

SPINeasy[®] **Extraction/ Purification Kits**

MP BIOMEDICALS

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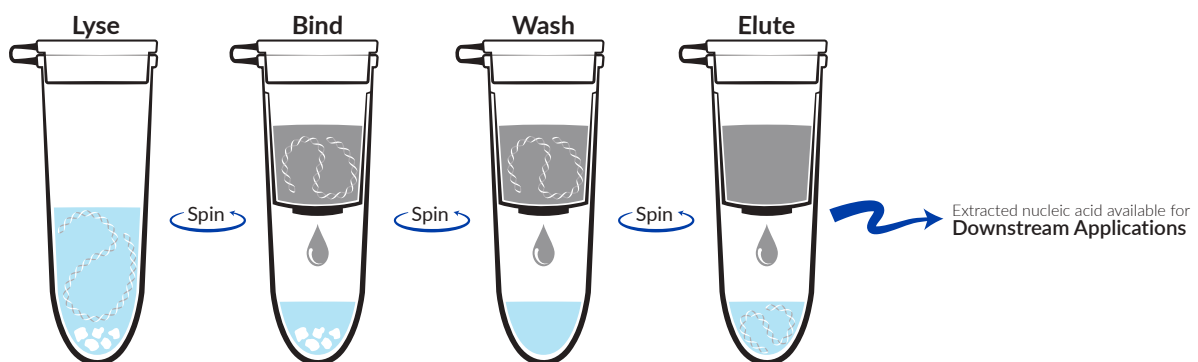
Premium SPINeasy[®] DNA/RNA Extraction/Purification Kits

SPINeasy[®] nucleic acid isolation kits are designed for simple, efficient, and rapid purification of DNA and RNA from wide range of samples. These kits utilize the silica-membrane technology in the form of spin column, eliminating the need for toxic phenol-chloroform extraction or time-consuming alcohol precipitation. Purified nucleic acid is ready to use for downstream applications.

Simple SPINeasy[®] protocol for spin-column based purification

Spin column purification utilize solid-phase extraction method to bind and isolate DNA /RNA within column which contain silica filter membrane. Sample is homogenized and/or lysed using the optimized lysis buffer. Lysate is then mixed with ethanol to precipitate the nucleic acid.

Once the lysate is passed through the silica membrane by centrifugation, the spin column membrane is then washed to remove the remaining protein and salts residual. The nucleic acid is then eluted and ready to use for various downstream applications.



SPINeasy[®] purification protocol. Four simple steps purification procedure to purify nucleic acid from sample using spin-column method.

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

SPINeasy[®]

Genomic DNA
Extraction Kit

Sample Selection Guide for SPINeasy®

Genomic DNA Extraction Kit

SPINeasy® Maxi Kit for Soil

- ✓ General Soil
- ✓ High Biomass Soil
- ✓ Low Biomass Soil

SPINeasy® Pro Kit for Soil

- ✓ Gram(-) Bacteria
- ✓ Gram (+) Bacteria
- ✓ Yeast
- ✓ Mammalian Whole Blood
- ✓ Fungi
- Saliva
- ✓ General Soil
- ✓ High Biomass Soil
- ✓ Low Biomass Soil
- ✓ Urine
- Seawater
- Fresh Water
- Wastewater
- Pond Water
- River Water

SPINeasy® DNA Kit for Tissue

- ✓ Animal Tissue
- ✓ Fixed Tissue
- ✓ Rodent Tails

SPINeasy® DNA Kit for Plant

- ✓ Lichen
- ✓ Plant Cells
- ✓ Plant Tissue
- ✓ Rice

SPINeasy® DNA Kit for Microbiome

- ✓ Body Fluids
- ✓ Buccal Swab
- ✓ Saliva
- ✓ Gram(-) Bacteria
- ✓ Gram (+) Bacteria
- ✓ Yeast
- ✓ Mammalian Whole Blood
- ✓ Plasma
- ✓ Serum
- ✓ Fungi
- ✓ Saliva
- ✓ General Soil
- ✓ Urine
- Seawater
- Fresh Water
- Wastewater
- Pond Water
- River Water
- ✓ Milk
- ✓ Vinasse

SPINeasy® DNA Kit for Saliva

- ✓ Body Fluids
- ✓ Saliva

SPINeasy® DNA Kit for Blood

- Cultured Cells
- ✓ Mammalian Whole Blood
- ✓ Plasma
- ✓ Serum
- Urine

SPINeasy® DNA Kit for Water

- ✓ Seawater
- ✓ Fresh Water
- ✓ Wastewater
- ✓ Pond Water
- ✓ River Water

SPINeasy® Host Depletion Microbial DNA Kit

- ✓ Body Fluids
- ✓ Buccal Swab
- ✓ Saliva

SPINeasy® DNA Pro Kit for Feces

- ✓ Stool Sample

SPINeasy® DNA Kit for Yeast

- ✓ Yeast

✓ Recommended

○ Recommended with Additional Optimization Step



SPINEASY® DNA KIT FOR PLANT

The SPINEasy® DNA Kit for Plant is designed to isolate high quality genomic DNA from a variety of plant samples including leaves, stems, buds, fruits, seeds, etc. The samples are lysed with beads beating method which is rapid and efficient.

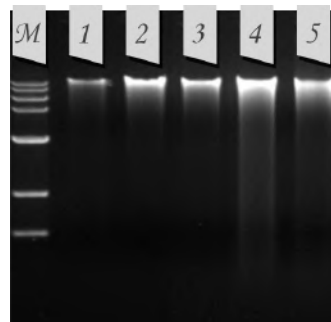
The superior technology can remove polysaccharides, lipids and polyphenols from the DNA, which is then ready for enzyme digestion, electrophoresis, PCR and any other desired application.



Features

- Isolate genomic DNA from various plant samples
- Comes with **Lysing Matrix A** tubes for thorough sample lysis
- Superior inhibitor removal
- **High concentrations** of pure gDNA which is suitable for downstream applications
- No hazardous chemicals, no ethanol precipitation

Extraction Results



M: DNA ladder
1: Green Leaf
2: Tomato Leaf
3: Tobacco Leaf
4: Corn Leaf
5: Corn Seed

MP Biomedicals SPINEasy® DNA Kit for Plant isolated genomic DNA with high yield and purity, as shown by the intact bands on gel electrophoresis

Product Information

Description	Size	Cat.No.
SPINEasy® DNA Kit for Plant	50 preps	116535050
	5 preps	116535005



SPINEASY® DNA KIT FOR BLOOD

SPINEasy® DNA Kit for Blood is a high-performance genomic DNA (gDNA) extraction kit which is based on silica-membrane spin-column technology.

This kit enables quick isolation of gDNA from whole blood preserved in different anticoagulants (EDTA, Heparin, and sodium citrate), typically in less than 30 minutes. It also allows easy gDNA isolation from other samples, including plasma, serum, saliva, and cell culture medium. The use of our specially formulated Lysis Buffer BL omits the need of homogenization and enables efficient lysis of various samples.



Features

- Rapid and efficient DNA isolation in **less than 30 minutes**
- **Fresh, frozen, or anticoagulated blood**
- Simple and effective lysis protocol using **Lysis Buffer BL** and Proteinase K to omit the need of any mechanical lysis
- No organic extraction
- **High purity DNA ready to be used** for downstream application

Performance

SPINeasy® DNA Kit for Blood has been tested on various sample types for its performance. The following data demonstrate the gDNA yields obtained from various sample sources. Results showed that all extracted gDNA are of high yield and purity (Table and Figure below) which is suitable for downstream PCR amplification.

Samples	Sample Volume	Yield (ng/μL sample)	A (260/280)	A (260/230)
Human Blood (EDTA)	200 μL	28.38	1.87	2.32
Human Blood (Heparin)	200 μL	29.78	1.93	2.49
Human Blood (Citrate)	200 μL	16.16	1.90	2.54
Blood Clot*	0.15 g	43.64	1.90	2.18
Saliva**	200 μL	16.48	1.93	3.62
Cell Culture Media	200 μL	32.83	1.87	2.86

Quality and quantity of gDNA extracted from various sample types using SPINeasy® DNA kit for Blood.

*Sample processed using homogenization method via Fastprep-24™ 5G with lysing matrix.

**Sample preserved in preservation buffer (SPS, provided in SPINeasy DNA Kit for Saliva).

Extraction Results



gDNA extracted from various sample using SPINeasy® DNA Kit for Blood. The purified DNA was analyzed on 1% agarose gel electrophoresis.

Product Information

Description	Size	Cat.No.
SPINeasy® DNA Kit for Blood	50 preps	116552050
	5 preps	116552000



SPINEASY® DNA PRO KIT FOR SOIL

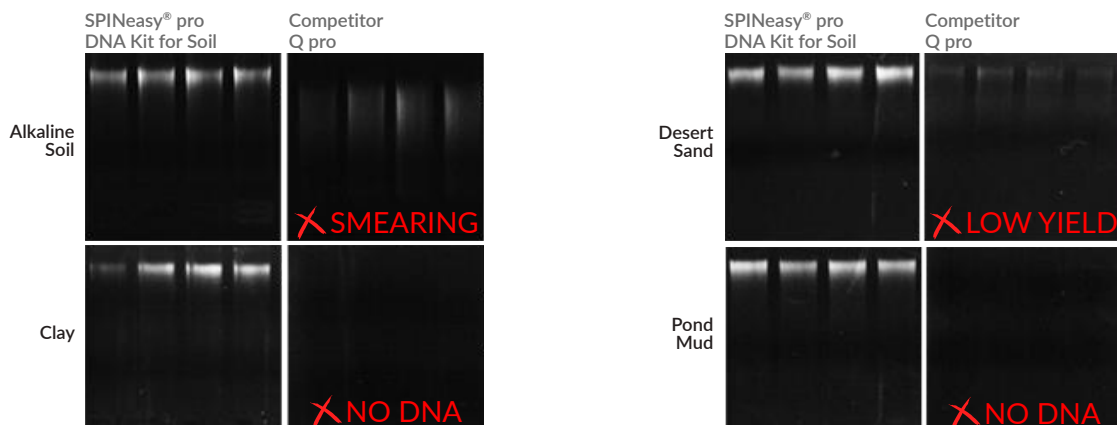
Soil samples are complex environments characterized by the presence of inhibitory compounds, such as humic acid, heavy metals, and other aromatic components which may prove to be challenging for downstream analyses. The SPINEasy® DNA Pro Kit for Soil has been carefully designed for the isolation of pure microbiome genomic DNA from challenging soil types including those with low biomass or those highly contaminated. The SPINEasy® DNA Pro Kit for Soil effectively lyses various microbiome population, including bacteria, fungi, viruses, and protists. The kit provides similar yields to that of our highly cited FastDNA™ SPIN Kit, but with improved purity and reduced processing time. Isolated DNA products showed no inhibition in PCR and were immediately ready to be used in downstream applications, including long fragment PCR, qPCR, and next-generation sequencing (16S and whole genome) without the need of further inhibitor removal step.



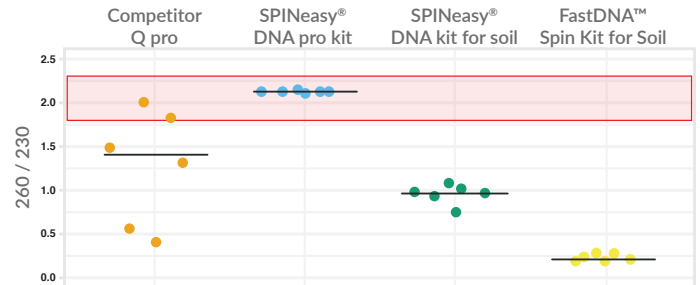
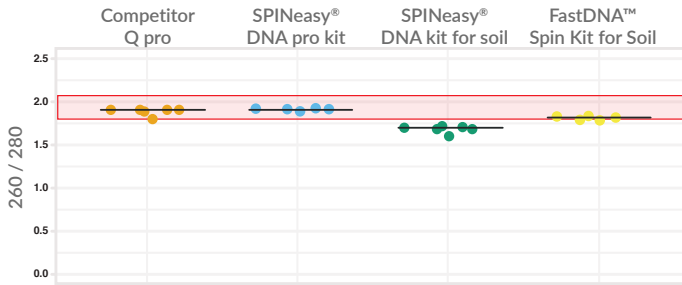
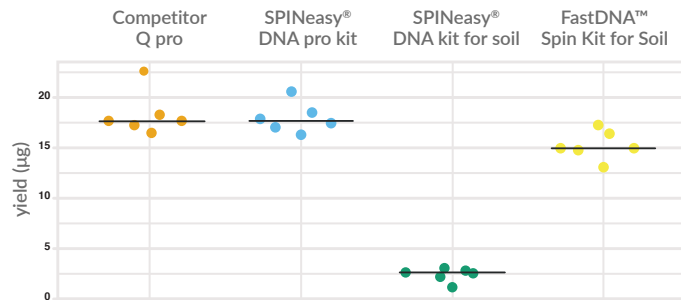
Features

- Effective isolation of high quality genomic DNA from high biomass and **low biomass sample**
- **Unbiased** alpha diversity results
- **Higher purity** and shorter processing time
- Compatible with **vacuum manifold**

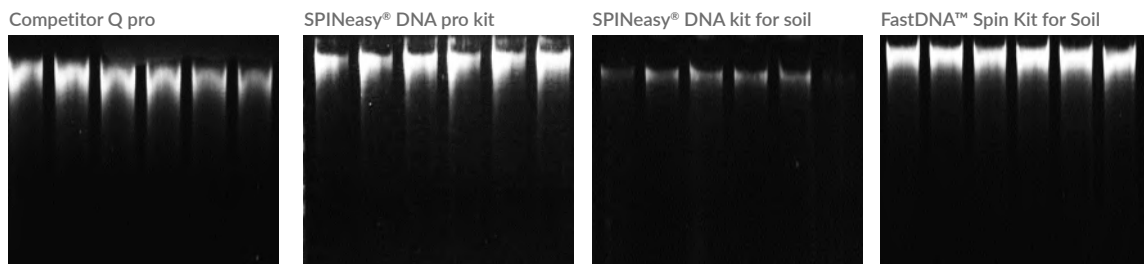
Extraction Performance



DNA extraction performed on 250 mg of low biomass soil samples using SPINEasy® DNA Pro kit and competitor Q Pro kit following manufacturer instruction.



Integrity



The SPINeasy® DNA pro kit demonstrated superior yield, purity and integrity compared to other extraction kits.

High biomass soil sample was processed using SPINeasy® DNA Pro Kit and other extraction kits. The extraction performance was evaluated using a spectrophotometer and summarized with a dot plot with each dot representing a single extraction, or agarose gel to assess the DNA integrity.

Product Information

Description	Size	Cat.No.
SPINeasy® DNA Pro Kit for Soil	50 preps	116546050
	5 preps	116546000



SPINEASY® DNA MAXI KIT FOR SOIL

Soil analysis can be a challenging task due to the complex environment of soil samples, which often contain high microbial load and inhibitory compounds such as humic acid, heavy metals, and aromatic components. However, with the **SPINEasy® DNA Maxi Kit for Soil**, DNA extraction from soil samples is now faster and more convenient than ever before.

SPINEasy® DNA Maxi Kit for Soil has been optimized to efficiently extract pure microbial DNA from large amounts of soil, making it compatible with all types of soil samples. Whether you are working with compost (up to 10 g) or sand (up to 20 g), our kit is designed to effectively lyse a variety of microbiome populations including bacteria, fungi, viruses, and protists, resulting in higher purity and reduced processing time.

With the SPINEasy® DNA Maxi Kit for Soil, there is no need for further inhibitor removal steps. The isolated DNA is fully compatible with downstream PCR and NGS applications, including 16S and whole genome sequencing.

Try SPINEasy® DNA Maxi Kit for Soil today and experience fast, convenient, and efficient DNA extraction from soil samples. This kit provides the perfect solution for researchers studying soil microbial communities and environmental DNA.



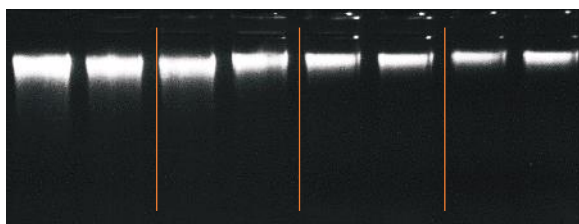
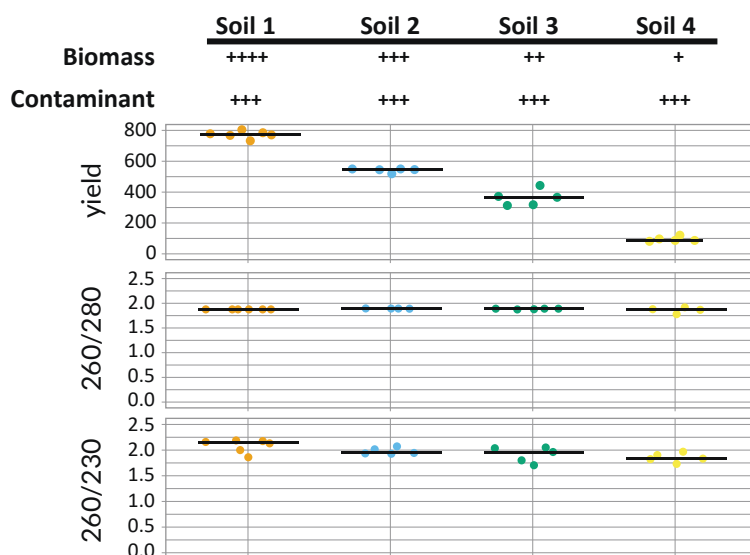
Features

- BigPrep Lysing Matrix YB allows for **mass sample processing**
- Process up to **20 g of soil samples**
- **Flexibility to use** either Centrifugation or Vacuum Manifold protocol for **faster processing**
- **Optimized** for both high- and low-biomass samples

Performance

The performance of SPINeasy® DNA Maxi Kit for Soil has been extensively validated across a diverse range of soil types and starting sample amounts. This kit consistently produces high-quality DNA with optimal A260/280 and A260/230 ratios, ensuring accurate downstream analysis. Furthermore, the exceptional reproducibility is evidenced by similar yields obtained when using the same amount of starting sample in repeat experiments.

Isolation from various soils



The SPINeasy® DNA Maxi Kit for Soil extracts genomic DNA from a wide range of soils irrespective of its microbial load or contamination level. It delivers up to 800µg of DNA from 10g of soil with an optimal purity.

Product Information

Description	Size	Cat.No.
SPINeasy® DNA Maxi Kit for Soil	10 preps	116549010



SPINEASY® DNA KIT FOR WATER

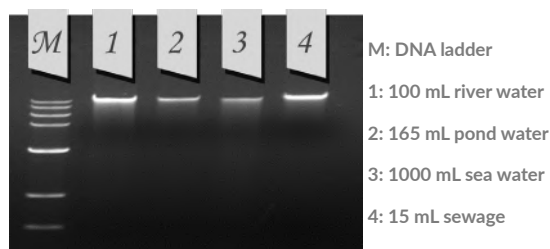
SPINEasy® DNA Kit for Water is specially designed to achieve quick isolation of genomic DNA from various types of water samples. The kit employs silica-membrane spin-column technology to effectively bind DNA. The resulting high-quality DNA can be used for downstream analyses. The kit is supplied with 5ml lysing matrix and a sterile 0.22 µm filter membrane.



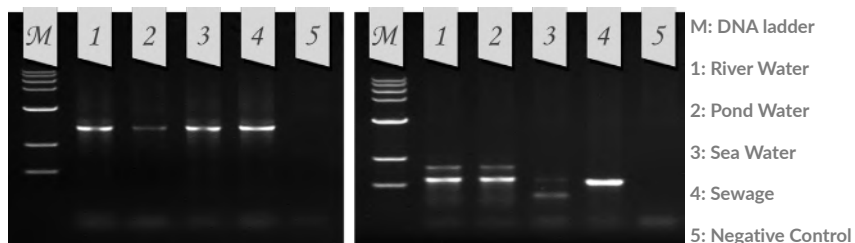
Features

- Proprietary removal buffers significantly **improve the purity** of extracted DNA
- **Rapid** lysis of microorganisms yields **high concentrations** of pure DNA
- Suitable for various types of water samples
- The extraction process **does not require** phenol, chloroform or other toxic reagents

Extraction Results



gDNA extracted from different types of water samples using SPINeasy® DNA Kit for Water, analyzed using 1 % agarose gel electrophoresed at 70 V for 30 min



16S- PCR (left) & ITS-PCR (right) amplification of gene from different types of water samples using SPINeasy® DNA Kit for Water

Water Samples	Sample Volume (mL)	Yield (ng/ μ L sample)	A (260/280)	A (260/230)
River Water	100	46.22	1.88	1.90
Pond Water	165	19.85	1.86	2.32
Sea Water	1000	28.39	1.92	2.00
Sewage	15	120.32	1.83	1.65

Product Information

Description	Size	Cat.No.
SPINeasy® DNA Kit for Water	50 preps	116536050
	5 preps	116536000



SPINEASY® DNA KIT FOR SALIVA

The use of saliva as a source of DNA over blood samples has become an attractive approach for various applications ranging from genetic studies to pathogen detection. Unlike blood sampling, saliva collection is an easy, painless, and non-invasive method which does not require trained personnel for the collection process. In addition, saliva does not clot, and it is safe to be handled as there is lower risk of pathogen transmission as compared to other bio-fluid samples. However, storing saliva samples can be problematic. The **SPINEasy® DNA Kit for Saliva** from MP Biomedicals makes saliva sampling easier using our specially formulated Saliva Preservation Solution (SPS) to preserve the sample at room temperature without compromising the quality. SPINEasy® DNA Kit for Saliva allows DNA from fresh, frozen, or SPS-preserved saliva to be extracted with a quick and easy protocol, using silica spin-column technology. Purified DNA is recovered with high yield and purity, suitable for various downstream molecular applications.

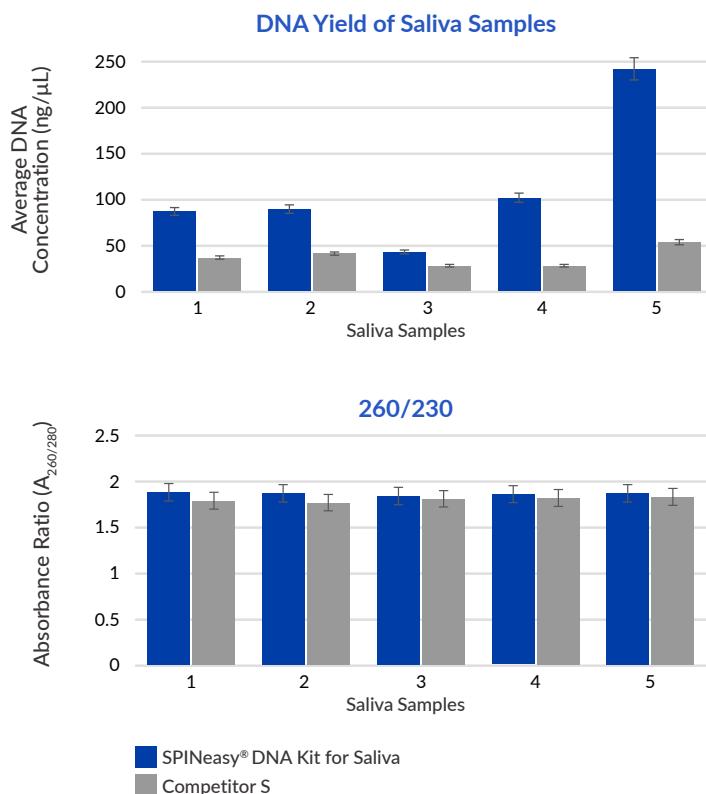


Features

- **Specially formulated saliva preservative solution** to store saliva samples at room temperature for a prolonged period
- Simple and effective extraction protocol with **high DNA yield and purity**
- Isolate gDNA from **25 – 500 µL** of saliva with simple procedures
- **Purified DNA is ready to be used** for downstream application

Extraction Result

SPINeasy® DNA Kit for Saliva has been optimized to offer superior performance over the competitors' kits in both yield and purity, with minimal demand for the amount of sample.



Average DNA yields of saliva samples from five donors. Genomic DNA isolated using SPINeasy® DNA Kit for Saliva and comparable kit from Competitor S following manufacturer's recommended protocols. Purified DNA was quantified using spectrophotometer.

Product Information

Description	Size	Cat.No.
SPINeasy® DNA Kit for Saliva	50 preps	116551050
	5 preps	116551000



SPINEASY® HOST DEPLETION MICROBIAL DNA KIT

Host DNA contamination impedes the molecular analyses of microbiomes in host samples, such as bodily fluids and swabs.

The SPINEasy® Host Depletion Microbial DNA Kit provides an easy-to-use workflow to isolate microbial DNA from samples containing high amounts of host DNA. This background reduction of host DNA is achieved through selective lysis of host cells with our specially formulated Host Lysis Buffer. Microbial DNA is purified using a convenient silica-membrane spin-column technology workflow and ready for downstream molecular applications.

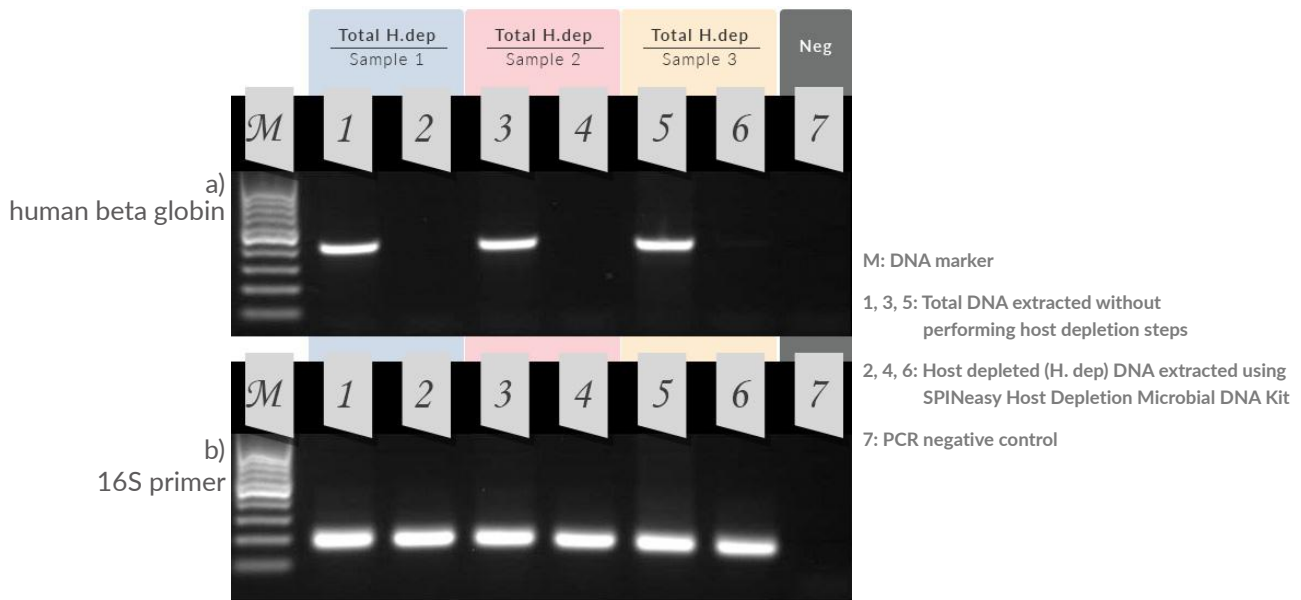


Features

- Effectively depletes host DNA
- Isolation of Microbial DNA from **bodily fluids and swab**
- Silica-membrane **spin-column technology**
- **Optimized lysis workflow** with Host Lysis Buffer

Extraction Results

SPINEasy Host Depletion Microbial DNA Kit demonstrates effective host DNA depletion with >90% recovery of microbial DNA.



Gel electrophoresis of PCR amplification with DNA extracted from three saliva samples using SPINEasy Host Depletion Microbial DNA Kit. a) PCR detection of host DNA using human β -globin primers. b) PCR detection of bacterial DNA using 16S primers.

Product Information

Description	Size	Cat.No.
SPINEasy® Host Depletion Microbial DNA kit	50 preps	116545050
	5 preps	116545000



SPINEASY® DNA KIT FOR MICROBIOME

SPINEasy® DNA Kit for Microbiome employs a novel method for isolating microbial genomic DNA from various samples. With its highly effective lysis capability and silica-membrane spin-column technology, the SPINEasy® DNA Kit for Microbiome provides the perfect solution for isolating the DNA from bacteria, body fluids and various environmental samples such as soil and stool.

With the use of specially formulated Buffer MB1 and Lysing Matrix E in combination with FastPrep® Instruments from MP Biomedicals, an efficient lysis of various samples can be achieved within seconds. Provided in the kit, the Column MB and kit buffers are designed to deliver gDNA of high yield and purity, and compatible with downstream applications such as qPCR, restriction digestion, and sequencing.



Features

- **Effective and versatile:** Isolate high concentration of bacterial and fungal DNA from a variety of samples in less than 30 minutes.
- **Reliable:** Optimized lysis condition enables unbiased DNA isolation from most types of samples.
- **Robust:** High reproducibility of experimental results.
- **Safe:** Does not use any organic denaturants.
- **User-friendly:** No tedious enzymatic lysis procedure.

Extraction Result

SPINEasy® DNA Kit for Microbiome has been rigorously validated on various types of samples.

Microbial Culture Samples

The bacterial DNA extracted with SPINEasy® DNA Kit for Microbiome has higher yield as compared to that of competitor kits.

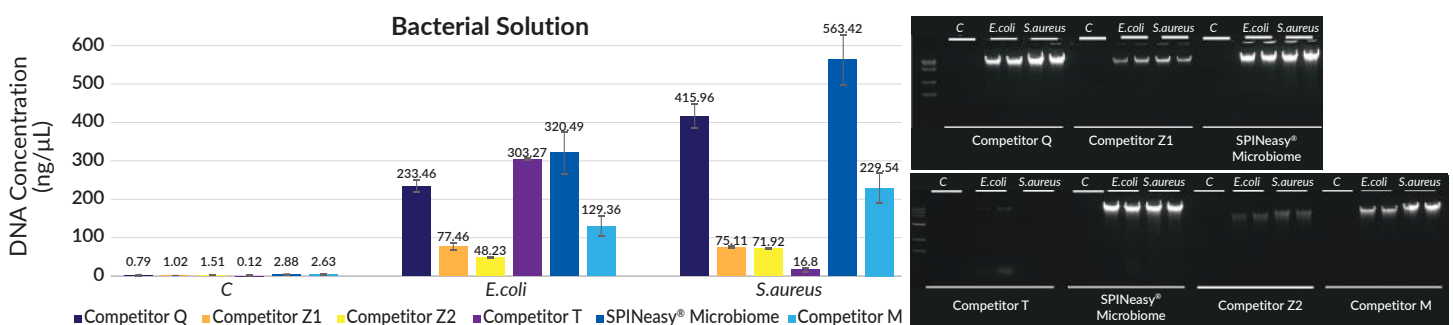


Figure 1. Comparison of extraction of bacterial gDNA from two different bacteria species (*E. coli* and *S. aureus*, $\sim 10^8$ cfu each) using SPINEasy® DNA Kit for Microbiome and competitors kits.

Bronchoalveolar Lavage Fluid (BALF)

The DNA extracted with SPINEasy® DNA Kit for Microbiome has high yield and good DNA integrity.

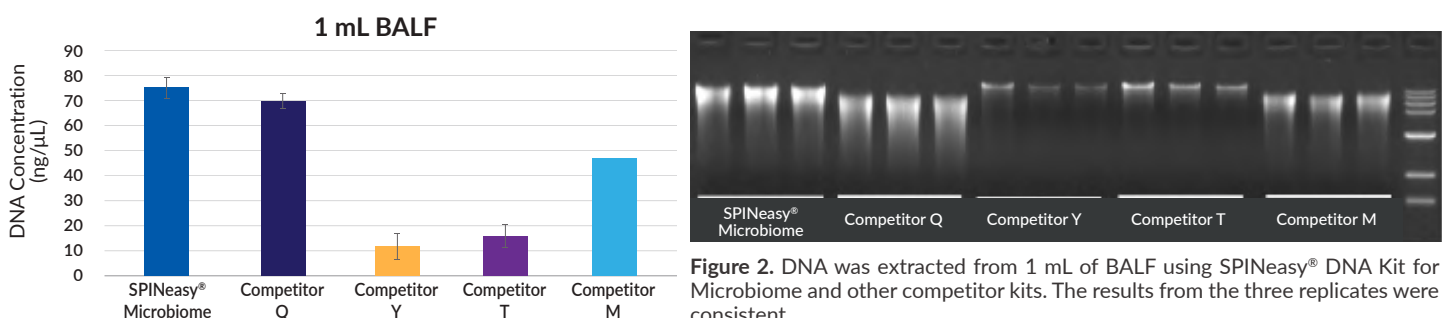


Figure 2. DNA was extracted from 1 mL of BALF using SPINEasy® DNA Kit for Microbiome and other competitor kits. The results from the three replicates were consistent.

Milk

Different types of milk contain different amounts of protein and fat. SPINeasy® DNA Kit for Microbiome has an effective impurity removal technology and is able to extract gDNA from the three types of milk tested.

The DNA extracted with SPINeasy® DNA Kit for Microbiome showed high yield and better purity (especially for fresh milk) than that of competitor kits.

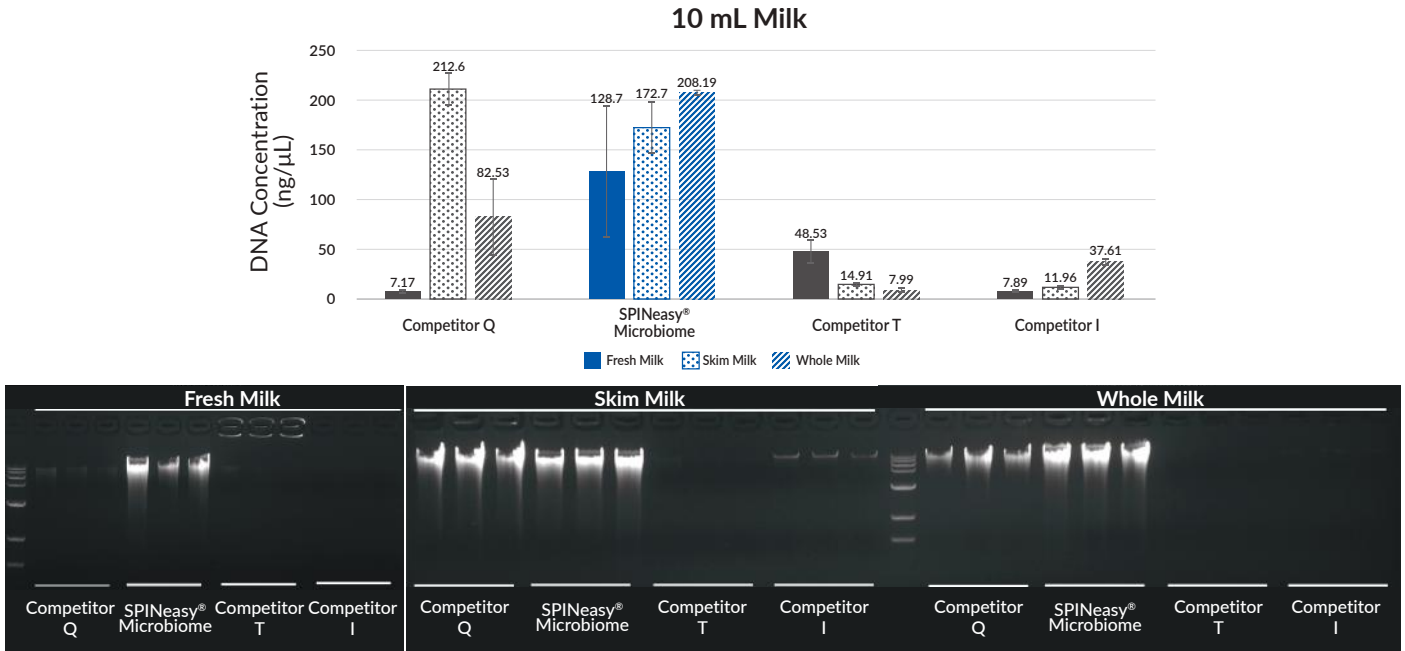


Figure 3. Three types of milk, i.e., fresh milk, skim milk, whole milk (10 mL each) were spiked with 500 μL of bacterial solution. The results from the three replicates were consistent.

Inhibitor-Free DNA Ready for Downstream Applications

The DNA extracted with SPINeasy® DNA Kit for Microbiome could be directly used for downstream applications (such as qPCR), suggesting the effectiveness of the kit in removing any inhibitor.

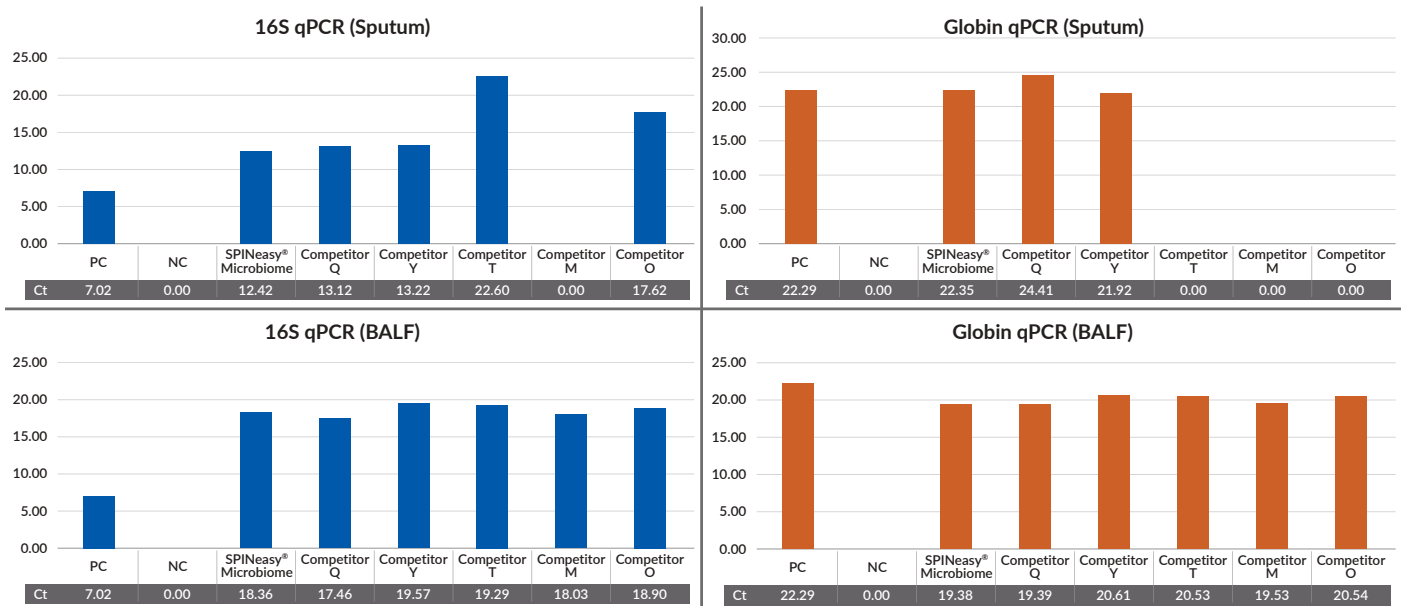


Figure 4. qPCR amplification of gDNA extracted from Sputum and BALF samples using SPINeasy® DNA Kit for Microbiome. 20 ng of DNA template were used in each reaction. Primers: 16S rRNA (197 bp) and Globin (400 bp).

Product Information

Description	Size	Cat.No.
SPINeasy® DNA Kit for Microbiome	50 preps	116553050
	5 preps	116553000



SPINEASY® DNA PRO KIT FOR FECES

DNA extracted from fecal samples has just been made easier with our newly updated SPINEasy® DNA Pro Kit for Feces. Challenges that we may face from fecal samples are simply eliminated through the kit by bead beating with the new Lysing Matrix YB and lysis Buffer SF1. Subsequent treatment with Buffer SF2 effectively removes humic acid and other contaminants. The chemistry included in Buffer SF3 enables the specific binding of DNA without co-purification of RNA, eliminating the need for RNase A treatment. DNA obtained from fecal samples showed no inhibition in PCR and was immediately ready-to-be used for downstream applications, including long fragment PCR, qPCR, and next-generation sequencing (16S and whole genome) without the need for a further inhibitor removal step.



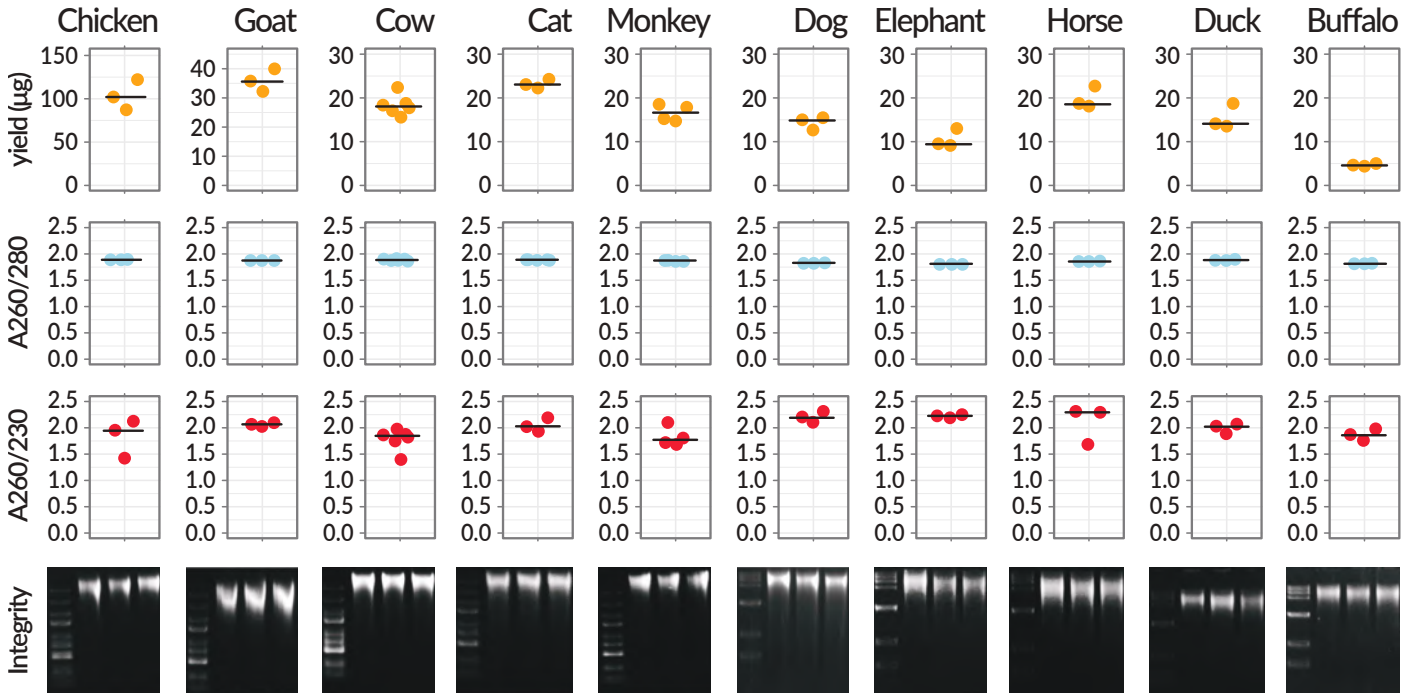
Features

- Newly formulated buffers to achieve better yield and purity of fecal DNA.
- Easy to handle and minimize any risk of contamination.
- Suitable for various types of feces samples.
- User friendly, suitable for any scale of experimental throughput.

Performance

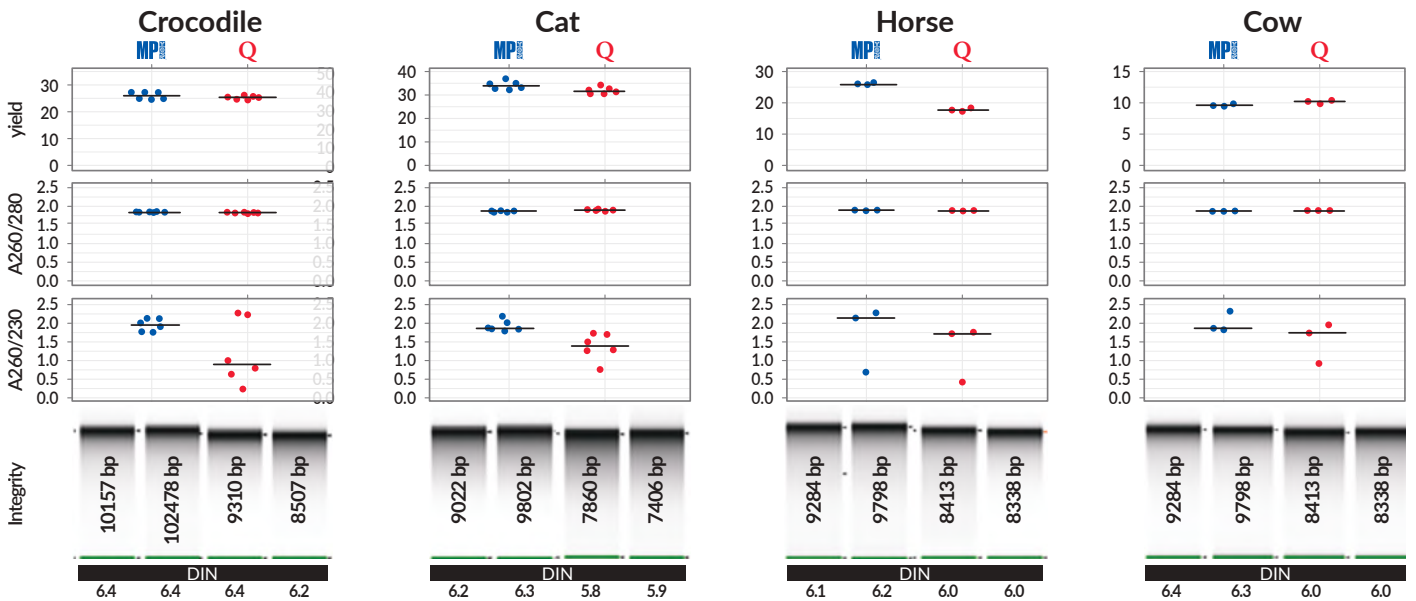
The SPINeasy® DNA Pro Kit for Feces provides high-quality DNA from various fecal samples.

Fecal Samples



The SPINeasy® DNA Pro Kit for Feces is able to handle a wide range of samples. The DNA yield, purity (260/280 and 260/230 ratio) and integrity were assessed using spectrophotometer and DNA gel. Each dot of the plot represents a single extraction. The horizontal bars indicate the median value.

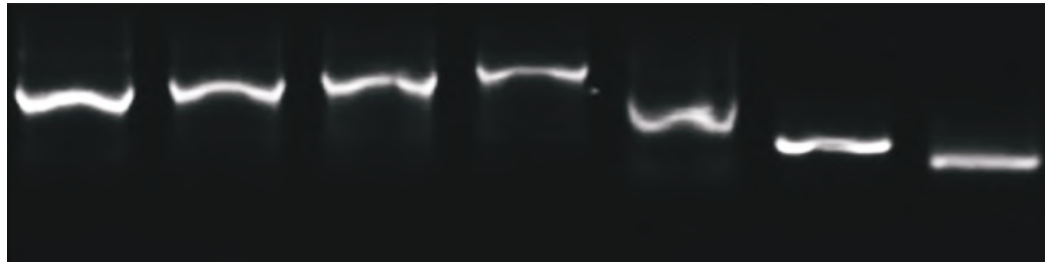
Comparison versus competitor Q



The DNA extracted using SPINeasy® DNA Pro Kit for Feces or competitor Q kits were compared in terms of yield, purity (A260/280 and A260/230 ratios), and integrity. Representative virtual gels obtained from Agilent 4150 TapeStation analyses showed the DNA integrity value (DIN) and the size of the genomic DNA band in bp.

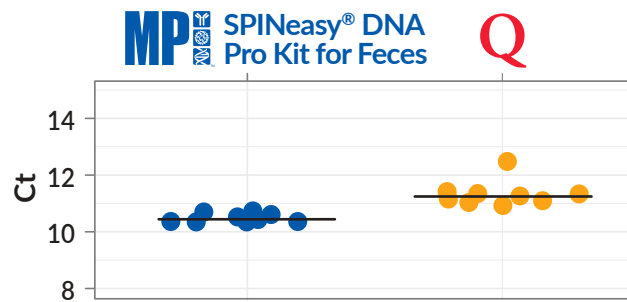
Amplifiability

End Point PCR



Yeast 28S ~1.8kb Yeast 28S ~2.2kb Yeast 28S ~2.4kb Yeast 28S ~2.8kb Bacteria 16S ~1.45kb Archae Bacteria 16S ~0.9kb Fungus ITS ~0.75kb

Quantitative PCR



The absence of inhibitor in fecal samples obtained using **SPINeasy® DNA Pro Kit for Feces** was accessed using inhibitor-sensitive PCR and undiluted sample as well as quantitative PCR.

Product Information

Description	Size	Cat.No.
SPINeasy® DNA Pro Kit for Feces	50 preps	116547050
	5 preps	116547000



SPINEASY® DNA KIT FOR YEAST

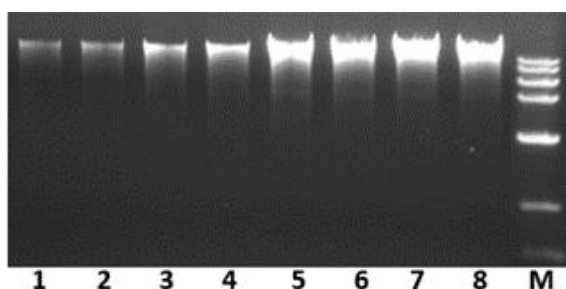
Yeast cell walls are resilient, hence it can become a challenge when trying to extract the intact purified DNA. Many times, the extracted DNA can be damaged or contaminated due to unintuitive workflow. **SPINEasy® DNA Kit for Yeast** is a high-performance genomic DNA (gDNA) extraction kit which is developed based on silica-membrane spin-column technology. This kit enables quick isolation of gDNA from yeast cells, typically in less than 30 minutes. Provided in the kit, Column S and kit buffers are designed to deliver gDNA extracts of high yield and purity; the extracted gDNA is compatible with downstream applications such as PCR amplification, restriction enzyme digestion, and sequencing.



Features

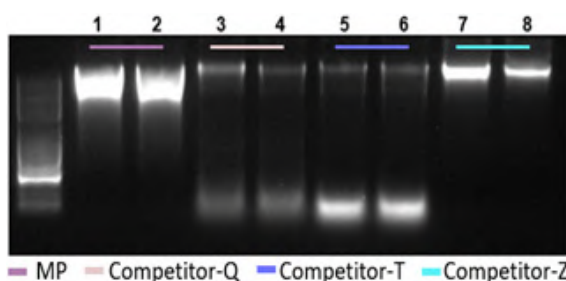
- **Broad sample range compatibility** – Suitable for processing up to 4×10^8 yeast or fungus cells
- **High DNA yield** – yields up to 12 µg of gDNA, ensuring successful downstream applications
- **Faster processing time** – complete extraction within 30 minutes
- **Simplified preparation method** – utilizes a bead beating mechanism and spin columns to extract high quality DNA

Performance



Sample	No.	Concentration (ng/ μ L)	A ^(260/280)	A ^(260/230)
1-2 x 10 ⁷ cells	1	12.784	1.87	2.16
	2	15.396	1.86	2.08
2-5 x 10 ⁷ cells	3	29.149	1.89	2.20
	4	27.321	1.87	2.17
1-2 x 10 ⁸ cells	5	66.683	1.88	2.27
	6	66.645	1.89	2.25
2-4 x 10 ⁸ cells	7	115.567	1.88	2.15
	8	125.671	1.90	2.06

SPINeasy[®] DNA Kit for Yeast generates DNA yield that is proportionate to the input sample amount, *Saccharomyces cerevisiae* (1 x 10⁷ to 4 x 10⁸ cells). 3 μ L of purified genomic DNA from a 100 μ L eluate were analyzed by electrophoresis on a 1% agarose gel.



Sample	No.	Concentration (ng/ μ L)	A ^(260/280)	A ^(260/230)
MP	1	60.363	1.87	1.91
	2	61.138	1.87	2.05
Competitor Q	3	72.729	2.05	0.62
	4	74.359	2.10	0.61
Competitor T	5	100.989	2.12	1.39
	6	95.493	2.14	1.61
Competitor Z	7	32.146	1.85	1.34
	8	22.194	1.75	1.02

Genomic DNA extracted from *Saccharomyces cerevisiae* (5x10⁷ cells).

The SPINeasy[®] DNA Kit for Yeast was used to extract genomic DNA (gDNA) from *Saccharomyces cerevisiae*. The yield and purity were assessed and compared with three different competitor kits (Q, T, Z). The MP Kit exhibited a purity range exceeding 1.8 while maintaining a high yield. Competitors Q and T yielded high quantities of gDNA but with a lower A₂₆₀/A₂₃₀ ratio. Competitor Z yielded both a lower quantity of gDNA and a lower purity ratio. Gel electrophoresis of the extracted gDNA displays maximum band integrity for the MP Kit.

Product Information

Description	Size	Cat.No.
SPINeasy [®] DNA Kit for Yeast	50 preps	116557050
	5 preps	116557000



SPINEASY® DNA KIT FOR TISSUE

Tissue samples can pose a challenge during nucleic acid extraction due to their resistance to breakdown, potentially leading to compromised nucleic acid integrity. **SPINEasy® DNA Kit for Tissue (With Lysing Matrix)** efficiently isolates high-quality genomic DNA from various types of tissue in 30 minutes.

The combination of mechanical, chemical, and enzymatic lysing methods of this kit provides significantly higher yields of genomic DNA as compared to other commercial kits without mechanical lysis. With this optimized lysing method, hard-to-lyse samples such as tough (rodent tail, ear punches), and fibrous (heart, muscle) tissues are easily and completely lysed. Genomic DNA obtained from multiple types of tissues showed no inhibition in PCR and is immediately ready to be used for downstream applications, including long fragment PCR, qPCR, restriction digestion and sequencing.

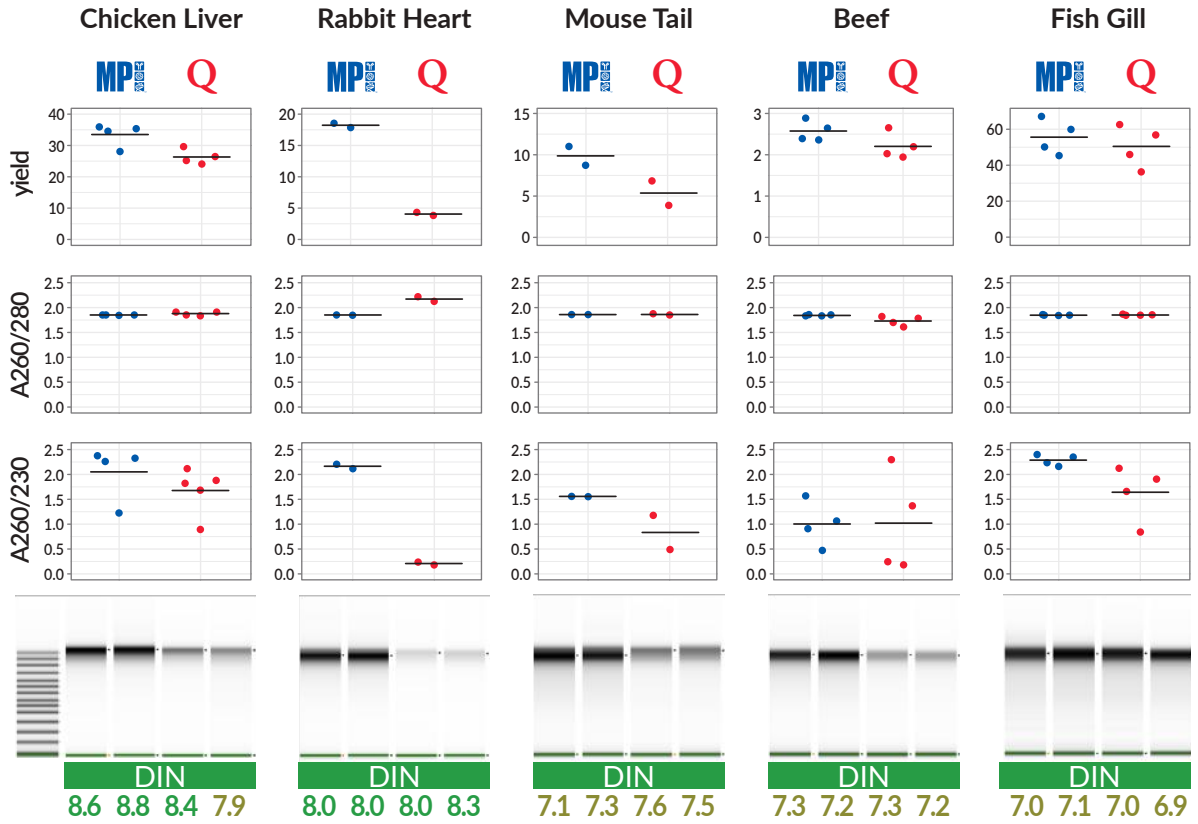


Features

- **Extensive range of tissue types** – Proteinase K ensures efficient and complete digestion of any tissue type
- **Good DNA integrity** – optimized buffer and newly developed thermo-mixing step to maximize yield and purity
- **Faster processing time** – Reduced operation time allows completion in under 30 minutes

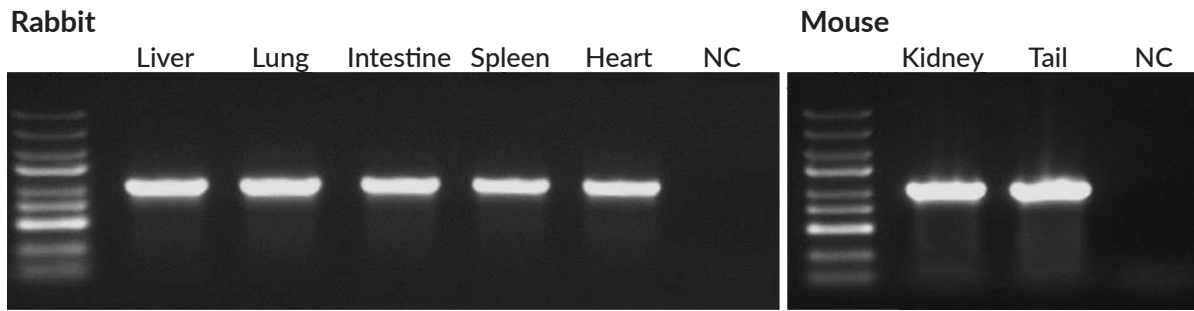
Performance

Comparison of quality and quantity of gDNA extracted from various sample types using SPINeasy® DNA Kit for Tissue (With Lysing Matrix) and competitor Q kit.

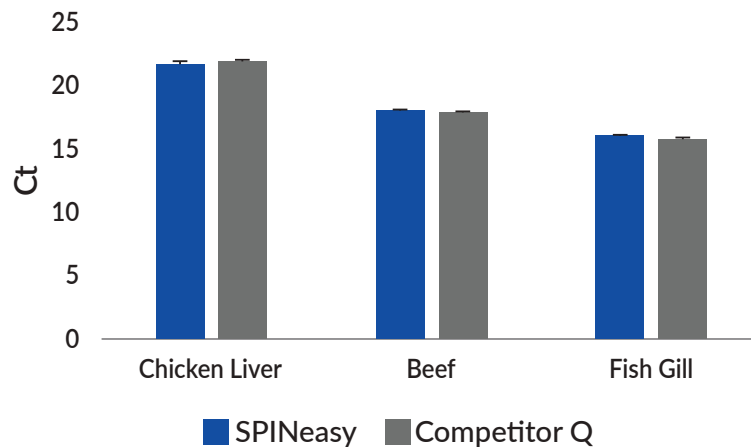


The gDNA Yield, A260/A230 and A260/A280 ratio (from 15 mg of corresponding tissue types) were measured using a spectrometer. The virtual gel image and DNA integrity Number (DIN, in green and yellow) were analyzed using Agilent tapestation 4150.

Amplifiability of DNA extracted with SPINeasy® DNA Kit for Tissue (With Lysing Matrix)



Agarose gel electrophoresis of PCR products amplified from various rabbit/mouse tissue gDNA isolated using SPINeasy® DNA Kit for Tissue (With Lysing Matrix). One microliter of extracted gDNA was amplified using rabbit or mouse-specific α -actin primers (1kb product). Reactions without DNA were performed as negative controls (NC).



Comparison of threshold cycles (Ct) of qPCR when amplification was performed using equal quantity of chicken liver, beef and fish gill gDNA (25 ng). Targets were amplified with SYBR green.

Product Information

Description	Size	Cat.No.
SPINeasy® DNA Kit for Tissue (With Lysing Matrix)	50 Preps	116558050
	5 Preps	116558000
SPINeasy® DNA Kit for Tissue (Without Lysing Matrix)	50 Preps	116559050
	5 Preps	116559000

SPINeasy[®]

RNA Extraction Kit

Sample Selection Guide for SPINeasy®

RNA Extraction Kit

SPINeasy® RNA Kit for Tissue

- ✓ Animal Tissue
- ✓ Cultured Cells
- Fixed Tissue
- Paraffin Block
- ✓ Yeast
- ✓ Fungi
- ✓ Plant Tissue

SPINeasy® RNA Kit for Bacteria

- ✓ Gram(-) Bacteria
- ✓ Gram (+) Bacteria
- ✓ Yeast
- ✓ Fungi

SPINeasy® Virus RNA Kit

- ✓ Body Fluids
- ✓ Cultured Cells
- ✓ Serum
- ✓ Saliva

SPINeasy® RNA Kit for Feces

- ✓ Stool Sample

SPINeasy® RNA Kit for Yeast

- ✓ Yeast

SPINeasy® RNA Kit for Blood

- ✓ Whole Blood
- ✓ Plasma
- ✓ Serum

✓ Recommended

○ Recommended with Additional Optimization Step



SPINEASY® RNA KIT FOR TISSUE (With / Without Lysing Matrix)

The SPINEasy® RNA Kit for Tissue is a silica-membrane spin-column kit that enables quick and convenient purification of total RNA from various animal tissues, plant tissues and tissue cultures. The use of our specially formulated Lysis Buffer R and Lysing Matrix A in combination with FastPrep® instruments from MP Biomedicals enables highly efficient lysis of tissue samples within seconds.

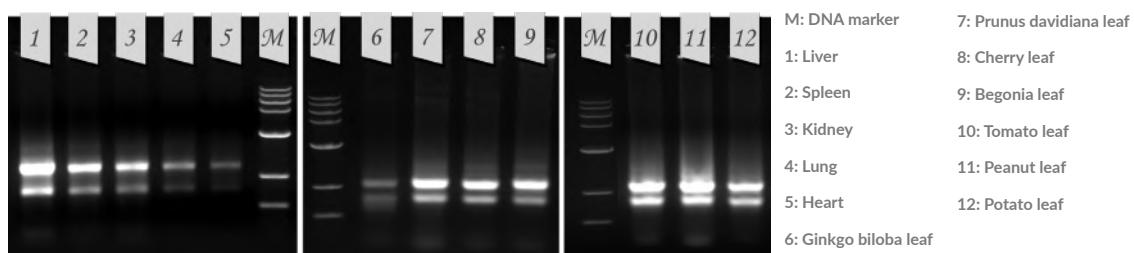
With a simple workflow, the kit allows multiple samples to be processed simultaneously, without the use of toxic substances such as phenol and chloroform. Purified RNA is of high quality and integrity and immediately ready for RT-PCR and other downstream applications.



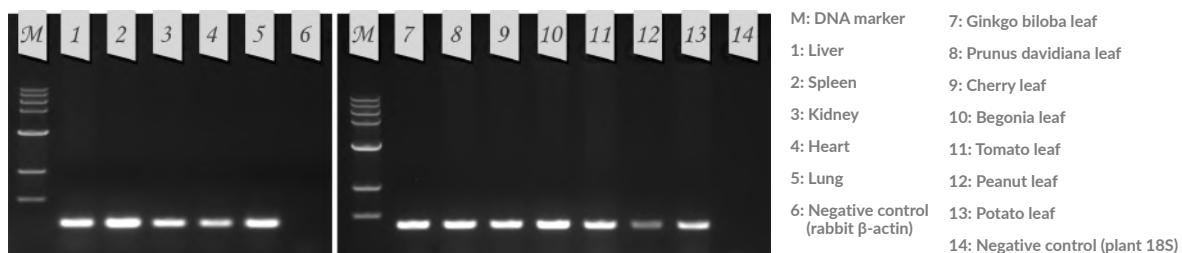
Features

- Rapidly and efficiently isolate RNA from a variety of samples
- Comes with Lysing Matrix A tubes for thorough sample lysis
- No phenol/chloroform
- Silica spin column method for extraction process
- Highly purified RNA for better downstream RT-PCR results

Extraction Results



RNA extracted from various samples using SPINeasy® RNA Kit for Tissue, analyzed using agarose gel electrophoresis



RT-PCR amplification of RNA extracted from various samples using SPINeasy® RNA Kit for Tissue

Product Information

Description	Size	Cat.No.
SPINeasy® RNA Kit for Tissues (With Lysing Matrix)	50 preps	116543050
	5 preps	116543000
SPINeasy® RNA Kit for Tissues (Without Lysing Matrix)	50 preps	116542050



SPINEASY® RNA KIT FOR BACTERIA

The SPINEasy® RNA Kit for Bacteria is a silica-membrane spin-column kit that enables quick and convenient purification of total RNA from gram-positive and gram-negative bacteria. Included in the kit is our specially formulated RNASS solution that stabilizes and protects RNA in bacteria samples.

The use of Lysis Buffer R and Lysing Matrix B in combination with FastPrep® instruments from MP Biomedicals enables highly efficient lysis of bacterial samples within seconds. With a simple workflow, the kit allows multiple samples to be processed simultaneously, without the use of toxic substances such as phenol and chloroform.

Total RNA of high quality and integrity can be typically obtained within 40 minutes and is immediately available for RT-PCR and other downstream applications.

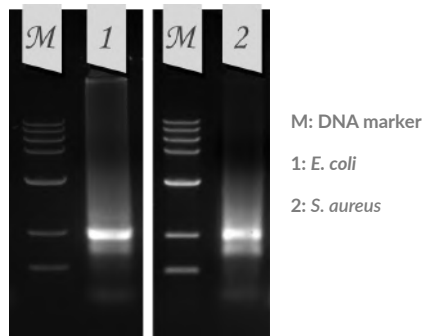


Features

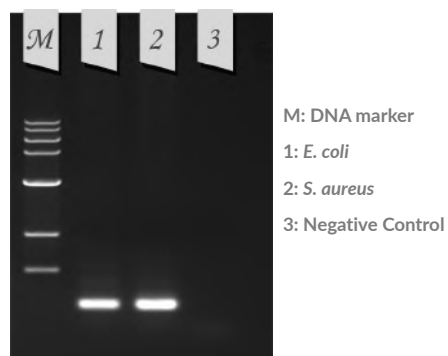
- Rapidly and efficiently isolate RNA from a variety of samples
- Comes with Lysing Matrix B tubes for thorough sample lysis
- No phenol/chloroform
- Silica spin column method for extraction process
- Highly purified RNA for better downstream RT-PCR results

Extraction Results

RNA



RT-PCR Performance



Agarose gel electrophoresis demonstrates integrity of total RNA and RT-PCR performance of bacterial RNA samples extracted using SPINeasy® RNA Kit for Bacteria

Product Information

Description	Size	Cat.No.
SPINeasy® RNA Kit for Bacteria	50 preps	116541050
	5 preps	116541000



SPINEASY® VIRUS RNA KIT

SPINEasy® Virus RNA Kit is a silica-membrane spin-column kit that enables quick and convenient extraction of virus RNA from cell culture media and bodily fluids such as saliva and serum.

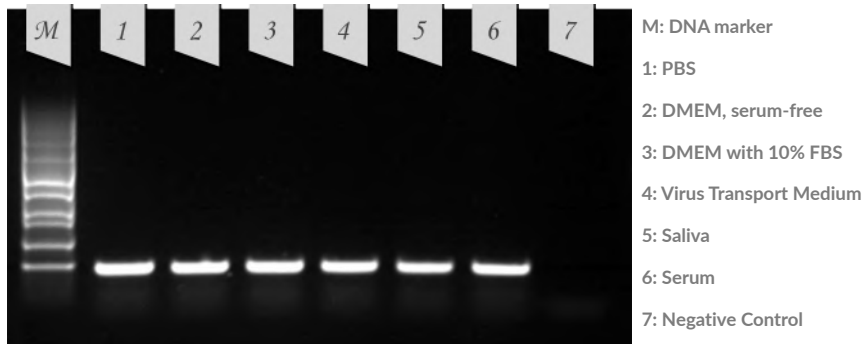
Through a simple workflow, virus RNA is typically extracted within 20 minutes and is immediately available for downstream applications such as RT-PCR and RT-qPCR.



Features

- Quick and convenient extraction of virus RNA from cell culture media and bodily fluids
- Efficient extraction of virus RNA within 20 minutes
- Silica spin column method for extraction process
- Without hazardous component

Extraction Results



RT-PCR amplification of a viral-specific gene from RNA extracted from the indicated samples spiked with Influenza B virus, using SPINEasy Virus RNA Kit

Product Information

Description	Size	Cat.No.
SPINEasy® Virus RNA Kit	50 preps	116537050



SPINEASY® RNA KIT FOR FECES

Microbiome research, particularly concerning dietary and nutritional monitoring, is an emerging field of interest today. However, managing stool/feces samples is intricate due to their inherent physical attributes, potential contamination, and the consideration of RNA degradation. To address these challenges effectively, the development of an innovative RNA extraction technique is imperative. The **SPINEasy® RNA Kit for Feces** integrates our 1) state of art bead 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 treatment allows the complete removal of DNA within 1-2 minutes, further reducing the processing time.

The **SPINEasy® RNA Kit for Feces** delivers high yields of pure RNA without detectable DNA contamination in less than 20 min, making it particularly suitable for downstream applications, such as qPCR and RT-qPCR without the need of further inhibitor/DNA removal steps.



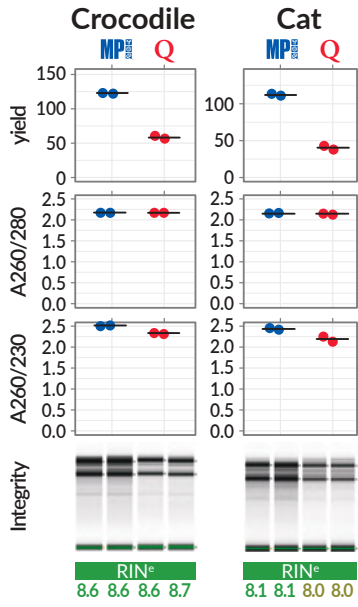
Features

- High volume sample capacity accommodating up to 250 mg providing the maximum yield and purity.
- 20 minutes processing time
- Optimal performance with RNA column and DNA removal ensuring no possible contamination.
- Feces sources available from carnivores, herbivores, to omnivores.

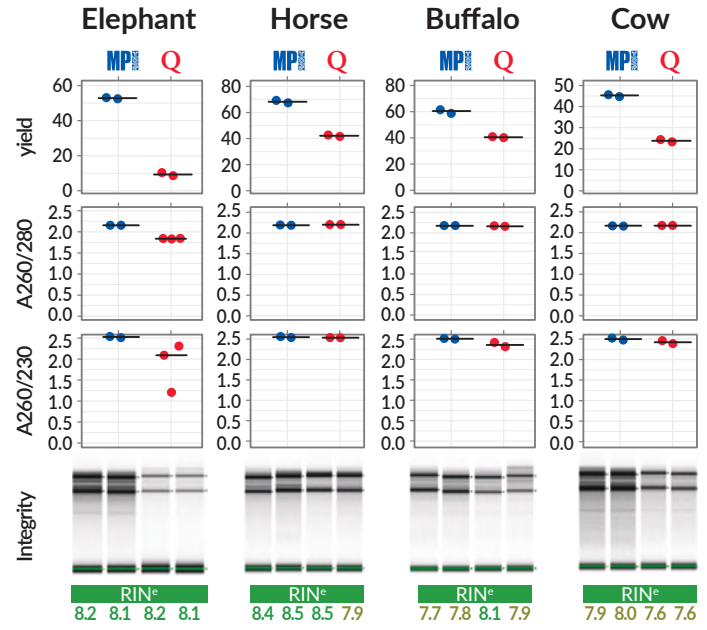
Performance

No DNA contamination in the RNA samples extracted with the SPINeasy® DNA/RNA Kit for Feces.

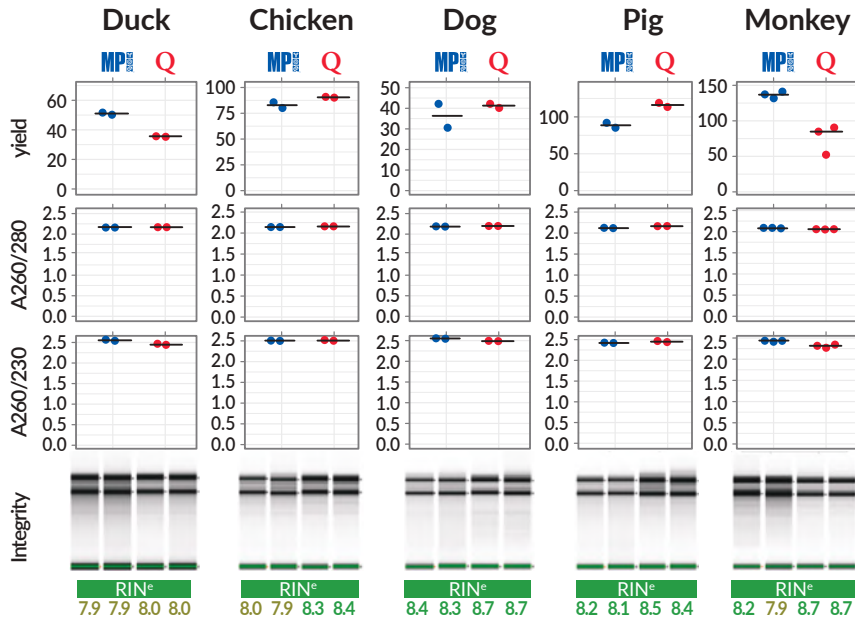
Carnivores



Herbivores

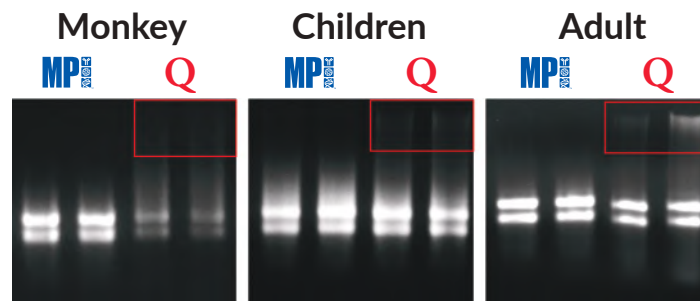


Omnivores



Eleven fecal sample types, grouped based on the animal diet, were processed using SPINeasy® RNA Kit for Feces and competitor Q kit. Yields and purity ratios (260/280 and 260/230) were measured by spectrophotometer. Each dot on the plot represents a single extraction. Representative virtual gels obtained using Agilent 4150 TapeStation analyses were presented together with the DNA integrity (DIN) and RNA integrity (RIN) values.

No DNA contamination in the RNA samples extracted with the SPINeasy® RNA Kit for Feces.



RNA samples extracted from monkey and human samples were visualized on agarose gel. Unlike competitor Q, no smeared nucleic acid corresponding to DNA contamination could be observed in RNA samples extracted with MP Biomedicals' kit.

Product Information

Description	Size	Cat.No.
SPINeasy® RNA Kit for Feces	50 preps	116556050
	5 preps	116556000



SPINEASY® RNA KIT FOR YEAST

Yeast's structural composition poses inherent challenges when it comes to extracting its RNA components. To ensure minimal RNA degradation and maintain its integrity, an efficient and time-saving extraction method becomes important. **SPINEasy® RNA Kit for Yeast** is a high-performance RNA extraction kit which is developed based on silica-membrane spin-column technology.

By combining with beads beating method which could homogenize the yeast cell walls within 40 sec, the **SPINEasy® RNA Kit for Yeast** is capable of isolating RNA from a wide range of yeast species. This kit employs a quick desalting technique to eliminate contaminating macromolecules while avoiding harmful chemical solvents, and spheroplasting to successfully release RNA through carbohydrate-containing cell walls, without the need of any enzymes. Up to 2×10^8 cells can be handled at once without any DNase treatment. The resulting RNA is of exceptional purity, free of proteins or DNA in eluted samples, and suitable for use in any downstream applications such as Northern blotting, RT-PCR, Next-Generation Sequencing, Microarray, hybridization, and other sensitive applications. This kit is highly recommended for obtaining total RNA from yeast in less than 30 min.

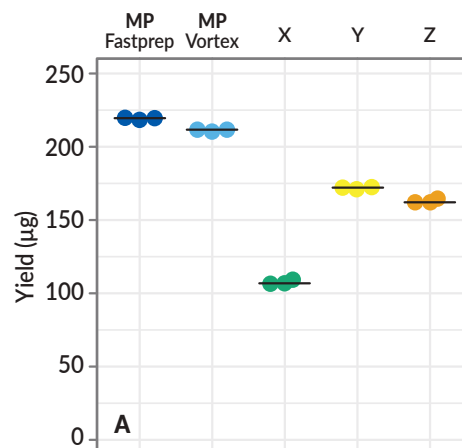
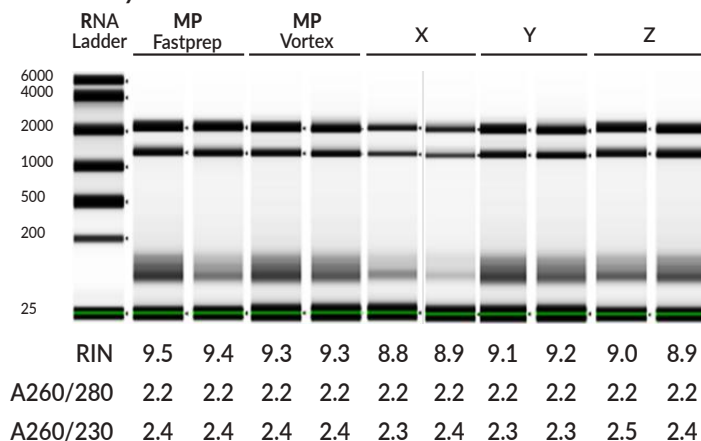


Features

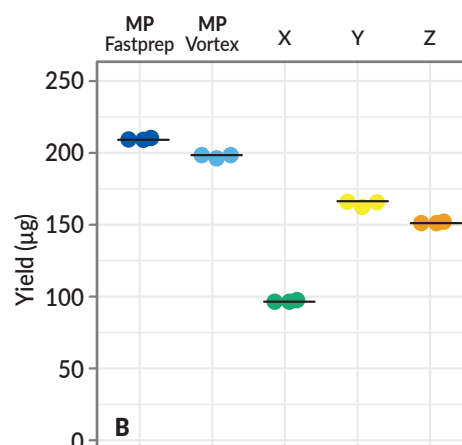
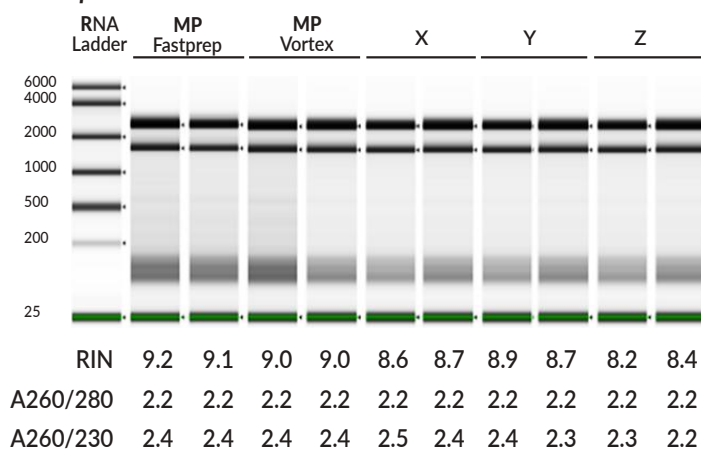
- Eliminates the need for DNase treatment
- High DNA yield – yields up to 220 µg of RNA, ensuring successful downstream applications
- Faster processing time – complete extraction within 30 minutes
- Simplified preparation method – utilizes a bead beating mechanism and spin columns to extract high quality RNA

Performance

Saccharomyces cerevisiae



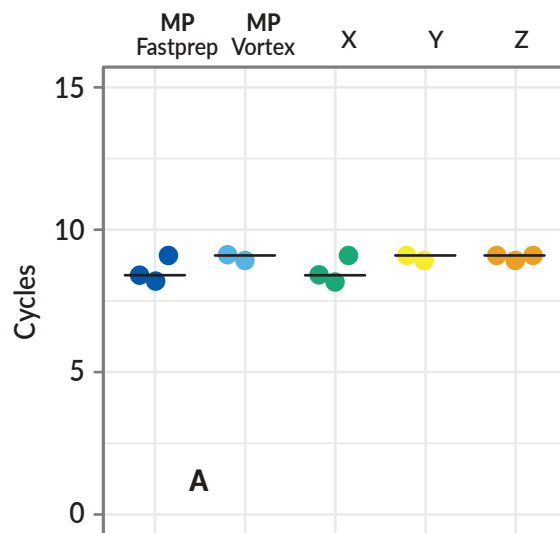
Pichia pastoris



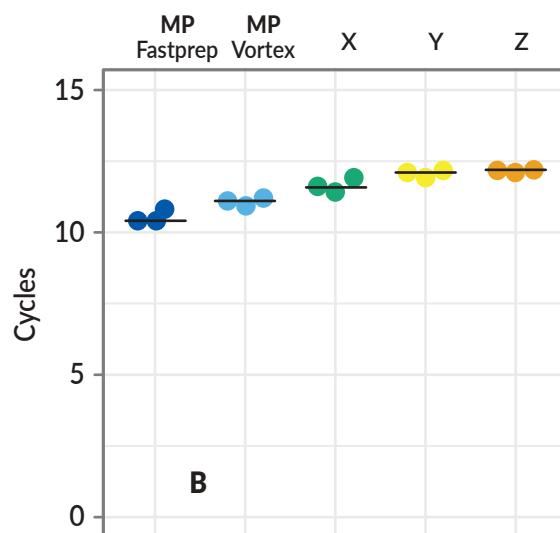
Total RNA from Yeast (*S. cerevisiae* and *P. pastoris*) was purified using the MP SPINeasy® RNA Kit for Yeast.

Extraction was done with both FastPrep® and vortex method. The extracted samples were compared with competitor X, Y and Z. The aliquots were run on an Agilent® Bioanalyzer 4150 using the RNA ScreenTape. RIN values and O.D. ratios confirm the overall integrity and purity of the RNA.

Saccharomyces cerevisiae



Pichia pastoris



High quality qPCR curves indicate accurate detection and quantitation of targets.

To demonstrate compatibility with downstream applications, samples were subsequently used for RT-PCR (+/RT) for detection of Yeast RNA species using iTaq™ Universal SYBR® Green Supermix (BioRad 1725121). Purified RNA from *S. cerevisiae* (Figure A) and *P. pastoris* (Figure B) was diluted to produce a five-log range of input template concentrations.

Primers targeting Actins were used for RT-qPCR assays, assembled as directed by iTaq™ Universal SYBR® Green One-Step Kit RT-qPCR reagents (BioRad 1725150) and cycled on a QuantStudio3 (Applied Biosystems, by ThermoScientific)

Number of Yeast	Expected Yield (RNA)
1 x 10 ⁶	50 – 80 µg
1 x 10 ⁷	90 – 110 µg
1 x 10 ⁸	130 – 180 µg
2 x 10 ⁸	170 – 220 µg

SPINeasy® RNA Kit is validated on two types of yeast species (*S. cerevisiae* and *P. pastoris*).

The kit may also be used for other species of yeast. Handling of more than 2 x 10⁸ yeast cells is possible, however it may require further DNase I treatment (to be standardized according to the manufacturer's guidelines).

Product Information

Description	Size	Cat.No.
SPINeasy® RNA Kit for Yeast	50 preps	116565050
	5 preps	116565000



SPINEASY® RNA KIT FOR BLOOD

The **SPINEasy® RNA Kit for Blood** is an advanced RNA extraction solution leveraging state-of-the-art silica-membrane spin-column technology. Specifically designed for the isolation of RNA from whole blood preserved in various anticoagulants, this kit streamlines the process to under 15 minutes. RNA preservation is paramount, and the Lysis Buffer SL1 eliminates the need for excessive homogenization while ensuring immediate RNase inactivation, preventing RNA degradation.

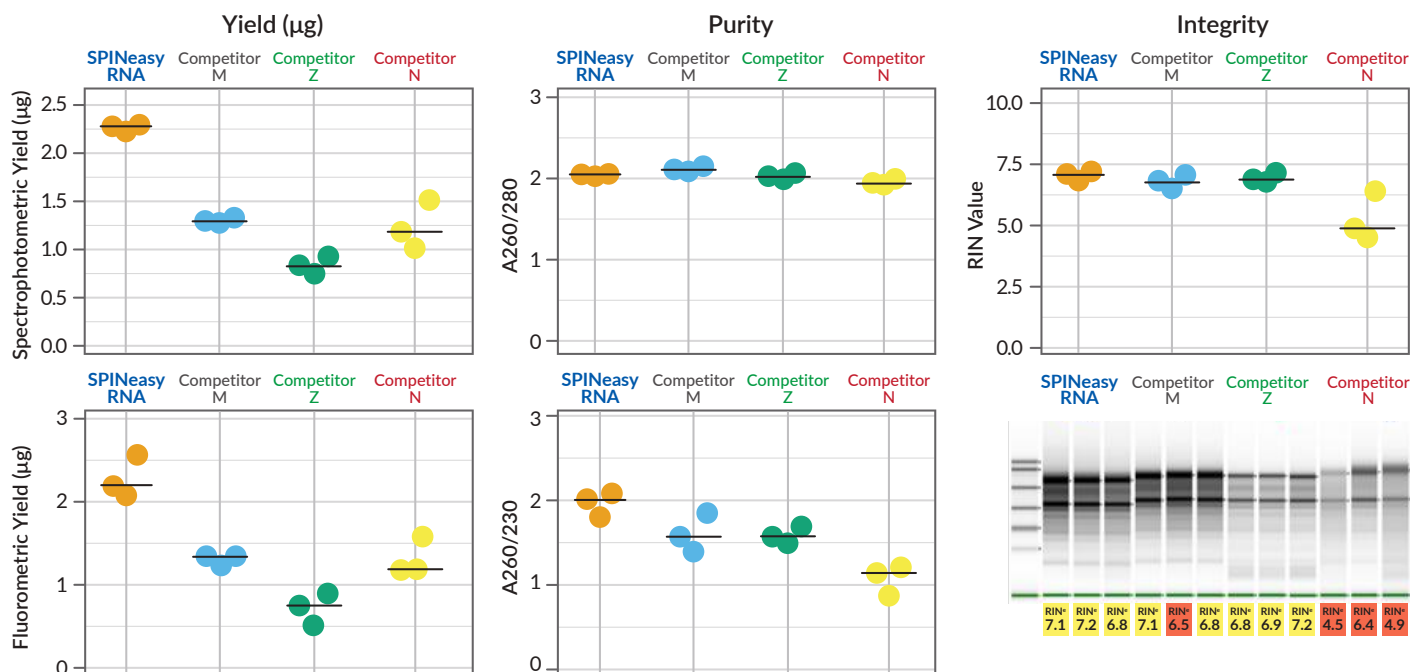
Notably, the **SPINEasy® RNA Kit for Blood** eliminates the requirement for prior erythrocyte lysis and leukocyte centrifugation, simplifying the RNA purification process. The inclusion of Fast DNase facilitates efficient on-column DNA digestion, swiftly removing co-purified DNA bound to the silica membrane. Dual washing steps have been optimized to effectively eliminate salts, metabolites, and large cellular components, contributing to a hassle-free and highly time-efficient RNA purification. Following these steps, the elution of high-yield and pure RNA is achieved using RNase-free water. The resulting RNA is well-suited for various downstream applications, including PCR, RT-qPCR amplification, and sequencing.



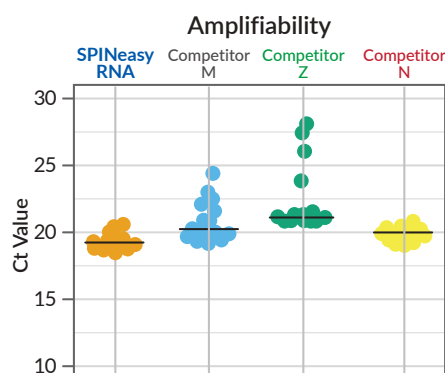
Features

- Superior yield, purity, and integrity.
- Fast DNase treatment time (as short as 3 min).
- Total processing time in less than 15 min.
- Simplified buffer systems with 1 lysis buffer and 2 wash buffers.

Performance



SPINeasy[®] RNA Kit for Blood provided higher RNA yield, purity and comparable or higher RNA integrity in comparison to the competitor kits. Frozen whole blood samples (200 µL) were processed using the SPINeasy[®] RNA Kit for Blood and compared with the Competitor M, Z and N kits. Yields were measured with spectrophotometric and fluorometric quantification. Each dot on the plot represents a single extraction.



SPINeasy[®] RNA Kit for Blood delivered the highest yield of amplifiable extracted RNA samples. RNA samples extracted from SPINeasy RNA[®] Kit for Blood and the various competitors were amplified in 15 replicates each for the human GAPDH gene (106bp).

Product Information

Description	Size	Cat.No.
SPINeasy [®] RNA Kit for Blood	50 preps	116566050
	5 preps	116566000

SPINeasy[®]

Co-Purification/
Clean-Up Kit

Co-Purification

SPINeasy® co-purification series provides a convenient method for simultaneous isolation of nucleic acid from single sample of tissue or cultured cells, minimizing the variation inherent in preparing these eluents from different samples.

Product	SPINeasy® DNA/RNA/Protein All-in-One Kit	SPINeasy® DNA/RNA Kit for Soil
Format	Spin column	Spin column
Recommended sample amount	up to 30 mg tissue or 1 x 10 ⁶ cells	up to 500 mg
Purified product	Total DNA, total RNA, and western-grade proteins	Total DNA, total RNA
Processing Time	45 min (RNA and DNA), 35 min (protein)	<45 min (6 preps)
Observed yield	Depends on sample type	Up to 50 µg (DNA)/30µg (RNA) (sample-dependent)
Application	PCR, real-time PCR, Northern, Western and Southern Blotting, Microarray	PCR, real-time PCR, sequencing

Clean-Up

SPINeasy® clean-up series provides fast and reliable methods for purification of DNA fragments. Central to our clean-up products is the total removal of salts and ethanol from samples using uniquely designed spin columns that ensure complete elution of DNA without carryover contaminants. DNA clean-up technologies assure the purification of high-quality DNA using the specially formulated buffer to effectively remove enzymatic inhibitors.

SPINeasy® PCR Purification and Gel Extraction Kit is a combo kit which utilizes the advantage of silica membrane to recover up to 23 µg of DNA with molecular weight ranging from 100 bp to 20 kb from most grades of agarose gel with expected recovery of 85%.

SPINeasy® DNA Purification Kit is used to remove inhibitory compounds, so as to effectively recover ready-to-amplify DNA from contaminated inputs in less than 10 minutes with typical recoveries of >80%.

Product	SPINeasy® PCR Purification and Gel Extraction Kit	SPINeasy® DNA Purification Kit
Format	Spin column	Spin-column / Vacuum
Recommended sample type	Gel, PCR product	Previously isolated DNA
Fragment DNA Size	100 bp – 20 kb	>200 bp
Removes	Primers, nucleotides, enzymes, salts, agarose, EtBr, etc.	Humic acids, heme, polysaccharides, polyphenols, flavic acids, lipids, and dyes from samples
Recovery Rate	>85%	>80%
APPLICATION	PCR Cleanup	✓
	Gel Extraction	✓
	Humic Acid Removal	✓



SPINEASY® DNA/RNA/PROTEIN ALL-IN-ONE KIT

The SPINEasy® DNA/RNA/Protein All-In-One Kit utilizes a convenient workflow and silica-membrane spin-columns to isolate DNA, RNA and protein components from the same sample, without the use of toxic substances such as phenol and chloroform.

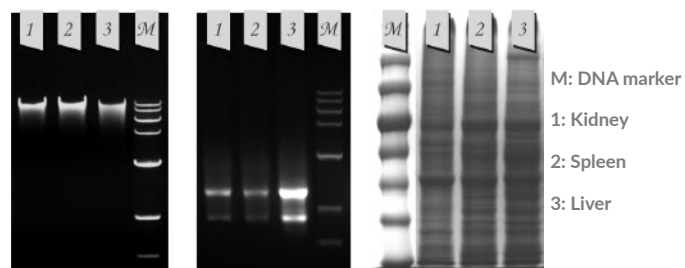
The use of our specially formulated Lysis Buffer R and Lysing Matrix A in combination with FastPrep® Instruments from MP Biomedicals enables highly efficient lysis of tissue samples within seconds. DNA, RNA and proteins are then sequentially purified from the same lysate. Each molecular component is immediately available for their respective downstream applications.



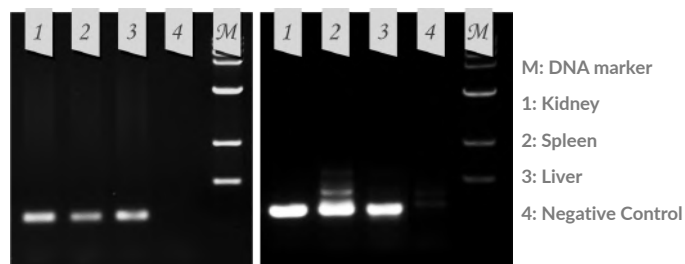
Features

- Rapidly and efficiently isolate DNA/RNA/Protein from a single sample
- Comes with Lysing Matrix A tubes for thorough sample lysis
- No phenol/chloroform
- Silica spin column method for extraction process
- Highly purified DNA/RNA/Protein for better downstream applications

Extraction Results



DNA (left); RNA (center); Protein (right) extracted from each animal tissue using SPINeasy® DNA/RNA/Protein All-In-One Kit



PCR amplification of DNA (left) and RT-PCR amplification of RNA (right) extracted from various samples using SPINeasy® DNA/RNA/Protein All-In-One Kit

Product Information

Description	Size	Cat.No.
SPINeasy® DNA/RNA/ Protein All-In-One Kit	50 preps	116544050
	5 preps	116544000



SPINEASY® DNA/RNA KIT FOR SOIL

Humic acids, heavy metals, and other aromatic components are among the most notorious PCR inhibitors found in the soil, leading to false negative or underestimated results. Non-optimized nucleic acid extraction protocol often co-purify inhibitors.

SPINEasy® DNA/RNA Kit for Soil integrates our proprietary inhibitor removal expertise and our new technology for selective binding of DNA and RNA. The SPINEasy® DNA/RNA Kit for Soil allows simultaneous isolation of pure microbiome genomic DNA and RNA from challenging soil types, including those with low biomass or those that are highly contaminated. The isolated nucleic acid products showed no contaminants and were immediately ready for use in downstream applications, including qPCR and RT-qPCR without the need of further inhibitor removal step.

Features

- Effective and versatile: Isolates high yield and quality of DNA from high biomass, high contaminant, and low biomass soil samples.
- Robust: High reproducibility of experimental results.
- User-friendly: Simple procedure for simultaneous extraction of DNA and RNA.
- Safe: Does not use any organic denaturants.



Extraction Result

The DNA and RNA extracted with SPINEasy® DNA/RNA Kit for Soil showed high yield and integrity across high biomass, high contaminant, and low biomass soil samples.

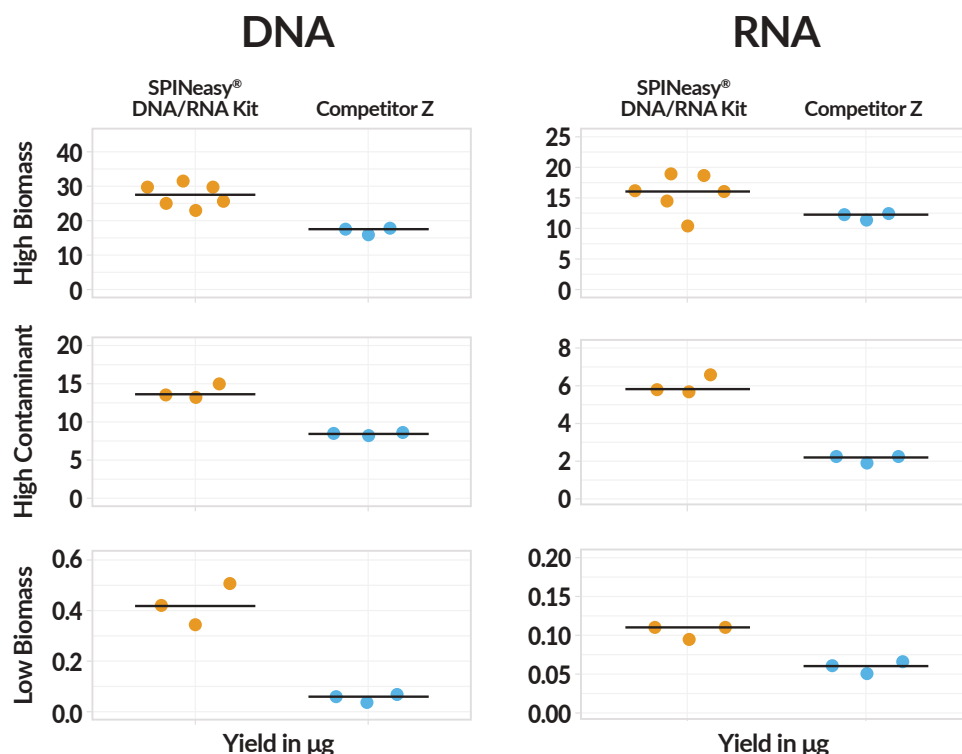


Figure 1. The SPINEasy® DNA/RNA Kit for Soil gives higher yield of nucleic acid than that of Competitor Z. Three types of soil samples (250 mg each) were used for DNA/RNA extraction. Yields were measured by fluorometric quantification. Each dot on the plot represents a single extraction.

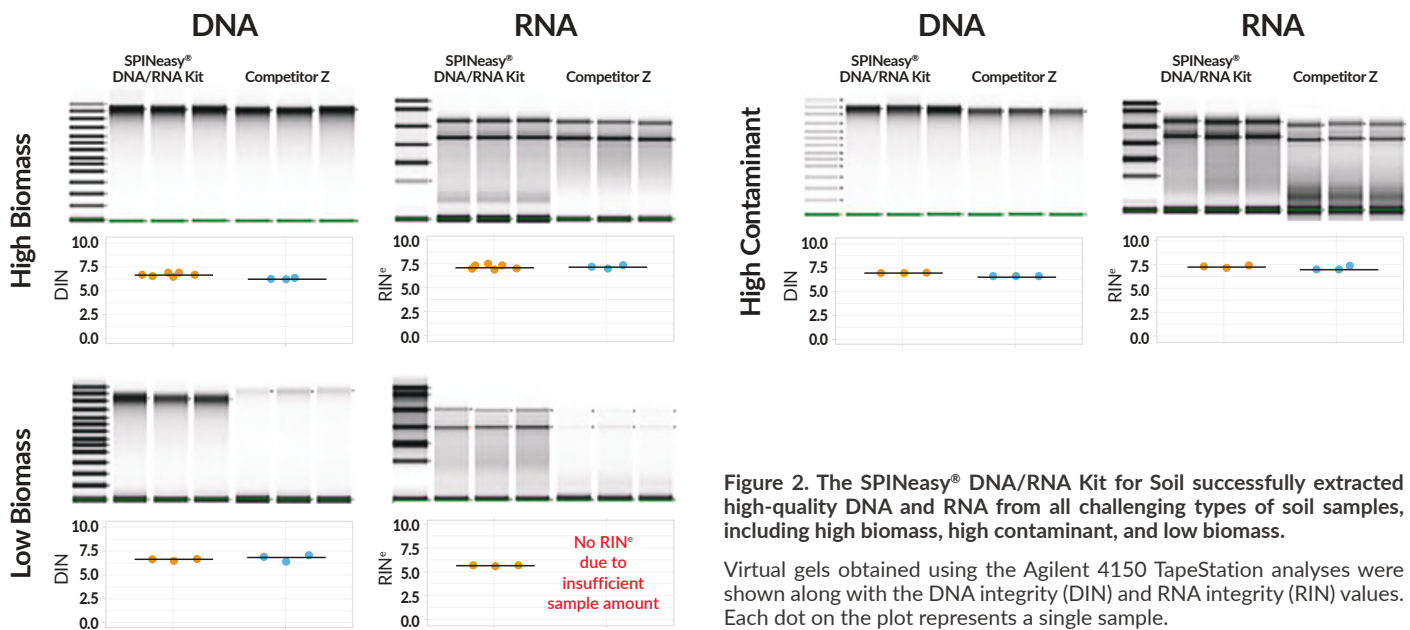


Figure 2. The SPINeasy® DNA/RNA Kit for Soil successfully extracted high-quality DNA and RNA from all challenging types of soil samples, including high biomass, high contaminant, and low biomass.

Virtual gels obtained using the Agilent 4150 TapeStation analyses were shown along with the DNA integrity (DIN) and RNA integrity (RIN) values. Each dot on the plot represents a single sample.

The SPINeasy® DNA/RNA Kit for Soil is designed to tackle challenging samples with large amount of contaminant. Using the SPINeasy® DNA/RNA Kit for Soil, the DNA and RNA extracted from high biomass and high contaminant soil samples can directly be used for inhibitor-sensitive qPCR and RT-PCR, indicating the superior inhibitor removal property of SPINeasy® DNA/RNA Kit for Soil.

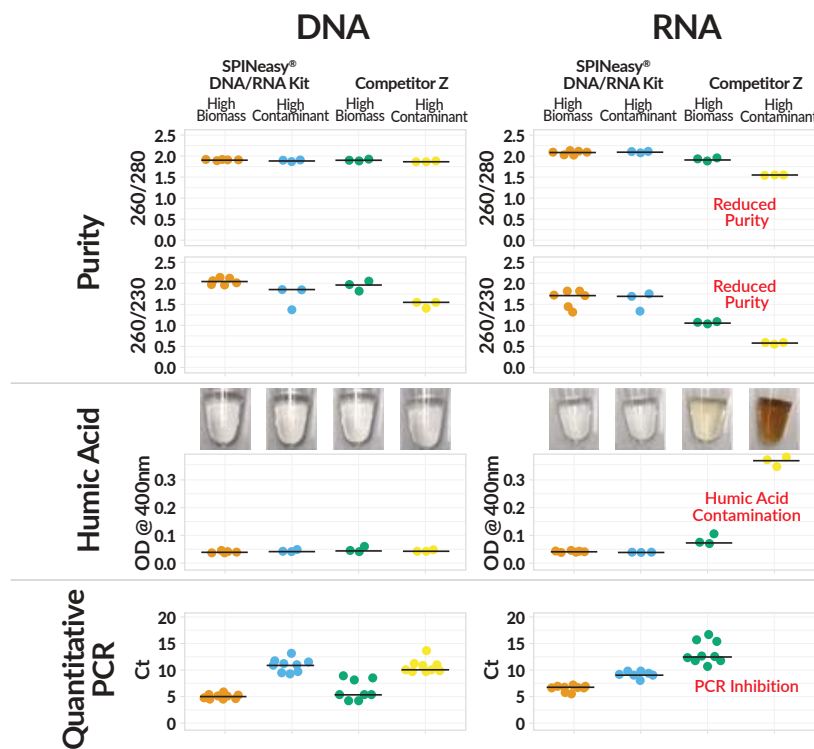


Figure 3. High purity and amplifiability of DNA/RNA extracted with SPINeasy® DNA/RNA Kit for Soil.

Top panel. DNA/RNA purity was indicated by the A260/A280 and A260/A230 ratios.

Middle Panel. Representative picture of the DNA and RNA outputs. A brownish coloration indicates the presence of humic acid contamination, in line with the quantification results using a spectrophotometer @ 400nm.

Bottom panel. The absence of inhibitor was further assessed using inhibitor-sensitive qPCR and RT-qPCR. One microliter of undiluted sample was amplified using primers targeting bacteria ribosomal 16s.

Product Information

Description	Size	Cat.No.
SPINeasy® DNA/RNA Kit for Soil	50 preps	116554050
	5 preps	116554000



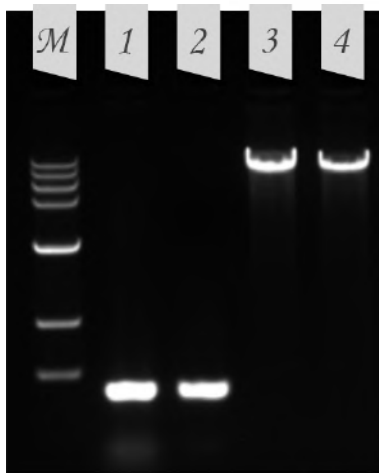
SPINEASY® PCR PURIFICATION AND GEL EXTRACTION KIT

The SPINEasy® PCR Purification and Gel Extraction Kit is a silica-membrane spin-column kit that enables quick and convenient DNA clean up from various enzymatic reactions, such as PCR and restriction digestion, as well as isolation and purification of DNA fragments from agarose gel electrophoresis.

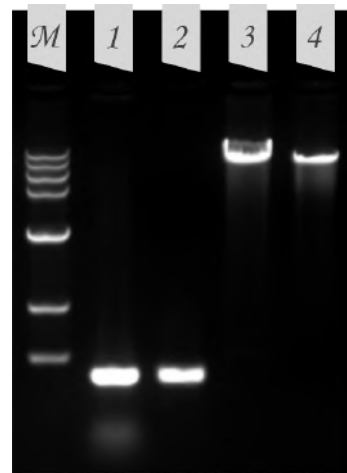
Up to 23 µg of DNA of molecular weight ranging from 100 bp to 20 kb can be purified through a quick and simple process. Purified DNA is immediately ready for routine molecular biology laboratory applications.



Extraction Results



- M: DNA marker
- 1: Unpurified PCR reaction (input)
- 2: Purified PCR product
- 3: Unpurified plasmid restriction digest reaction (input)
- 4: Purified restriction digested plasmid



- M: DNA marker
- 1: Unpurified PCR reaction (input)
- 2: Purified PCR product
- 3: Unpurified plasmid restriction digest reaction (input)
- 4: Restriction digested plasmid purified by gel extraction

Agarose gel electrophoresis of PCR-purified DNA (left) and gel extracted-DNA (right) using SPINEasy® PCR Purification and Gel Extraction Kit

Product Information

Description	Size	Cat.No.
SPINEasy® PCR Purification and Gel Extraction Kit	50 preps	116538050
	5 preps	116538000



SPINEASY® DNA PURIFICATION KIT

Humic acids, heavy metals, heme are the most notorious PCR inhibitors. This could be due to non-optimized DNA purification procedures which often co-purify inhibitors and lead to false negative results on downstream applications.

The **SPINEasy® DNA Purification Kit** is formulated to effectively remove contaminants on pre-purified DNA samples using the novel and proprietary humic acid removal technology. It can recover high quality DNA for all downstream applications.

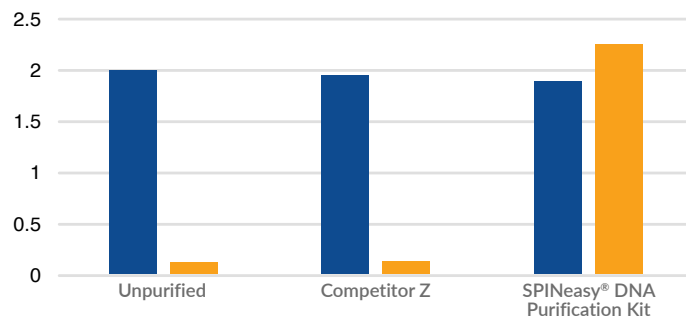


Features

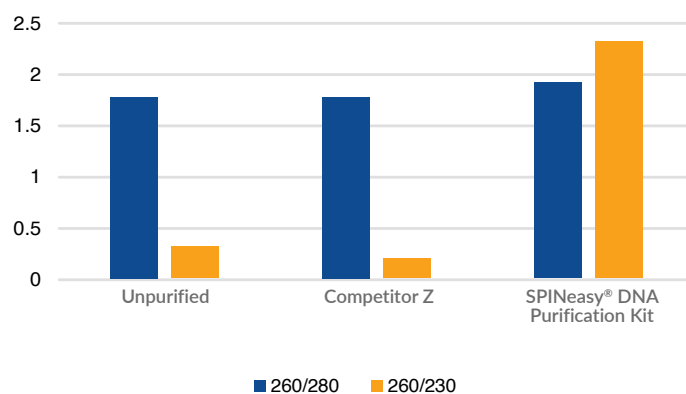
- Fast: Efficient clean-up of highly contaminated pre-purified DNA samples
- Clean: Effective removal of inhibitory compound
- Buffer P1 and P1HA suitable for sample with various degree of contamination

Extraction Results

Chemical Contamination



Chemical and Protein Contamination



SPINeasy® DNA Purification Kit improves A260/280 and A260/230 ratios of sample contaminated with chemicals (SDS, chaotropic salts, solvents, humic acid) or both chemicals and proteins

Product Information

Description	Size	Cat.No.
SPINeasy® DNA Purification Kit	50 preps	116548050
	5 preps	116548000



SPINEASY® DNA/RNA KIT FOR FECES

Simultaneous extraction of nucleic acids for feces at the highest quality has been stepped up to another level at MP Biomedicals. It is now easier than ever to perform a simultaneous isolation of pure microbiome genomic DNA and RNA from challenging feces types irrespective of their composition. Isolated DNA and RNA showed no contaminants and were immediately ready for use in downstream applications, including qPCR and RT-qPCR without the need of further inhibitor removal step.

The composition of fecal samples is largely dependent on diet which includes fibers, undigested particles, bilirubin, complex polysaccharides, and lipids. Those compounds impair the sample homogenization, decrease both the quantity and quality of the extracted DNA. The SPINEasy® DNA/RNA Kit for Feces integrates our proprietary inhibitor removal expertise and our new technology for selective binding of DNA and RNA. This kit is especially suitable when the sample is limited or when both genomic and transcriptomic manipulations are needed. This thereby avoids any potential variation in microbial community composition from processing bias.



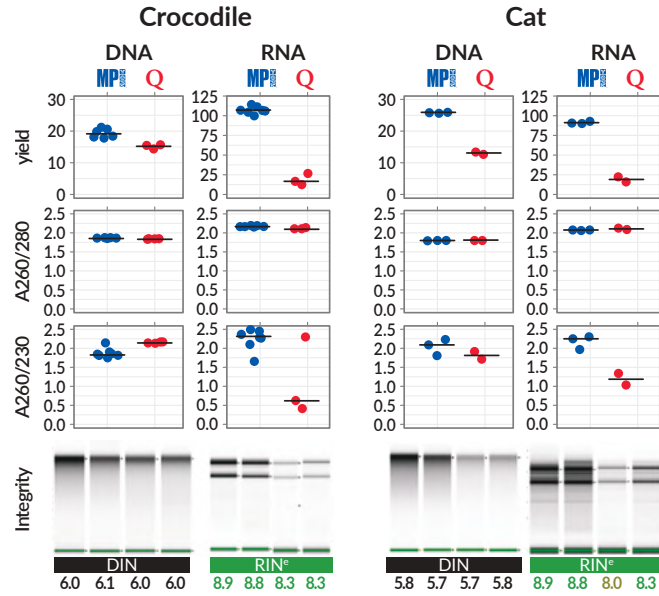
Features

- Innovative lysing matrix enabling the kit to be used on various types of feces samples.
- Uninterrupted workflow allowing simultaneous isolation of DNA and RNA from the same sample.
- High volume sample capacity (up to 250 mg), hence providing maximum yield and purity.
- Fast processing time - less than 45 minutes, or even faster with vacuum manifold.

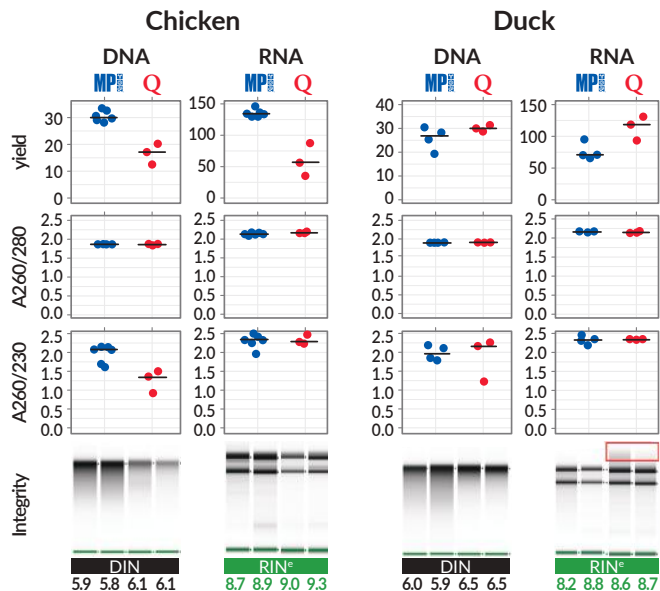
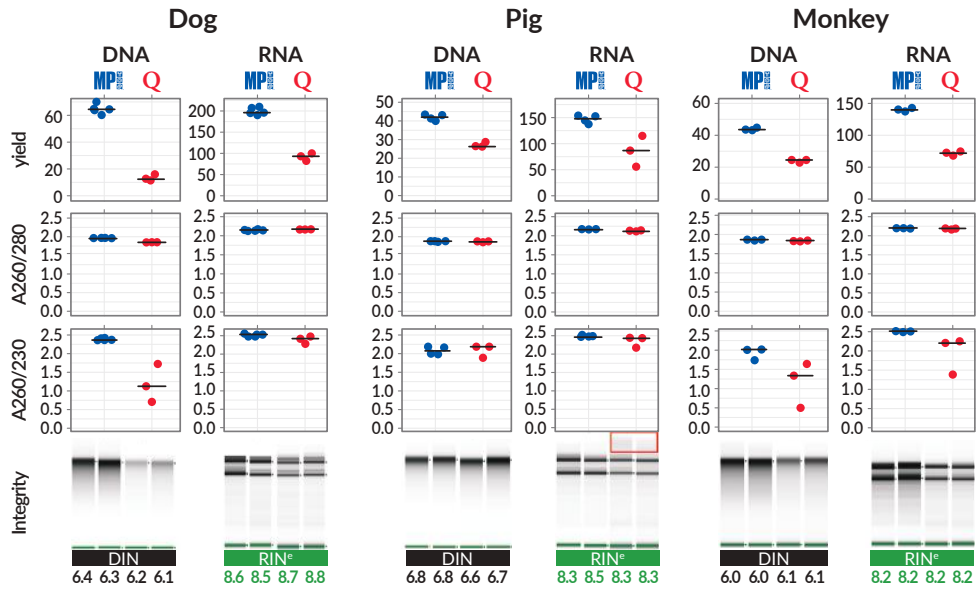
Performance

The SPINeasy® DNA/RNA Kit for Feces extracted DNA and RNA from various fecal samples with high yield and purity.

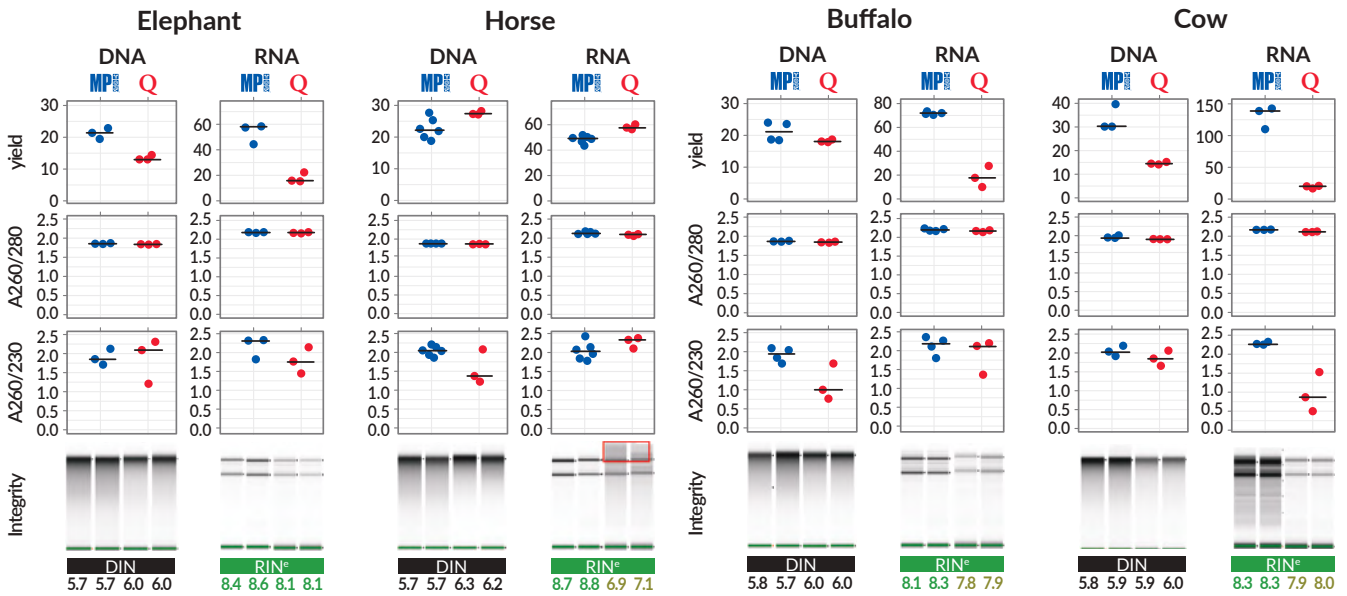
Carnivores



Omnivores



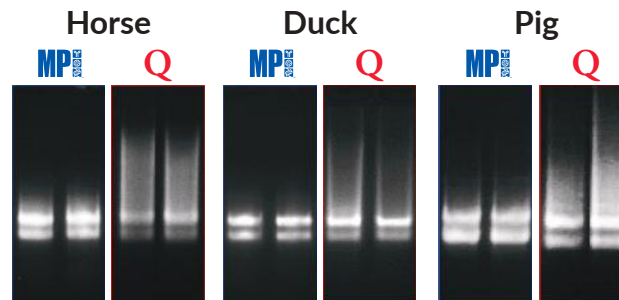
Herbivores



Eleven fecal sample types were processed using SPINeasy® DNA/RNA Kit for Feces and competitor Q kit. Yield and purity ratios (A260/280 and A260/230) were measured by fluorometric quantification. Each dot on the plot represents a single extraction. Representative virtual gels (obtained using Agilent 4150 TapeStation analyses) were presented together with the DNA integrity (DIN) and RNA integrity (RIN) values. The red rectangle indicated the contamination of RNA samples with some high molecular weight DNA.

Extraction Results

No DNA contamination in the RNA samples extracted with the SPINeasy® DNA/RNA Kit for Feces.



RNA samples extracted from horse, duck and pig fecal samples were visualized on agarose gel. Unlike competitor Q, no smeared nucleic acid corresponding to DNA contamination could be observed in RNA samples extracted with MP Biomedicals' kit.

Product Information

Description	Size	Cat.No.
SPINeasy® DNA/RNA Kit for Feces	50 preps	116555050
	5 preps	116555000



SPINEASY® DNA/RNA KIT FOR BLOOD

Blood samples serve diverse purposes in disease diagnosis, genetic research, and addressing conditions like disorders and pregnancy complications. Efficient DNA or RNA extraction is imperative, especially when simultaneous extraction is required. Optimized for simultaneous extraction of DNA and RNA from whole blood samples, the SPINEasy® DNA/RNA Kit for Blood addresses challenges associated with inhibitors and low concentrations.

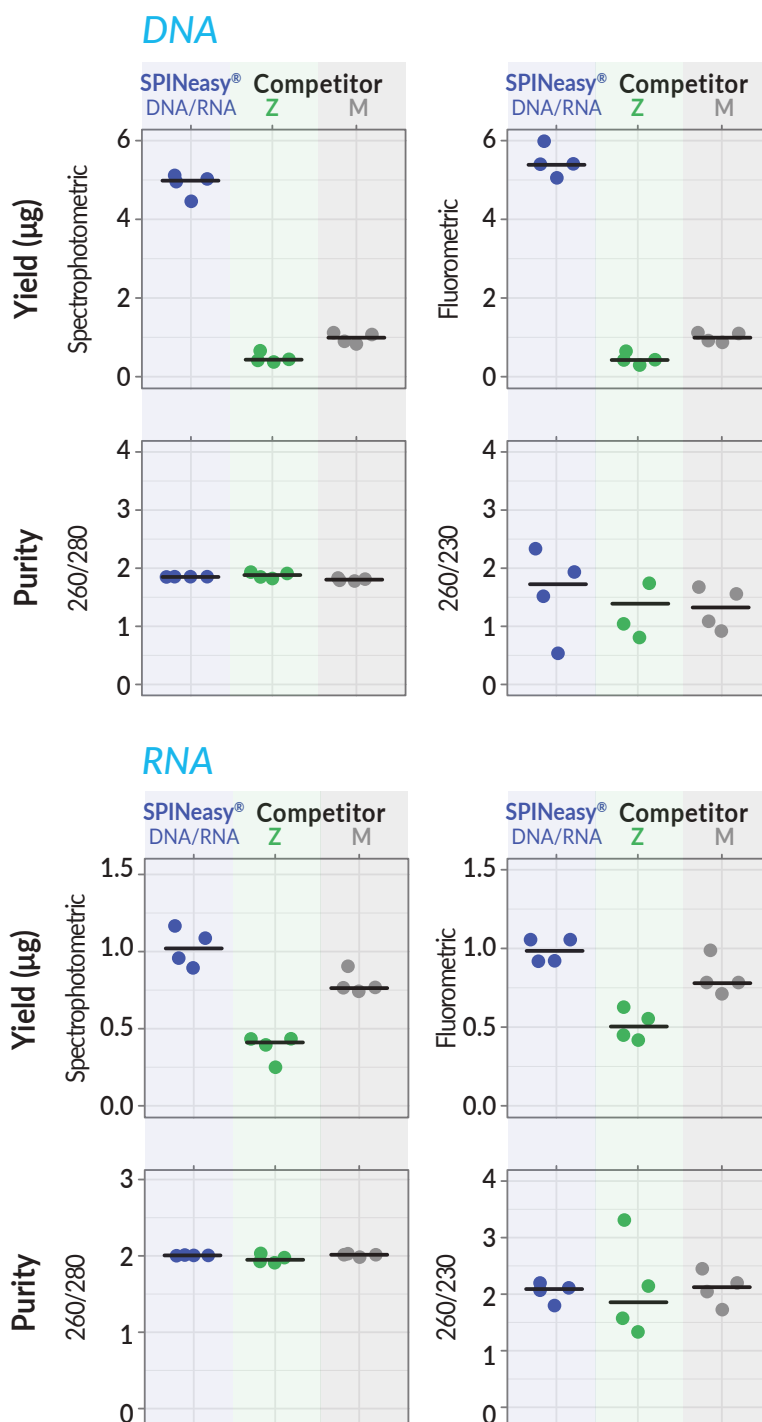
The SPINEasy® DNA/RNA Kit for Blood is a high-performance DNA/RNA extraction kit that is based on silica-membrane spin-column technology. This kit enables simultaneous isolation of genomic DNA and RNA from whole blood preserved in different anticoagulants, in less than 15 minutes. The Lysis Buffer SL1 pairing with minute amount of solvent omits the need of excessive homogenization and enables efficient separation of nucleic acid from the organic impurities fraction consisting of hemoglobin, immunoglobulin, and other blood proteins. The SPINEasy® DNA/RNA kit for Blood enables co-purification of DNA or RNA via two distinct columns from the same sample, making it hassle-free and highly time-efficient, without any sample bias concern. Furthermore, neither DNase nor RNase A is used in the purification process, hence enabling a maximum recovery of DNA and RNA yield. The simplified washing steps largely remove salts, metabolites, and macromolecular cellular components. The extracted DNA and RNA (with high yield and purity) are compatible with downstream applications such as PCR amplification.



Features

- Efficient process eliminates the requirement for enzymatic treatment and DNase I digestion, saving time.
- Superior yield for both DNA and RNA.
- Streamlined extraction with only one solvent and one additional binding buffer.
- Compatible with both fresh and frozen whole blood samples, addressing diverse research needs.

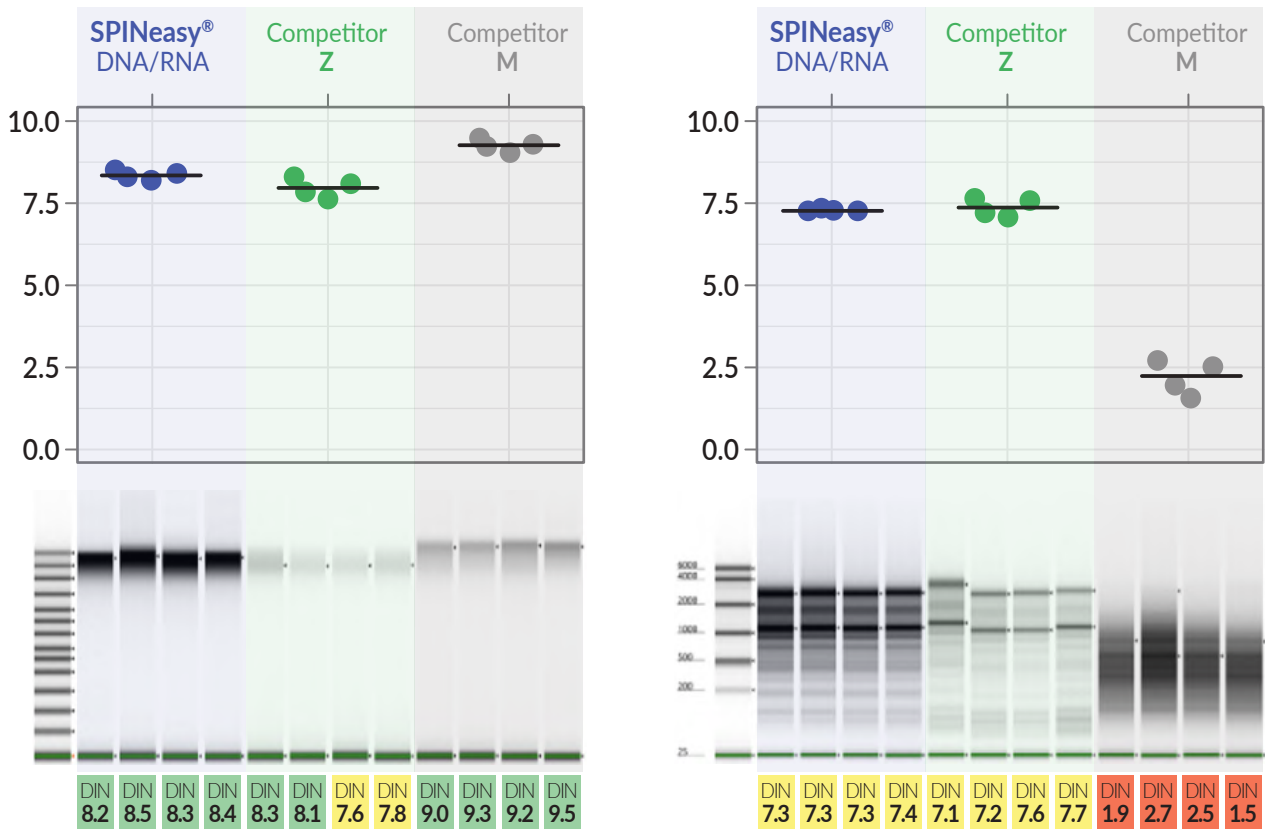
Performance



The SPINeasy® DNA/RNA Kit for Blood provides higher yield of nucleic acid and comparable purity.

Frozen whole blood sample (200 µL) were processed using the SPINeasy® DNA/RNA Kit for Blood, Competitor Z, and Competitor M kits. Yields were measured by spectrophotometric and fluorometric quantification. Each dot on the plot represents a single extraction.

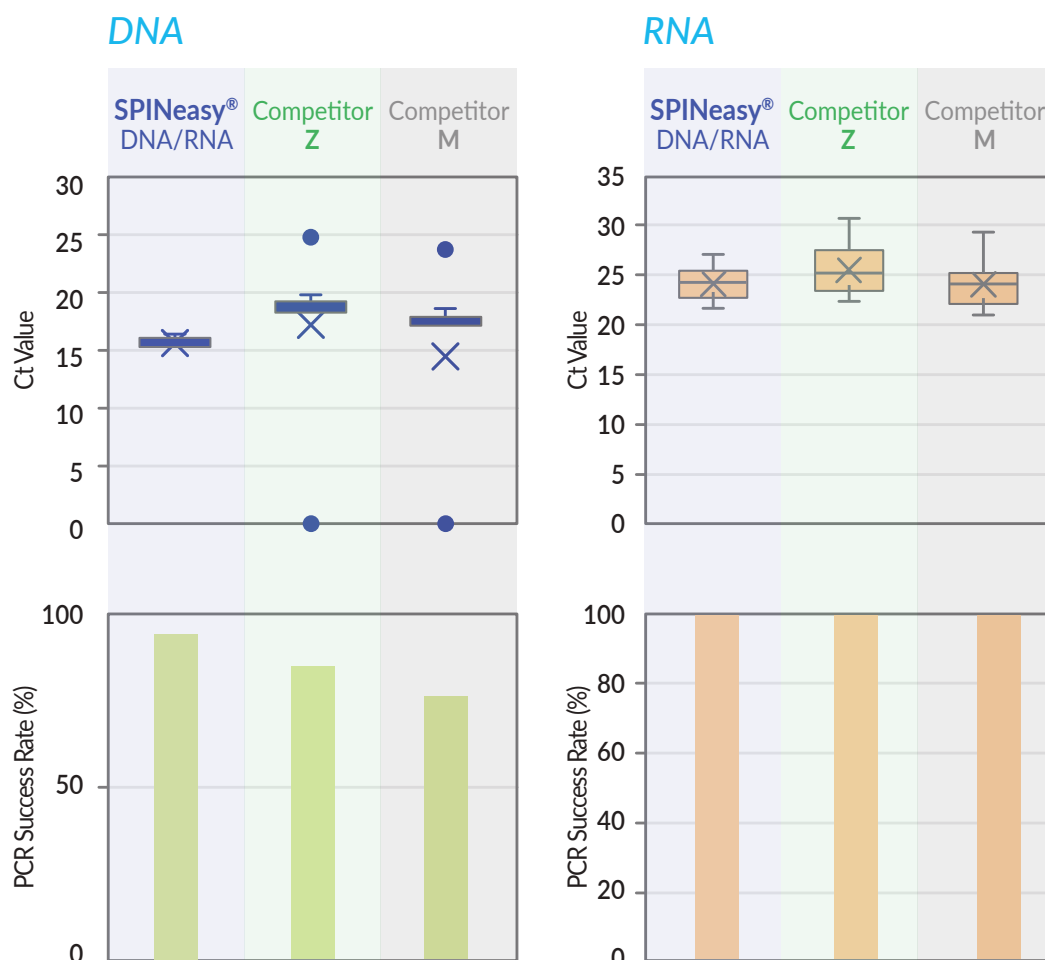
Integrity



The SPINeasy® DNA/RNA Kit for Blood gives good quality DNA and RNA.

The virtual gels from Agilent 4150 TapeStation analyses were displayed along with the DNA integrity (DIN) and RNA integrity (RIN) values. Higher values, nearing 10, signify intact nucleic acids with minimal degradation. DIN and RIN values exceeding 8 and 7, respectively, indicating the presence of high-quality DNA/RNA suitable for subsequent applications. Each dot of the plot represents a sample.

Amplifiability



The SPINeasy® DNA/RNA Kit for Blood delivers high quality DNA and RNA which are fully compatible with downstream qPCR and RT-qPCR, respectively.

Both DNA and RNA samples extracted from SPINeasy® DNA/RNA kit for Blood and the various competitors were amplified in 20 replicates (each for the human GAPDH gene (106bp)).

Product Information

Description	Size	Cat.No.
SPINeasy® DNA/RNA Kit for Blood	50 preps	116582050
	5 preps	116582000

SPINeasy[®]

Plasmid DNA
Extraction Kit

Plasmid DNA purification is an essential step in various procedures, including DNA sequencing, cloning, in vitro translation, etc.

Our SPINeasy® Plasmid DNA Kit is designed for isolating small or medium scale of plasmid DNA from E. coli cultures following the modified alkaline lysis procedure. This is followed by neutralization step to re-nature the hydrogen bonding between bases of ssDNA to form dsDNA. Unwanted impurities will be precipitated through hydrophobic interaction and easily separated from plasmid DNA solution by centrifugation. Plasmid DNA is then eluted and ready for downstream application.

Specification	SPINeasy® Plasmid Miniprep Kit	SPINeasy® Plasmid Midiprep Kit	
Scale	Mini	Midi	
Recommended sample volume	1-5 mL LB culture	25-50 mL LB culture	
Processing time	25 min	60 min	
Desired Yield*	20 µg	1 mg	
APPLICATION	<i>In vitro</i> Transcription	✓	✓
	Cloning	✓	✓
	Next Generation Sequencing	✓	✓
	PCR	✓	✓
	Restriction Digestion	✓	✓
	Transformation	✓	✓
	Endotoxin free	—	—

* Actual yield depends on the culture volume, culture media, copy number of plasmid, host strain, and size of insert.



SPINEASY® PLASMID MINIPREP KIT

SPINEasy® Plasmid Miniprep Kit is a silica-membrane spin-column kit that enables up to 20 µg of high-quality plasmid DNA to be purified from 1-5 mL of transformed bacterial culture in 25 minutes.

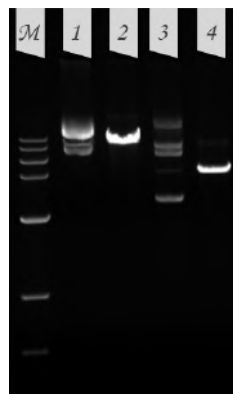
This kit uses modified alkaline lysis method to lyse the cells and separate gDNA from plasmid DNA. High purity plasmid DNA can be obtained through a simple purification process and is immediately ready for routine molecular biology laboratory applications.



Features

- 25 minutes processing time
- **High-quality** plasmid DNA suitable for variety of downstream applications including transfection and sequencing
- **No phenol-chloroform** extraction

Extraction Results

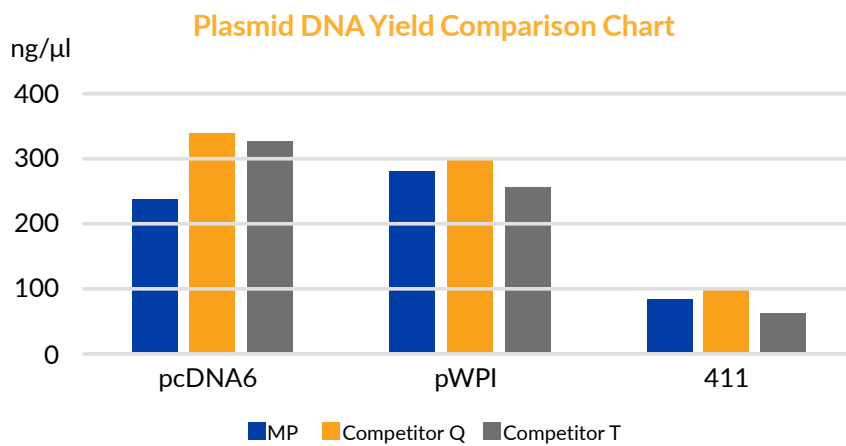


M : DNA marker
 Lane 1 : pWPI plasmid
 Lane 2 : pWPI plasmid linearized by restriction digest
 Lane 3 : pcDNA6 plasmid
 Lane 4 : pcDNA6 plasmid linearized by restriction digest

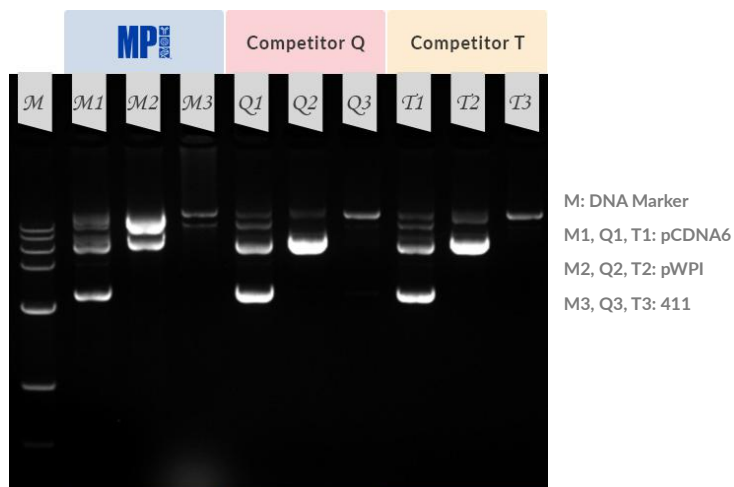
Vector Backbone	Plasmid Size (bp)	Extraction Results		
		Yield (µg)	A _{260/280}	A _{260/230}
pWPI	11,103	14.36	1.89	2.18
pcDNA6	5,149	11.24	1.86	2.19

Purified plasmid analyzed on agarose gel. Plasmid was isolated from 3 mL DH5α cultures harboring the plasmid using SPINEasy Plasmid Miniprep Kit

Comparison Data of DNA extracted with SPINeasy® Plasmid Miniprep Kit



Plasmid DNA was isolated according to manufacturer's recommended protocols from 2 mL LB cultures. DNA was quantified with NanoDrop.



Gel electrophoresis image of plasmid DNA extracted with SPINeasy Plasmid Miniprep and Other Competitors.

Product Information

Description	Size	Cat.No.
SPINeasy® Plasmid Miniprep Kit	50 preps	116534050
	5 preps	116534005



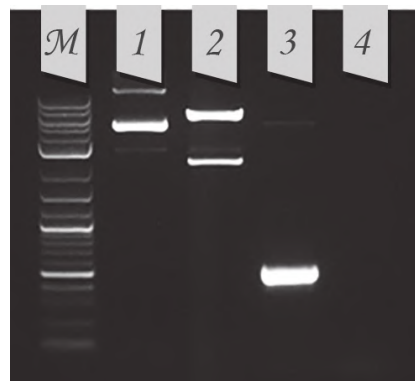
SPINEASY® PLASMID MIDIPREP KIT

SPINEasy® Plasmid Midiprep Kit offers a reliable method for purification of high-copy and low-copy number plasmid DNA from 25-50 mL of transformed bacterial culture.

The midi kit allows user to obtain high-quality plasmid DNA using spin column method without the need of expensive accessories. Using our specially formulated buffers, bacterial cells are disrupted by alkaline lysis to release the plasmid DNA. SPINEasy® Plasmid Midiprep Kit typically produces up to 1 mg of plasmid from the overnight culture in LB medium. High-quality plasmid DNA is immediately ready for routine molecular biology laboratory applications.



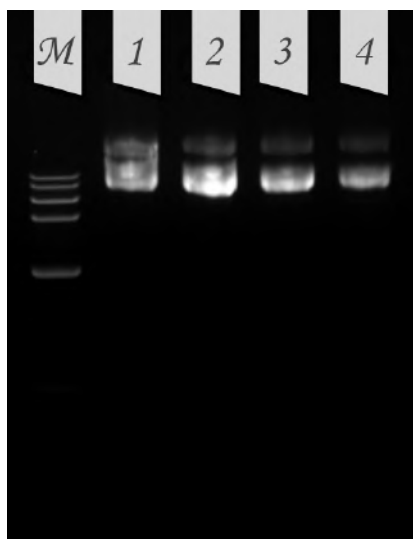
Extraction Results



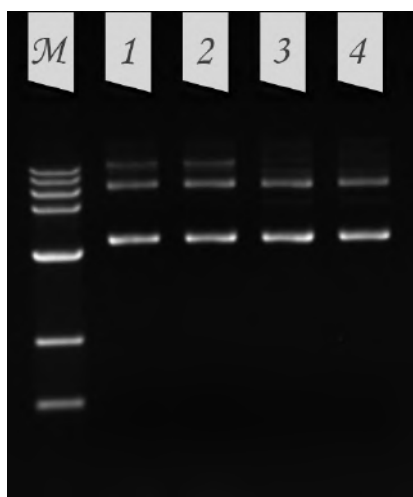
- M : DNA marker;
- Lane 1 : Purified plasmid DNA
- Lane 2 : Plasmid digested with two single cut restriction enzymes, yielding two bands
- Lane 3 : PCR of plasmid, producing a band of the expected amplicon size
- Lane 4 : PCR negative control

Agarose gel electrophoresis result of pcDNA 3.1 plasmid DNA extracted using SPINEasy® Plasmid Midiprep Kit.

Comparison Data of Plasmid extracted with SPINeasy® Plasmid Midiprep Kit and Competitor Kit



Number	Plasmid	Brand	Nanodrop (ng/μl)	A (260/280)	A (260/230)
1-2	pWPI	MP	250.35	1.87	2.07
3-4	pWPI	Competitor T	204.91	1.86	1.91



Number	Plasmid	Brand	Nanodrop (ng/μl)	A (260/280)	A (260/230)
1-2	pcDNA6	MP	307.70	1.89	2.19
3-4	pcDNA6	Competitor T	245.66	1.85	1.98

Above figures show the plasmid DNA isolated according to the manufacturer's recommended protocols from 50 mL of cultures. Each protocol was performed in duplicate with average data shown in the table. DNA was quantified with NanoDrop.

Product Information

Description	Size	Cat.No.
SPINeasy® Plasmid Midiprep Kit	25 preps	116539025
	5 preps	116539000



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