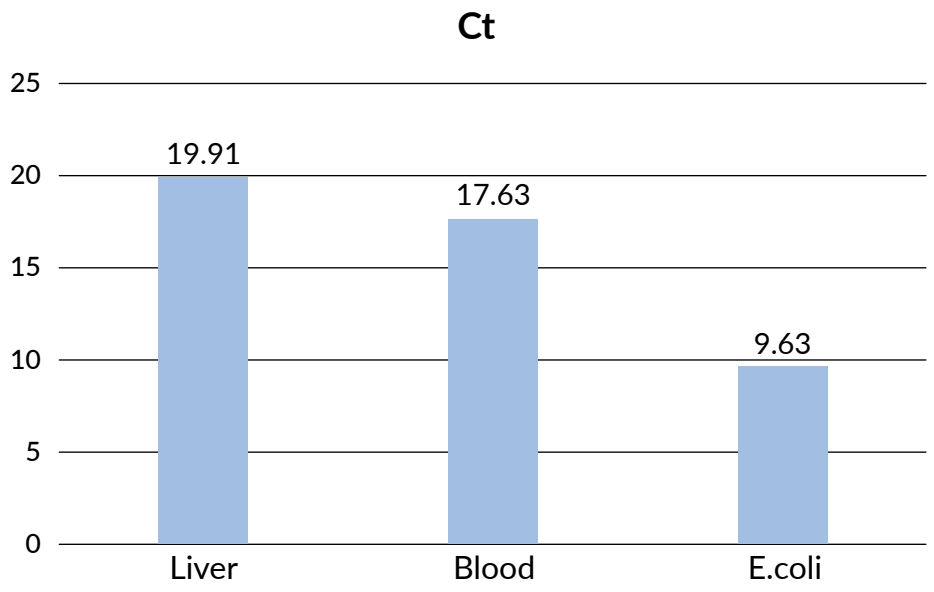


Figure 1: *qPCR ct values of 100 ng DNA extracted from various types of samples using MagBeads FastDNA Kit*

MagBeads FastDNA Kit
(Ready-to-Use for MagFlex-96™)

	Sample	Amount	DNA Concentration (ng/µL)	A260/280	A260/230
1	Liver	5 mg	107.42	1.84	1.88
2	Whole Blood	200 µL	59.24	1.85	2.04
3	E.coli	1 mL	263.04	1.86	1.63

Concentration (ng/µL) and purity results of extracted DNA from various sample types using the MagBeads FastDNA Kit.



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 FastDNA Kit (Ready-to-Use for MagFlex-96)	96 Preps	119612096

MAGBEADS FASTRNA KIT

MagBeads FastRNA Kit has been rigorously tested for its performance. RNA was extracted from various samples. The kit consistently produced high RNA yields with minimal gDNA contamination along with optimal A260/A280 and A260/A230 ratios. This demonstrates the high extraction performance across a wide range of samples.

FEATURES

- Broad compatibility with animal and plant tissues, cells, microorganisms, whole blood, and TRIzol pretreated samples
- Fast RNA extraction completed in approximately 40 minutes
- High-quality RNA with high yield, good purity, and minimal genomic DNA contamination
- Flexible processing with both manual and automated extraction workflows

PERFORMANCE

Manual Kit Extraction

Sample Type	Yield (µg)	A260/A280	A260/A230
3 mg kidney	15.04	2.08	1.43
20 mg fat	7.68	2.07	1.28
20 mg muscle	14.76	2.09	1.82
50 mg eggplant leaves	12.52	2.04	1.54
50 mg pepper leaves	17.68	2.10	1.92
2 rice seeds	4.67	2.23	3.08
200 µL whole blood	4.40	2.08	4.29

Sample Type	Yield (µg)	A260/A280	A260/A230
1 x 10^9 *E. coli*	34.28	2.11	2.15
1 x 10^9 *S. aureus*	13.83	2.13	2.16
1 x 10^7 Yeast	11.61	2.18	2.03
4 x 10^5 Cells	6.26	2.20	1.61

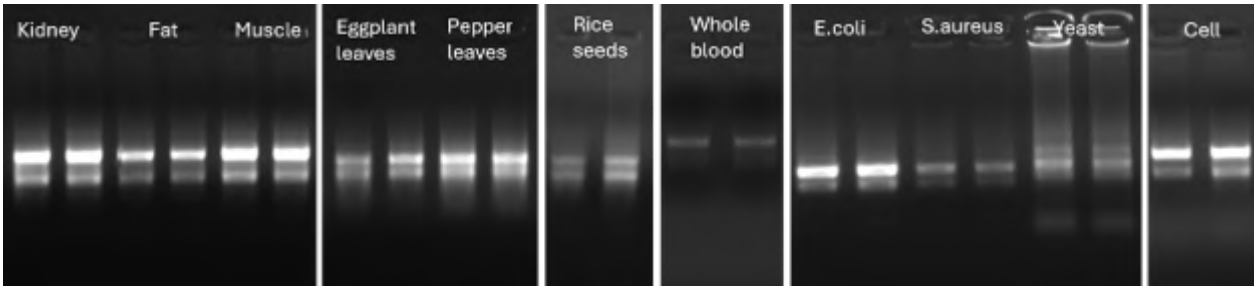


Figure 1. Representative agarose gel analysis showing successful isolation of high-quality RNA from a diverse range of biological samples using the MagBeads FastRNA Kit.

RNA Yield Using aNAP Systems with Prefilled Kits

Sample Type	Yield (µg)		
	MPure-32	MPure-96	MagFlex-96
5 mg liver	54.96	50.81	41.65
50 mg pothos leaves	5.49	2.96	3.62
200 µL whole blood	1.63	1.18	1.50
4 x 10^5 Cells	4.82	5.27	6.12
1 x 10^9 *S. aureus*	11.02	7.27	97.00

RNA Purity Using aNAP Systems with Prefilled Kits

Sample Type	A260/A280			A260/A230		
	MPure-32	MPure-96	MagFlex-96	MPure-32	MPure-96	MagFlex-96
5 mg liver	2.08	2.09	2.09	1.95	2.05	2.12
50 mg pothos leaves	1.73	1.88	1.73	1.79	1.76	1.54
200 µL whole blood	2.18	2.08	1.97	3.48	3.52	3.27
4 x 10^5 Cells	2.04	2.05	2.04	3.14	3.82	3.51
1 x 10^9 *S. aureus*	2.09	1.99	2.06	1.85	2.22	2.33

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 FastRNA Kit (Ready-to-Use for MagFlex-96)	96 preps	119620096

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.

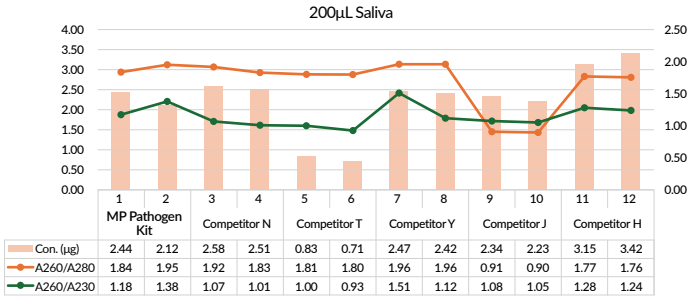
The nucleic acid isolated through this methodology is characterized by its high purity, making it suitable for a wide array of downstream molecular applications. It is particularly well-suited for applications such as PCR, RT-PCR, and the construction of metagenomic libraries.

FEATURES

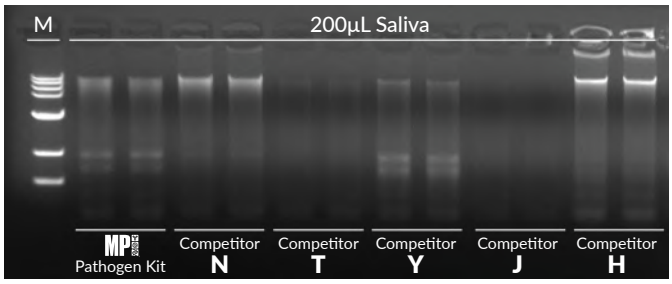
- Single liquid-transfer step reduces hands-on time, minimizes human error, and boosts sample throughput
- Effectively prevents exogenous nucleic acid contamination, guaranteeing accurate and reliable sample composition.
- Supports a wide range of downstream applications, including PCR, RT-PCR, and metagenomic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

PERFORMANCE

Saliva

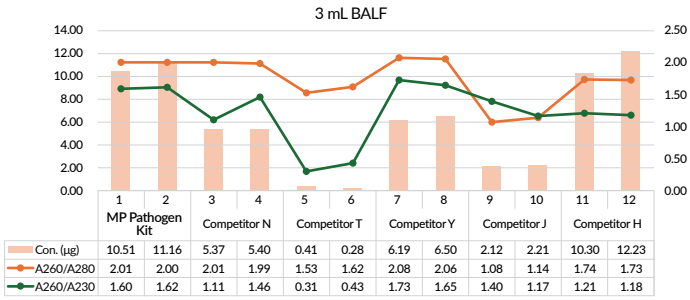


	1	2	3	4	5	6	7	8	9	10	11	12
	MP Pathogen Kit		Competitor N		Competitor T		Competitor Y		Competitor J		Competitor H	
Con. (µg)	2.44	2.12	2.58	2.51	0.83	0.71	2.47	2.42	2.34	2.23	3.15	3.42
A260/A280	1.84	1.95	1.92	1.83	1.81	1.80	1.96	1.96	0.91	0.90	1.77	1.76
A260/A230	1.18	1.38	1.07	1.01	1.00	0.93	1.51	1.12	1.08	1.05	1.28	1.24

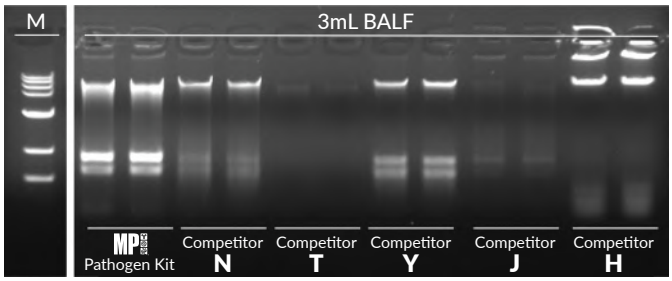


High-quality nucleic acids extracted from 200 µL saliva using the MagBeads FastDNA/RNA Kit for Pathogen. *The gel image demonstrates a proper DNA-to-RNA ratio, with intact electrophoretic bands and no detectable degradation, confirming the kit's superior nucleic acid integrity. (M: 15 kbp DNA marker).*

Bronchoalveolar lavage fluid (BALF)

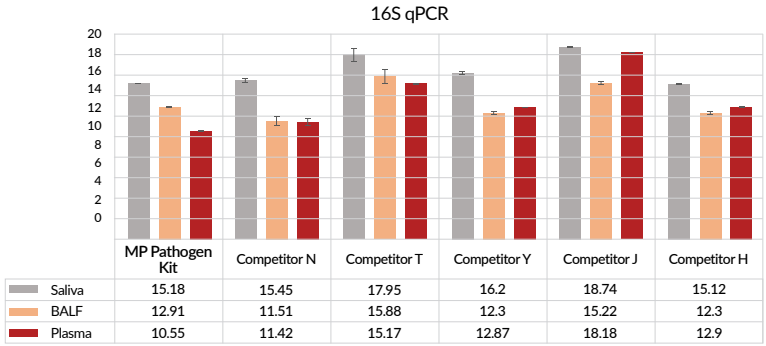


	1	2	3	4	5	6	7	8	9	10	11	12
	MP Pathogen Kit		Competitor N		Competitor T		Competitor Y		Competitor J		Competitor H	
Con. (µg)	10.51	11.16	5.37	5.40	0.41	0.28	6.19	6.50	2.12	2.21	10.30	12.23
A260/A280	2.01	2.00	2.01	1.99	1.53	1.62	2.08	2.06	1.08	1.14	1.74	1.73
A260/A230	1.60	1.62	1.11	1.46	0.31	0.43	1.73	1.65	1.40	1.17	1.21	1.18



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



	MP Pathogen Kit	Competitor N	Competitor T	Competitor Y	Competitor J	Competitor H
Saliva	15.18	15.45	17.95	16.2	18.74	15.12
BALF	12.91	11.51	15.88	12.3	15.22	12.3
Plasma	10.55	11.42	15.17	12.87	18.18	12.9

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

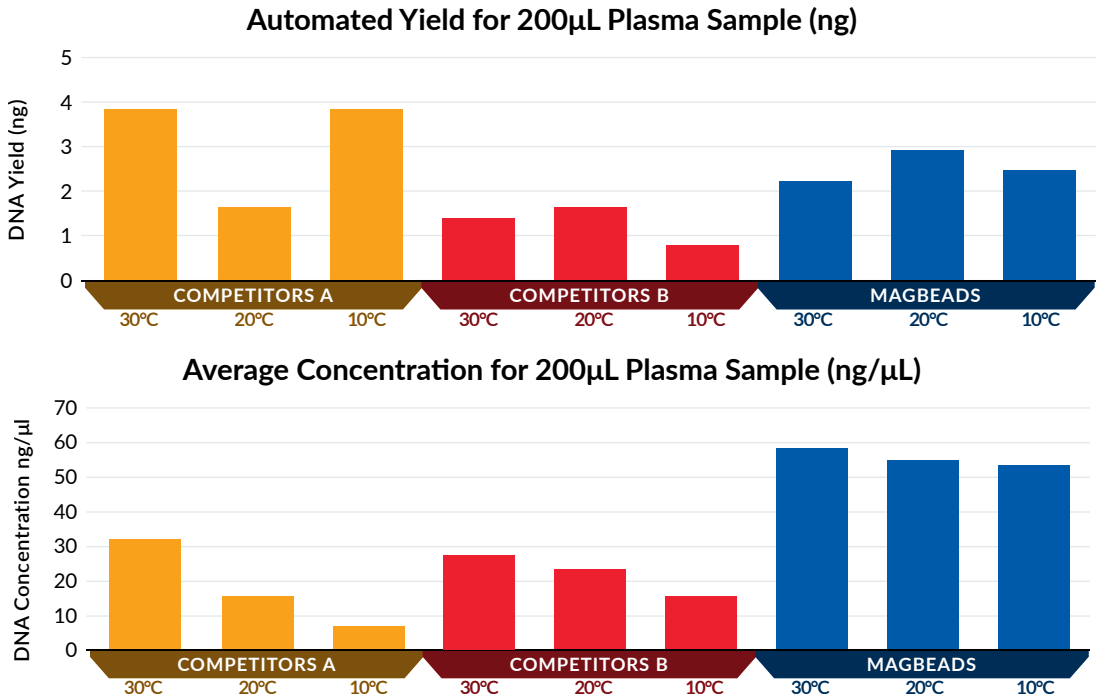
Circulating DNA or cfDNA are fragments of nucleic acids that flow into the bloodstream due to cell death. They typically carry important genetic information from the originated cells. Thus, making them invaluable resources to cancer diagnosis, liquid biopsy, patient organ health, and more. **MagBeads 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

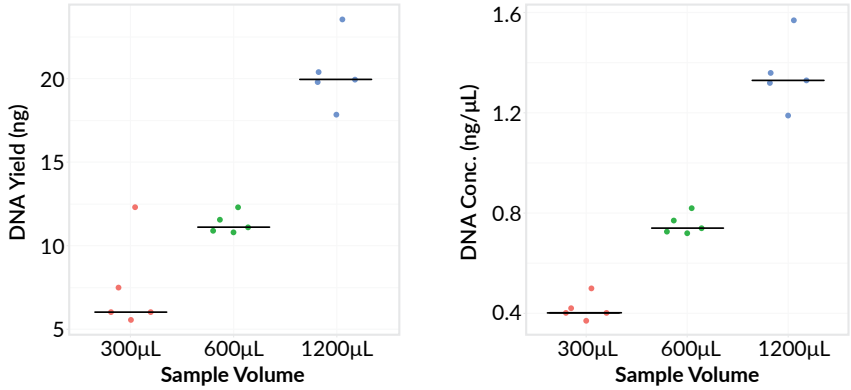
PERFORMANCE

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 aNAP system
- Safe - does not contain hazardous chemicals, e.g., phenol chloroform

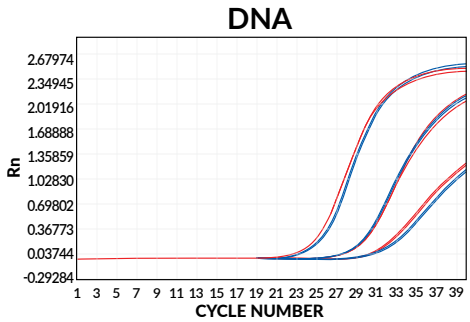
SAMPLE TYPES

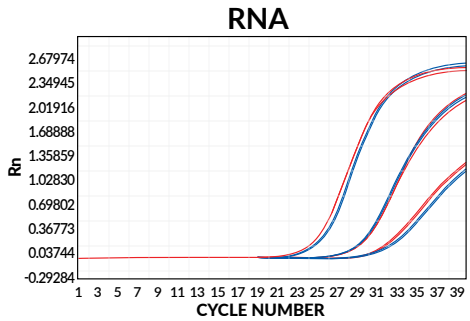
- Body fluids
- Serum/plasma
- Soaking solutions
- Tissue homogenate supernatant
- Culture supernatant

PERFORMANCE

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

Manual Extraction

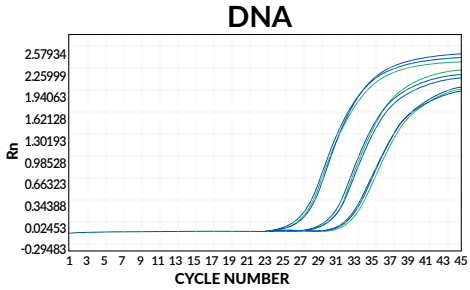


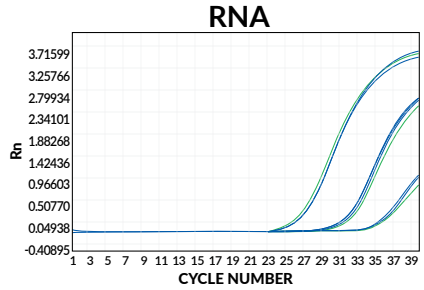


Samples	Ct of Viral DNA	Ct of Viral RNA
Competitor A (CE Certified) - 10^5	*26.10*	*23.67*
	26.60	*23.56*
Competitor A (CE Certified) - 10^4	*29.61*	*28.55*
	30.03	*28.61*
Competitor A (CE Certified) - 10^3	*32.94*	*31.04*
	32.75	*31.19*
MagBeads FastDNA/RNA Kit for Virus-10^5	*26.45*	*24.11*
	26.59	*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 FastDNA/RNA Kit for Virus (Ready-to-Use for MagFlex-96)	96 Preps	119616096

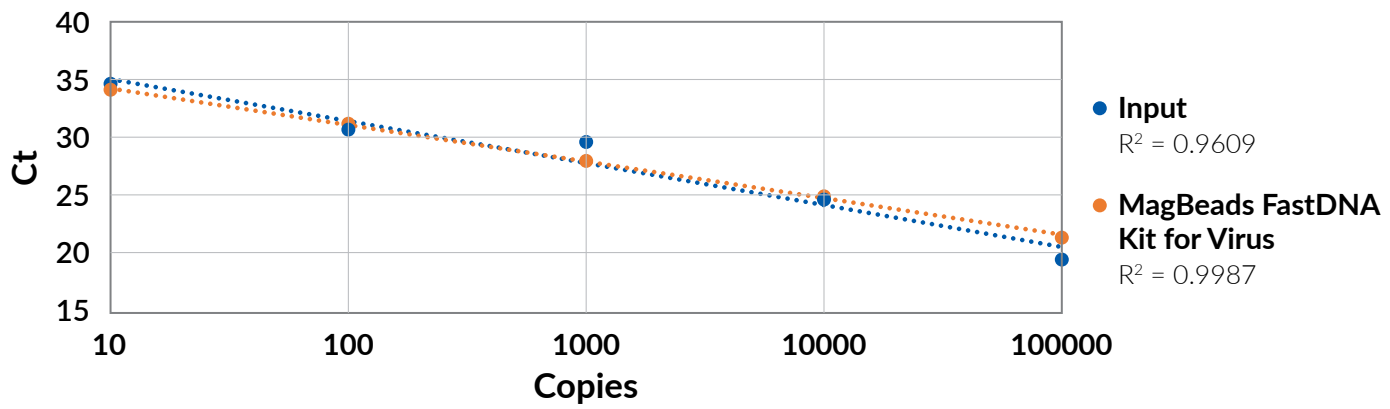
MAGBEADS FASTRNA KIT FOR VIRUS

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.

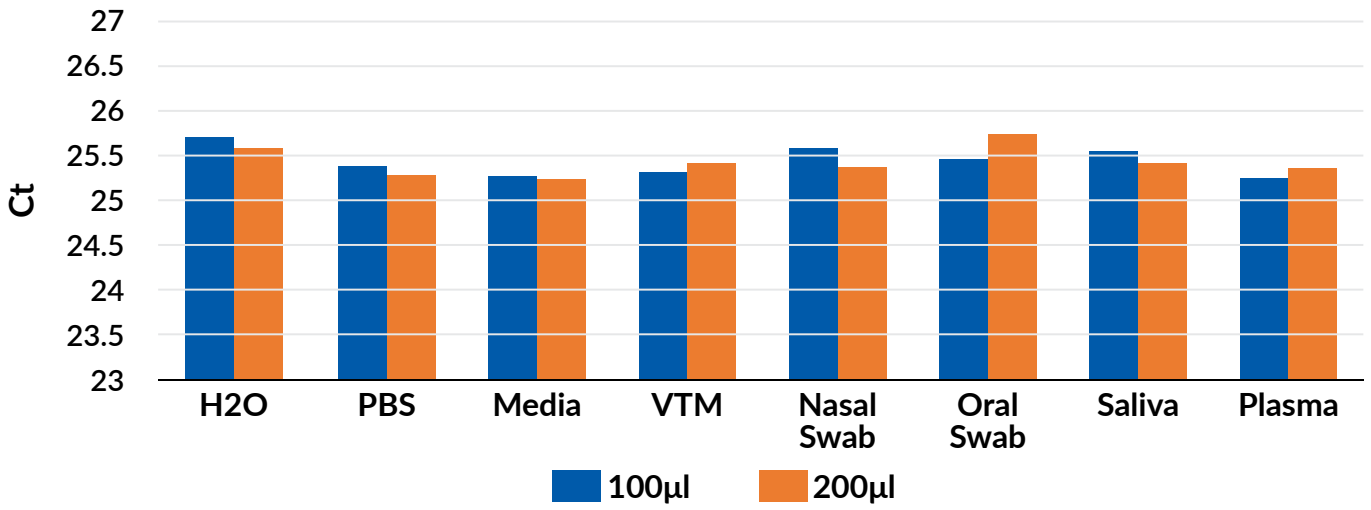
The **MagBeads FastRNA Kit for Virus** is specifically optimized for viral RNA extraction, providing high yield and purity. The extracted RNA can be directly used for downstream applications such as RT-PCR, qPCR, and sequencing; hence, enabling researchers to better understand viral infections and develop 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 µL or 200 µL 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

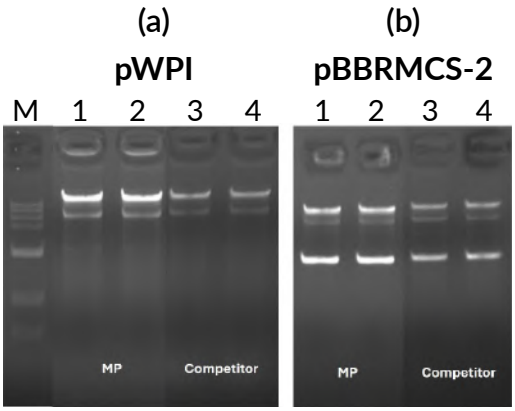
MAGBEADS PLASMID MINIPREP KIT

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

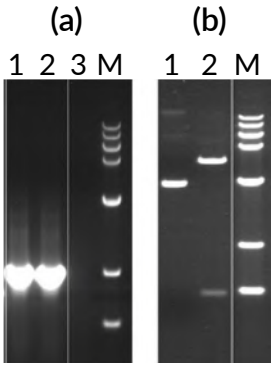


Lane M: *DNA marker.*

Lane 1-2: *Plasmid DNA extracted manually with the MagBeads Plasmid Miniprep Kit.*

Lane 3-4: *Plasmid DNA extracted manually with the Competitor O kit.*

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.*



Lane 1–2: *PCR products using manually extracted plasmid DNA as template.*

Lane 3: *Negative control (no template).*

Lane M: *DNA marker.*

Lane 1: *Uncut plasmid.*

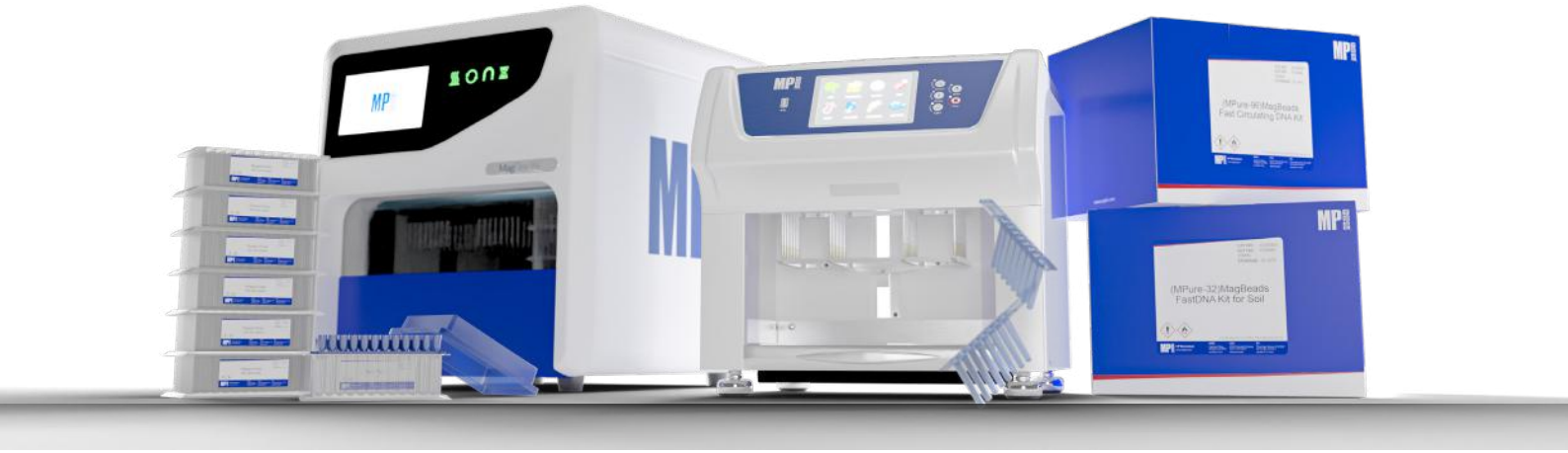
Lane 2: *Plasmid digested with EcoRI and NotI.*

Lane M: *DNA marker.*

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™ and MagFlex-96 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 MaxPure 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™ and MagFlex-96 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

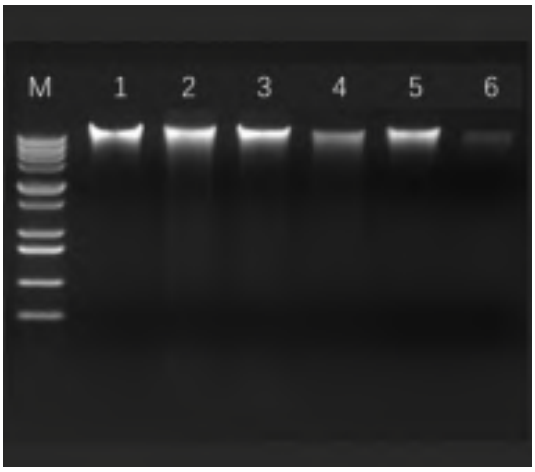
✓ **Safe and user-friendly**

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 and MagFlex-96** 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).



M: 1kb plus DNA ladder

Lane1: 30mg swine feces

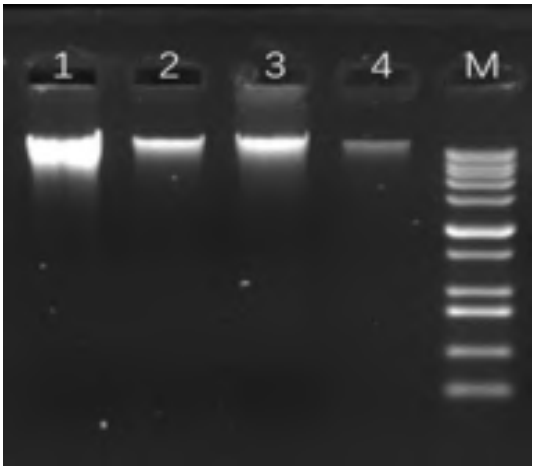
Lane2: 15mg mouse feces

Lane3: 30mg human feces

Lane4: 150mg chicken feces

Lane5: 150mg bovine feces

Lane6: 150mg elephant feces



M: 1kb plus DNA ladder

Lane1: Organic Soil 3µL

Lane2: Flowerbed Soil 8µL

Lane3: Saline Soil 8µL

Lane4: Desert Soil 8µL

SPECIFICATION

Model	MPure-32™	MagFlex-96™
Catalogue Number	EMC043 (CE version) EMC043D (RUO version)	EMC047 (CE version) 116013500 (RUO version)
Run Time	45 - 60 min	25 - 60 min
Max Throughput	32 samples	96 samples
Weight (NW)	21 kg	45 kg
Dimensions (WxDxH)	38 x 35 x 37 cm	49 x 51 x 48 cm
Power Supply	3.2A 100-240V	AC 100V - 240V
Processing Volume	50 µL - 1000 µL	30 µL - 1000 µL
Magnetic Rod	>4,300 gauss	-
Spin Speed	-	100 - 3,000 rpm
Temperature Control	1 set	Average Heating Rate: ≥1.5°C/s Temperature Uniformity: ≤3.0°C Temperature Accuracy: ±1.0°C
Heating Block	2 pcs	Columns 1, 6, 7, and 12
Heating	RT - 70°C	RT - 120°C
UV & HEPA	UV only	UV & HEPA available
Display	5.5' Touchscreen	7' Touchscreen
Application Video Scan the QR Code to watch how you can automate your workflow with our solutions	MPure-32	MagFlex-96

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

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