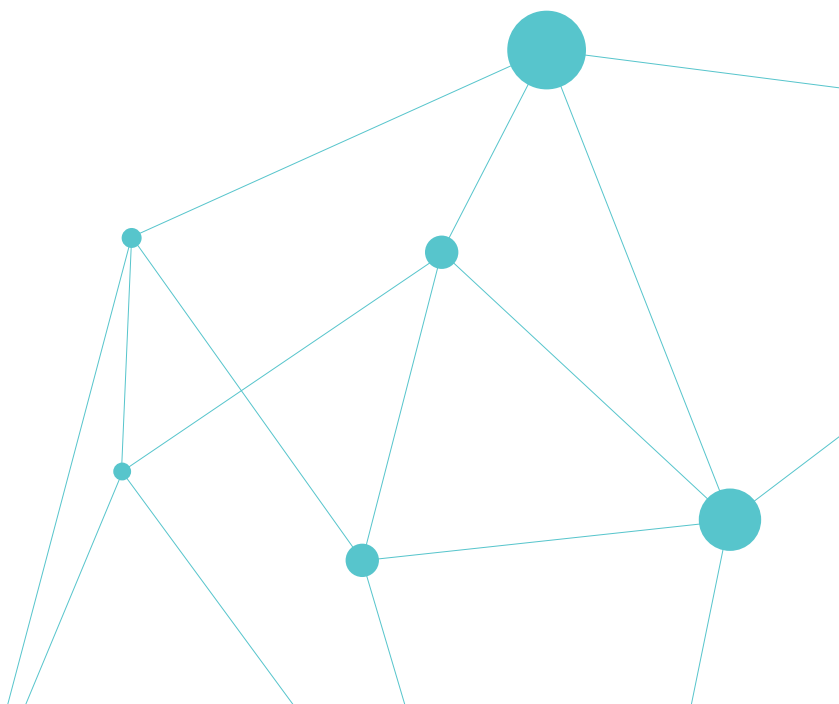




DNA/RNA Purification

- 01. Automatic Nucleic Acid Extraction: *ExiPrep™*
- 02. Magnetic Bead Type Manual Nucleic Acid Extraction: *MagListo™*
- 03. Spin Column Type Manual Nucleic Acid Extraction: *AccuPrep®*
- 04. 96-Well Vacuum Block Type Manual Nucleic Acid Extraction



01. Automatic Nucleic Acid Extraction: *ExiPrep*[™]

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DNA/RNA Preparation Instrument	
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<i>ExiProgen</i> [™] : Go to M. Instruments & Devices	

DNA/RNA Purification

Overview

The extraction and purification of nucleic acid is very important step in molecular biology, biotechnology, biochemistry, laboratory medicine, etc, because the result of experiments, such as PCR/RT-PCR, Real-Time PCR/RT-qPCR, sequencing, subcloning, gene cloning, molecular diagnostics, etc, depends on the quality of an extracted and purified nucleic acid. In addition, it is important to select the extraction kit optimized for samples in order to extract DNA/RNA effectively from blood, animal tissue, culture cell, plant tissue as well as biological specimen. Bioneer has supplied optimized kits for nucleic acid extraction and purification to help various experiments of customers. Bioneer's nucleic acid extraction and purification kit will be with you in your successful research.

Bioneer has 4 types of nucleic acid extraction product lines from manual kits to automated platforms.

○ *ExiPrep*[™]

ExiPrep[™] DNA/RNA Extraction Kit can automatically extract high quality nucleic acids from different 16 samples, such as blood, animal/plant tissues, cultured cell, with *ExiPrep*[™] 16 Plus instruments. This product uses a 'Pre-Loaded Buffer Cartridge System' which provides user convenience and reproducibility by loading all necessary reagents within the kit. Pre-installed protocols are optimized for each specific sample and target nucleic acid type to provide robust results run after run. The silica magnetic particles used in the product have high DNA/RNA binding capacity and were developed using in-house nanoparticle R&D expertise.

○ *MagListo*[™]

MagListo[™] Magnetic Nanobead-based Nucleic Acid Extraction Kit is a product leading change and innovation in nucleic acid extraction market. The product of single spin column type occupying most of market share has limited at initial volume of sample because of some problems such as a binding capacity of membrane filter, clogging, etc. In case of large scale, shortcoming is that an extraction step takes a lot of time due to centrifugation step. Because it is able to remove binding materials (nanobead) by magnetism, nucleic acid extraction using magnetic nanobead can easily separate cell lysate and nucleic acid in short time. In addition you can use a kind of this kit in various scales by just adjusting of volume of magnetic nanobead and buffer according to sample amount.

○ *AccuPrep*[®]

AccuPrep[®] DNA/RNA Extraction Kit is Bioneer's the most popular nucleic acid extraction product type which uses a single spin column with glass micro fiber filters. Bioneer provides various products for high-purity and high-yield Genomic DNA, Plasmid DNA, Viral RNA or fragment DNA. The *AccuPrep*[®] Nano-Plus Plasmid DNA Extraction Kit uses Bioneer's proprietary cell fragment and protein removal technology to reduce plasmid DNA prep time from the usual 30 minutes to a revolutionary 10 minutes. The nano-particles caught only target DNA/RNA from a complex among cellular debris, denatured proteins and other unnecessary materials, in a clear lysate within just 1 minute.

○ *AccuPrep*[®] (96 Well Vacuum Block)

AccuPrep[®] DNA Extraction Kit for 96 well vacuum manifold is designed for high-throughput DNA extraction. The 96-well plate format kit is attached to a vacuum manifold (*BioVac*[™] 96 vacuum manifold) to extract and purify DNA from up to 96 samples simultaneously.

Blood Genomic DNA Kit



Description

Blood Genomic DNA Kit enables extraction of genomic DNA from whole blood samples with high yield and purity using automated nucleic acid extraction instrument, *ExiPrep*[™]16 Plus and *ExiProgen*[™].

Features and Benefits

- All reagents are pre-dispensed into a pre-filled buffer cartridge system
- The kit contains all required consumables such as a disposable filter tip, an elution tube, etc
- The kit is able to process up to 16 samples in a single run
- Bioneer's patented magnetic silica beads ensure high yield and purity
- The automated process ensures reproducible results

Specifications

Feature	Specification
Starting amount	200 µl
Elution volume	50~200 µl
Expected yield	3~5 µg
Expected purity (A _{260/280})	> 1.8

*The measurement value may vary depending on the type and condition of the sample.

Ordering Information

Cat. No.	Product Description	Instrument Type
K-4211	<i>ExiPrep</i> [™] Plus Blood Genomic DNA Kit, 96 rxn	<i>ExiPrep</i> [™] 16 Plus, <i>ExiProgen</i> [™]

Application

PCR, Quantitative Real-Time PCR, Cloning, SNP analysis, Pharmacogenomics, and Genetics

Experimental Data

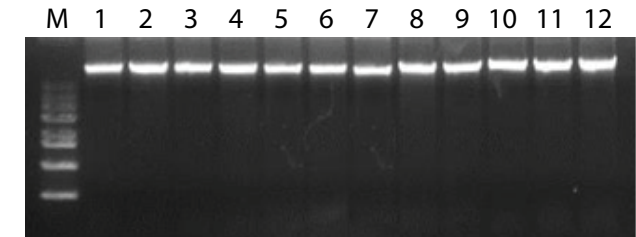
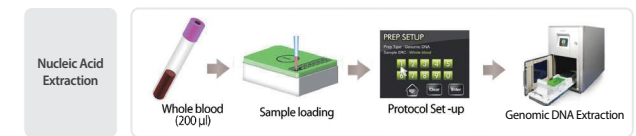


Figure 1. Genomic DNA from human whole blood (200 µl) using *ExiPrep*[™] Plus Blood Genomic DNA Kit.

M: 1 kb DNA Ladder (Cat. No. D-1040, Bioneer)

1-12: Extracted genomic DNA
mean yield; 2.8 µg, mean purity; 1.8

Procedure



Tissue Genomic DNA Kit



Description

Tissue Genomic DNA Kit enables extraction of genomic DNA from animal tissue samples with high yield and purity using automated nucleic acid extraction instrument, *ExiPrep™* 16 series (*ExiPrep™* 16, *ExiPrep™* 16 Plus) and *ExiProgen™*. The Tissue Lysis Buffer with Proteinase K included in the kit is optimized for various animal tissues, which increase extraction yield of genomic DNA.

Features and Benefits

- All reagents are pre-dispensed into a pre-filled buffer cartridge system
- The kit contains all required consumables such as a disposable filter tip, an elution tube, etc
- The kit is able to process up to 16 samples in a single run
- Bioneer's patented magnetic silica beads ensure high yield and purity.
- The automated process ensures reproducible results

Specifications

Feature	Specification
Starting amount	Up to 25 mg
Elution volume	50~100 µl
Expected yield	5~20 µg
Expected purity (A _{260/280})	> 1.8

*The measurement value may vary depending on the type and condition of the sample.

Application

PCR, Quantitative Real-Time PCR, Gene cloning, SNP analysis, and Genetics

Ordering Information

Cat. No.	Product Description	Instrument Type
K-3225	<i>ExiPrep™</i> Tissue Genomic DNA Kit, 96 rxn	<i>ExiPrep™</i> 16, <i>ExiPrep™</i> 16 Plus, <i>ExiProgen™</i>

Experimental Data

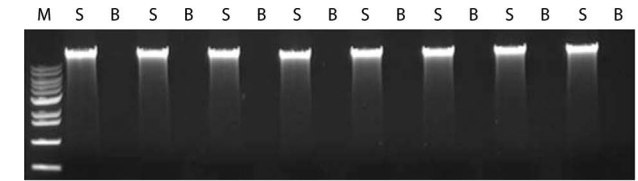


Figure 1. Electrophoresis of genomic DNA extracted from mouse tissue. Genomic DNA was extracted from mouse tissue (lung, 25 mg), then followed by 1% agarose gel electrophoresis.
M: 1 kb DNA Ladder (Cat. No. D-1040, Bioneer)
Lane S: Extraction with tissue sample
Lane B: Extraction with D.W. only

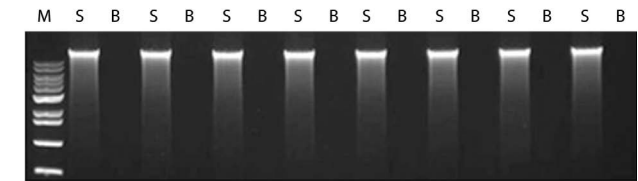
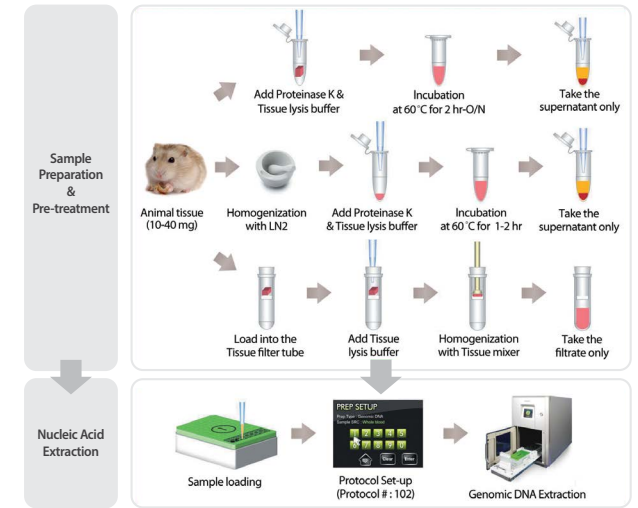


Figure 2. Electrophoresis of genomic DNA extracted from mouse tail-tip. Genomic DNA was extracted from mouse tail-tip (~1 cm), then followed by 1% agarose gel electrophoresis.
M: 1 kb DNA Ladder (Cat. No. D-1040, Bioneer)
Lane S: Extraction with mouse tail-tip sample
Lane B: Extraction with D.W. only

Procedure



Bacteria Genomic DNA Kit



Description

Bacteria Genomic DNA Kit enables extraction of genomic DNA from Gram (-) and Gram (+) bacteria with high yield and purity using automated nucleic acid extraction instrument, *ExiPrep*[™] 16 series (*ExiPrep*[™] 16, *ExiPrep*[™] 16 Plus) and *ExiProgen*[™].

Features and Benefits

- All reagents in the kit are pre-dispensed into a pre-filled buffer cartridge system
- The kit provides a highly optimized buffer for lysis and resuspension of bacterial cells
- The kit contains all required consumables such as a disposable filter tip, an elution tube, etc
- The kit is able to process up to 16 samples in a single run
- Bioneer's patented magnetic silica beads ensure high yield and purity
- The automated process ensures reproducible results

Specifications

Feature	Specification
Starting amount	Up to 1x10 ⁹ cells
Elution volume	50~100 µl
Expected yield	Up to 10 µg
Expected purity (A _{260/280})	> 1.8

*The measurement value may vary depending on the type and condition of the sample.

Application

PCR, Quantitative Real-Time PCR, Gene cloning, Genetics, and Classification of bacteria

Ordering Information

Cat. No.	Product Description	Instrument Type
K-3245	<i>ExiPrep</i> [™] Bacteria Genomic DNA Kit, 96 rxn	<i>ExiPrep</i> [™] 16
K-4214	<i>ExiPrep</i> [™] Plus Bacteria Genomic DNA Kit, 96 rxn	<i>ExiPrep</i> [™] 16 Plus, <i>ExiProgen</i> [™]

Experimental Data

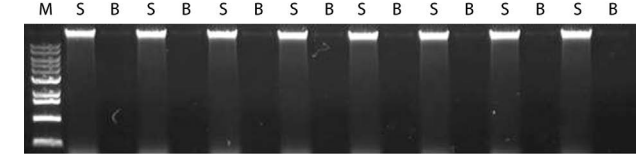


Figure 1. Electrophoresis of genomic DNA extracted from *E. coli* cell (1x10⁹ cells).

Genomic DNA was extracted from *E. coli* cell (1x10⁹ cells), then followed by 1% agarose gel electrophoresis.

M: 1 kb DNA Ladder (Cat. No. D-1040, Bioneer)

Lane S: Extraction with *E. coli* cell sample

Lane B: Extraction with D.W. only

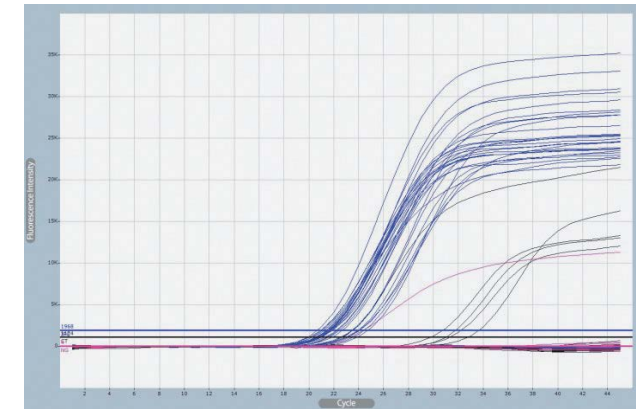


Figure 2. Results of STD testing using urine sample.

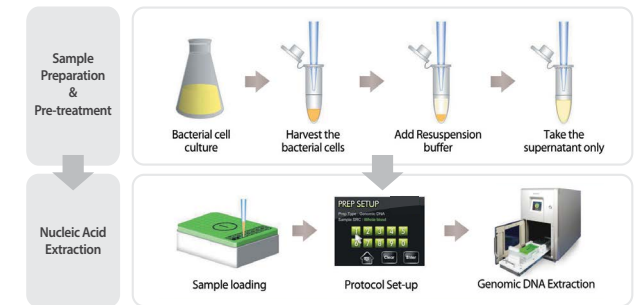
Results of real-time PCR of bacterial genomic DNA from 10 ml urine sample using *AccuPower*[®] CT&NG Real-Time PCR Kit (Cat. No. STD2A-1111, Bioneer), *Exicycler*[™] 96 Real-Time Quantitative Thermal Block (Cat. No. A-2060, Bioneer).

Blue: IPC (Internal positive control)

Black: CT positive result (CT positive sample)

Pink: NG positive result (NG positive sample)

Procedure



Plant Genomic DNA Kit



Description

Plant Genomic DNA Kit enables extraction of genomic DNA from plant samples, such as leaf tissues, seeds and roots, etc, with high yield and purity using automated nucleic acid extraction instrument, *ExiPrep™* 16 series (*ExiPrep™* 16, *ExiPrep™* 16 Plus) and *ExiProgen™*. Plant tissues can be efficiently digested and disrupted using the included Plant Lysis Buffer and Protease.

Features and Benefits

- All reagents in the kit are pre-dispensed into a pre-filled buffer cartridge system
- The kit contains all required consumables such as a disposable filter tip, an elution tube, etc
- The kit is able to process up to 16 samples in a single run
- Bioneer’s patented magnetic silica beads ensure high yield and purity
- The automated process ensures reproducible results

Specifications

Feature	Specification
Starting amount	Up to 100 mg
Elution volume	50~100 µl
Expected yield	3~5 µg
Expected purity (A _{260/280})	> 1.8

*The measurement value may vary depending on the type and condition of the sample.

Ordering Information

Cat. No.	Product Description	Instrument Type
K-3255	<i>ExiPrep™</i> Plant Genomic DNA Kit, 96 rxn	<i>ExiPrep™</i> 16
K-4215	<i>ExiPrep™</i> Plus Plant Genomic DNA Kit, 96 rxn	<i>ExiPrep™</i> 16 Plus, <i>ExiProgen™</i>

Application

PCR, Quantitative Real-Time PCR, Gene cloning, Genetics, and GMO detection

Experimental Data

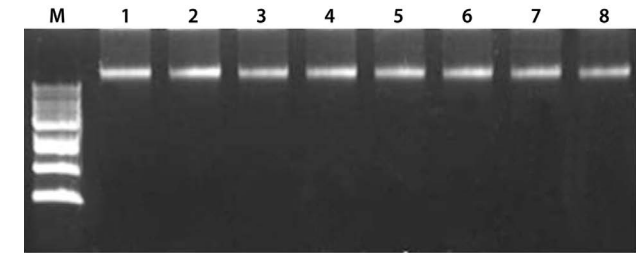
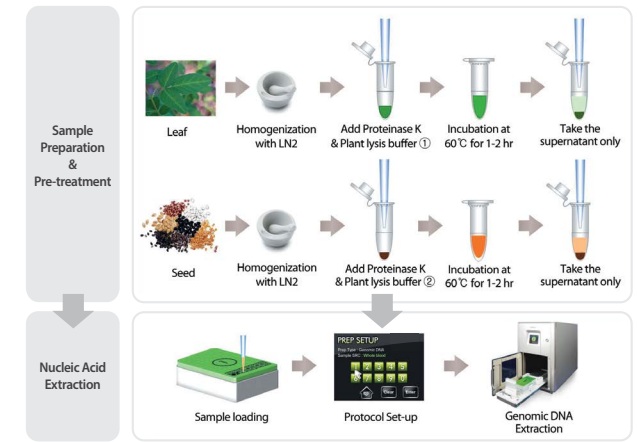


Figure 1. Electrophoresis of genomic DNA extracted from chinese cabbage leaf tissue (100 mg)

Genomic DNA was extracted followed by agarose gel electrophoresis.
M: 1 kb DNA Ladder (Cat. No. D-1040, Bioneer)
Lane 1~8: Extracted genomic DNA

Procedure



Seed Genomic DNA Kit



Description

Seed Genomic DNA Kit allows rapid extraction of highly-pure genomic DNA with high-yield from various plant samples such as seed, tissue, root, etc, using automatic nucleic acid extraction instruments: *ExiPrep*[™]16 Plus and *ExiProgen*[™]. Pre-filled buffer cartridges with essential reagents for nucleic acid extraction can be used to isolate maximum of 16 samples simultaneously with ease. Furthermore, Seed Lysis Buffer and Proteinase K included this product can break down plant tissues while Precipitation Buffer can effectively remove impurities.

Features and Benefits

- All reagents in the kit are pre-dispensed into a pre-filled buffer cartridge system
- The kit contains all required consumables such as a disposable filter tip, an elution tube, etc
- The kit is able to process up to 16 samples in a single run
- Bioneer's patented magnetic silica beads ensure high yield and purity
- The automated process ensures reproducible results

Specification

Feature	Specification
Starting amount	Up to 50 mg (Seed) Up to 100 mg (leaf)
Elution volume	50~100 µl
Expected yield	1~5 µg
Expected purity ($A_{260/280}$)	> 1.7

*The measurement value may vary depending on the type and condition of the sample.

Application

PCR, Quantitative Real-Time PCR, Gene cloning, Genetics, and GMO detection

Ordering Information

Cat. No.	Product Description	Instrument Type
K-4217	<i>ExiPrep</i> [™] Plus Seed Genomic DNA Kit, 96 rxn	<i>ExiPrep</i> [™] 16 Plus, <i>ExiProgen</i> [™]

Experimental Data

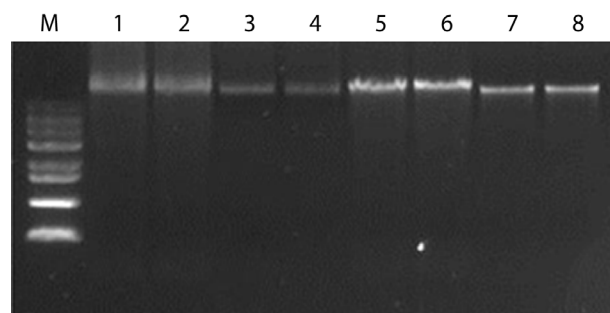


Figure 1. Comparison of genomic DNA extracted from *Citrullus lanatus* seed (50 mg) using *ExiPrep*[™] Plus Seed Genomic DNA Kit (Bioneer, automatic), *ExiPrep*[™] Plus Plant Genomic DNA Kit (Bioneer, automatic), *MagListo*[™] 5M Plant Genomic DNA Extraction Kit (Bioneer, manual/magnetic bead) and a competitor's kit (Competitor Q, manual/single column).

M: 1 kb DNA Ladder (Cat. No. D-1040, Bioneer)

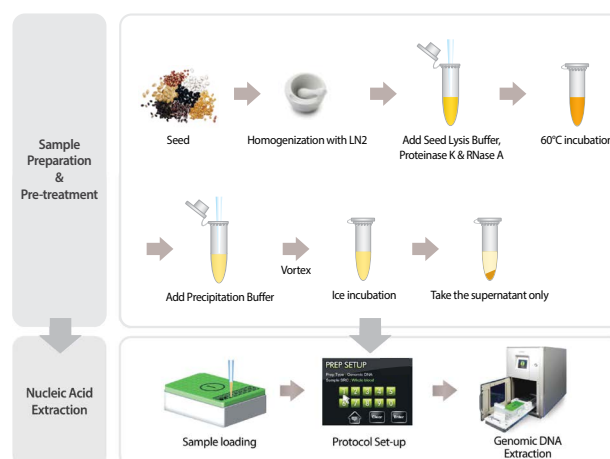
Lane 1-2: Bioneer *ExiPrep*[™] Plus Seed Genomic DNA Kit, mean yield; 2.8 µg, mean purity; 1.74

Lane 3-4: Bioneer *ExiPrep*[™] Plus Plant Genomic DNA Kit, mean yield; 1.9 µg, mean purity; 1.4

Lane 5-6: Bioneer *MagListo*[™] 5M Plant Genomic DNA Extraction Kit, mean yield; 3.4 µg, mean purity; 1.66

Lane 7-8: Competitor Q Genomic DNA Extraction Kit, mean yield; 2.1 µg, mean purity; 1.5

Procedure



Beef Genomic DNA Kit



Description

Beef Genomic DNA Kit allows extraction of genomic DNA for Korean beef discrimination using automatic nucleic acid extraction instruments: *ExiPrep*™16 series (*ExiPrep*™16, *ExiPrep*™16 Plus) and *ExiProgen*™. Pre-filled buffer cartridges with essential reagents for nucleic acid extraction can be used to isolate maximum of 16 samples simultaneously with ease. Furthermore, following the preparation method in the user manual, the Tissue Lysis buffer and Proteinase K included in this product can effectively break down animal tissues.

Features and Benefits

- All reagents in the kit are pre-dispensed into a pre-filled buffer cartridge system
- The kit contains all required consumables such as a disposable filter tip, an elution tube, etc
- Bioneer's patented magnetic silica beads ensure high yield and purity
- The automated process ensures reproducible results

Specification

Feature	Specification
Starting amount	10~40 mg
Elution volume	50~100 µl
Expected yield	Up to 10 µg
Expected purity ($A_{260/280}$)	> 1.8

*The measurement value may vary depending on the type and condition of the sample.

Application

PCR, Quantitative Real-Time PCR, Gene cloning, SNP analysis, and Genetics

Ordering Information

Cat. No.	Product Description	Instrument Type
K-3200-CB	<i>ExiPrep</i> ™ Beef Genomic DNA Kit, 96 rxn	<i>ExiPrep</i> ™16, <i>ExiPrep</i> ™16 Plus, <i>ExiProgen</i> ™

Experimental Data

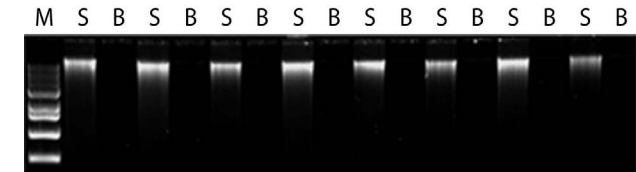


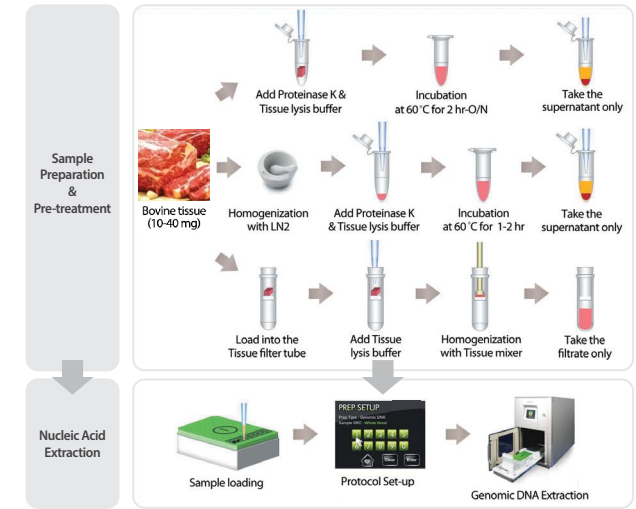
Figure 1. Electrophoresis results of genomic DNA extracted from bovine tissues (40mg)

M: 1 kb DNA Ladder (Cat. No. D-1040, Bioneer)

Lane S: Extraction with bovine tissue sample
mean yield; 10 µg, mean purity; 1.8

Lane B: Extraction with D.W. only.

Procedure



Rice Genomic DNA Kit



Description

Rice Genomic DNA Kit allows rapid extraction of genomic DNA for a rice variety inspection using automatic nucleic acid extraction instruments: *ExiPrep*[™]16 series (*ExiPrep*[™]16, *ExiPrep*[™]16 Plus) and *ExiProgen*[™]. Pre-filled buffer cartridges with essential reagents for nucleic acid extraction can be used to isolate maximum of 16 samples simultaneously with ease. Furthermore, following the preparation method in the user manual, Rice Lysis Buffer and Proteinase K included in this product can effectively break down of plant tissues and removal of impurities.

Features and Benefits

- All reagents in the kit are pre-dispensed into a pre-filled buffer cartridge system
- The kit contains all required consumables such as a disposable filter tip, an elution tube, etc
- Bioneer's patented magnetic silica beads ensure high yield and purity
- The automated process ensures reproducible results

Specification

Feature	Specification
Starting amount	10~20 mg
Elution volume	50 µl
Expected yield	1~2 µg
Expected purity (A _{260/280})	> 1.8

*The measurement value may vary depending on the type and condition of the sample.

Application

PCR, Quantitative Real-Time PCR, Gene cloning, SNP analysis, and Genetics

Ordering Information

Cat. No.	Product Description	Instrument Type
K-3200-CR	<i>ExiPrep</i> [™] Rice Genomic DNA Kit, 96 rxn	<i>ExiPrep</i> [™] 16, <i>ExiPrep</i> [™] 16 Plus, <i>ExiProgen</i> [™]

Experimental Data

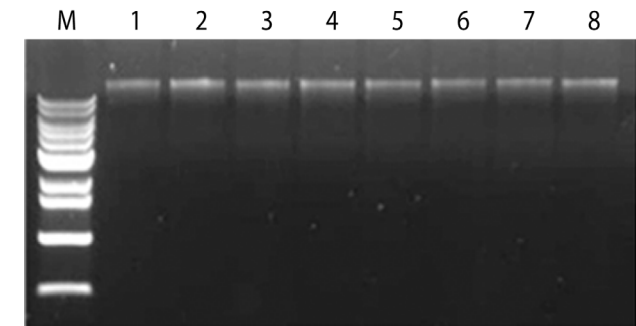


Figure 1. Electrophoresis results of genomic DNA extracted from rice samples

Results from 1% agarose gel electrophoresis of genomic DNA extracted from processed white rice samples.

M: 1kb DNA Ladder (Cat. No. D-1040, Bioneer)

Lane 1-8: Extraction with rice samples

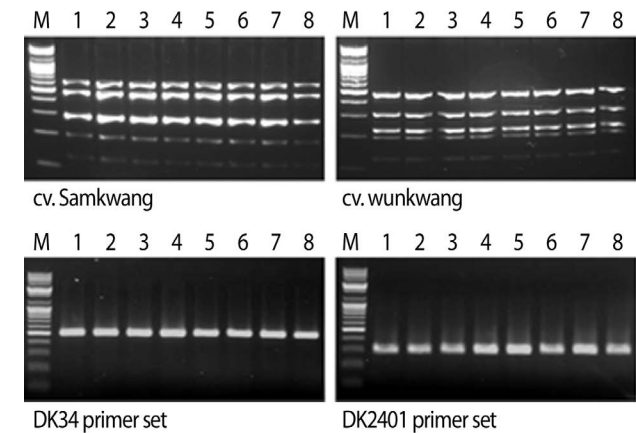


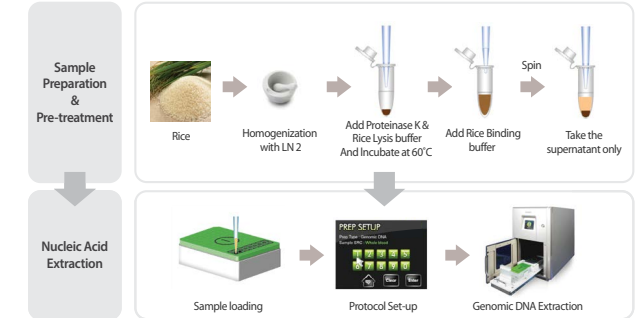
Figure 2. PCR results of genomic DNA extracted from rice sample

Results of 1% agarose gel electrophoresis of PCR with extracted genomic DNA using each PCR primer sets.

M: Size marker

Lane 1-8: PCR product with extracted genomic DNA

Procedure



Total RNA Kit



Description

This product can extract high purity total RNA from various samples such as mammalian cell, tissue and bacteria using *ExiPrep*TM16 Plus and *ExiProgen*TM. The RC Buffer included in this product is very effective in digesting the sample and inhibiting RNA degradation by RNase according to the sample preparation method in the supplied User Manual.

Features and Benefits

- All reagents in the kit are pre-dispensed into a pre-filled buffer cartridge system
- The kit contains all required consumables such as a disposable filter tip, an elution tube, etc
- The kit is able to process up to 16 samples in a single run
- Bioneer's patented magnetic silica beads ensure high yield and purity
- The automated process ensures reproducible results

Specification

Sample type	Starting amount	Expected yield	Purity (A _{260/280})
Animal tissue	~10 mg	~50 µg	> 2.0
Cultured cell	~4x10 ⁶ cells	~50 µg	
Gram (+) bacteria	~10 ⁹ cells	~45 µg	
Gram (-) bacteria	~10 ⁹ cells	~45 µg	

*The measurement value may vary depending on the type and condition of the sample .

Application

RT-PCR, Quantitative Real-Time RT-PCR, cDNA synthesis, and Chip-array analysis

Ordering Information

Cat. No.	Product Description	Instrument Type
K-4241	<i>ExiPrep</i> TM Plus Total RNA Kit, 96 rxn	<i>ExiPrep</i> TM 16 Plus, <i>ExiProgen</i> TM

Experimental Data

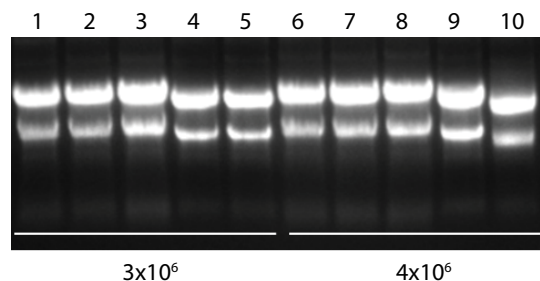


Figure 1. Comparison of Total RNA extracted from HeLa cell (~ 4 x 10⁶) using *ExiPrep*TM Plus Total RNA Kit (Bioneer, automatic) and a competitor's kit (Competitor Q, manual/single column). DNase was not treated.

Lane 1-3: Bioneer *ExiPrep*TM Plus Total RNA Kit, mean yield; 38.6 µg, mean purity; 2.06

Lane 4-5: Competitor Q Total RNA Extraction Kit, mean yield; 39.7 µg, mean purity; 2.05

Lane 6-8: Bioneer *ExiPrep*TM Plus Total RNA Kit, mean yield; 46.1 µg, mean purity; 2.03

Lane 9-10: Competitor Q Total RNA Extraction Kit, mean yield; 49.7 µg, mean purity; 2.06

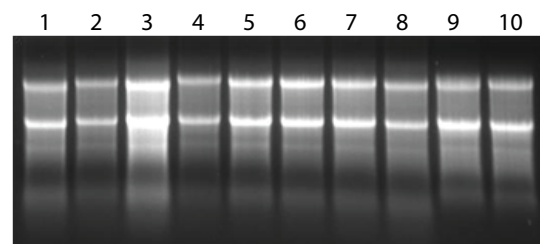
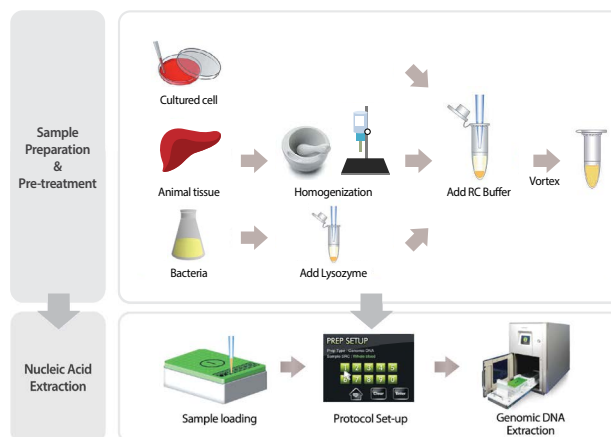


Figure 2. Comparison of Total RNA extracted from Kidney (10 mg) using *ExiPrep*TM Plus Total RNA Kit (Bioneer, automatic) and a competitor's kit (Competitor Q, manual/single column). DNase was treated.

Lane 1-8: Bioneer *ExiPrep*TM Plus Total RNA Kit, mean yield; 26.7 µg, mean purity; 2.06

Lane 9-10: Competitor Q Total RNA Extraction Kit, mean yield; 24.7 µg, mean purity; 2.05

Procedure



Plant Total RNA Kit



Description

Plus Plant Total RNA kit allows rapid extraction of highly-pure total RNA with high-yield from various plant samples such as leaf tissues, roots, flowers, seeds, etc., using automatic nucleic acid extraction instruments: *ExiPrep™16 Plus* and *ExiProgen™*. Pre-filled buffer cartridges with essential reagents for nucleic acid extraction can be used to isolate maximum of 16 samples simultaneously with ease. Furthermore, following the preparation method in the user manual, Plant Lysis Buffer and Beta-Mercaptoethanol included in this product can break down plant tissues and effectively remove impurities while suppressing RNA degradation through RNase.

Features and Benefits

- All reagents in the kit are pre-dispensed into a pre-filled buffer cartridge system
- The kit contains all required consumables such as disposable filter tips, elution tubes, and reaction tubes, etc
- The kit provides a highly optimized lysis buffer for plant tissue samples.
- The kit is able to process up to 16 samples in a single run
- Bioneer's patented magnetic silica beads ensure high yield and purity
- Automated process ensures reproducible results

Specifications

	Leaf tissue (wet)		Seed	
	Chinese cabbage	Brocoli	Chinese cabbage	Red bean
Starting amount	100 mg	100 mg	100 mg	100 mg
Elution volume	50 µl	50 µl	50 µl	50 µl
Expected yield (µg)	Up to 15 µg	Up to 8 µg	Up to 5 µg	Up to 9 µg
Purity (A_{260}/A_{280})	> 2.0	> 2.0	> 2.0	> 2.0
Purity (A_{260}/A_{230})	> 2.0	> 2.1	> 1.8	> 1.5

*The measurement value may vary depending on the type and condition of the sample.

Ordering Information

Cat. No.	Product Description	Instrument Type
K-4244	<i>ExiPrep™</i> Plus Plant Total RNA Kit, 96 rxn	<i>ExiPrep™</i> 16 Plus, <i>ExiProgen™</i>

Application

RT-PCR, Quantitative Real-Time RT-PCR, cDNA synthesis, and Chip-array analysis

Experimental Data

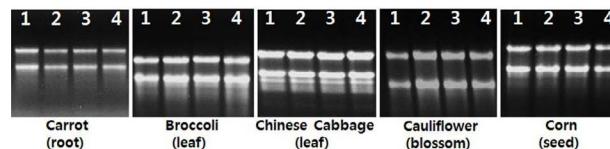
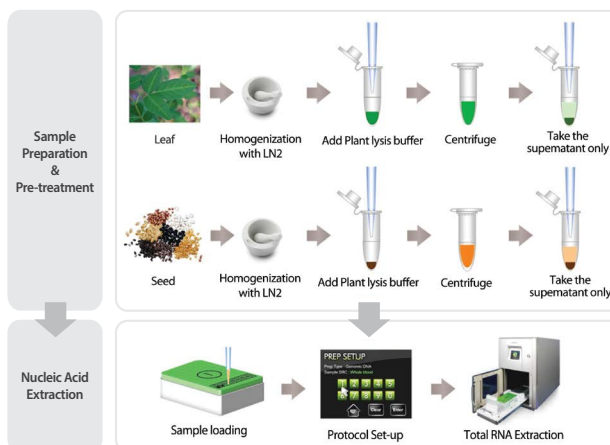


Figure 1. Electrophoresis result with extracted plant total RNA

Results of gel electrophoresis of total RNA extracted from various plant samples. Expected yields were on average 5-15 µg depending on sample types. Also expected purities were at least 2.0 (A_{260}/A_{280}) and 1.5 (A_{260}/A_{230}).

Procedure



Viral DNA/RNA Kit



○ Description

Viral DNA/RNA Kit allows rapid extraction of highly-pure viral DNA/RNA with high-yield from various samples such as serum, plasma, CSF, saliva, etc., using automatic nucleic acid extraction instruments: *ExiPrep™*16 Plus and *ExiProgen™*. Pre-filled buffer cartridges with essential reagents for nucleic acid extraction can be used to isolate maximum of 16 samples simultaneously with ease.

○ Features and Benefits

- All reagents in the kit are pre-dispensed into a pre-filled buffer cartridge system
- The kit contains all required consumables such as disposable filter tips, elution tubes, and reaction tubes, etc
- Bioneer's patented magnetic silica beads ensure high yield and purity
- Automated process ensures reproducible results

○ Specifications

Sample type	Starting amount	Expected yield
Serum	200 µl	> 80% recovery
Plasma		
CSF		
Cell free body fluid		
Swab	1 ea	

*The measurement value may vary depending on the type and condition of the sample.

○ Application

PCR, RT-PCR, Quantitative Real-Time PCR, and Quantitative Real Time RT-PCR

○ Experimental Data

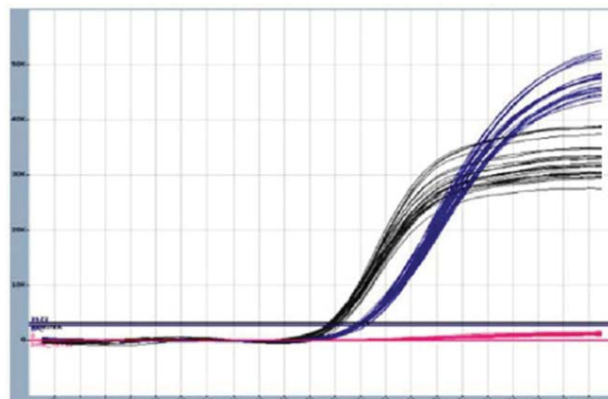


Figure 1. Viral DNA Extraction using *ExiPrep™* Plus Viral DNA/RNA Kit from HBV serum.

Results gained from real-time PCR using *AccuPower®* HBV Quantitative PCR Kit (HBV-1111, Bioneer) and *Exicycler™* 96 Real-Time Quantitative Thermal Block (A-2060) after extracting HBV viral DNA from serum samples.

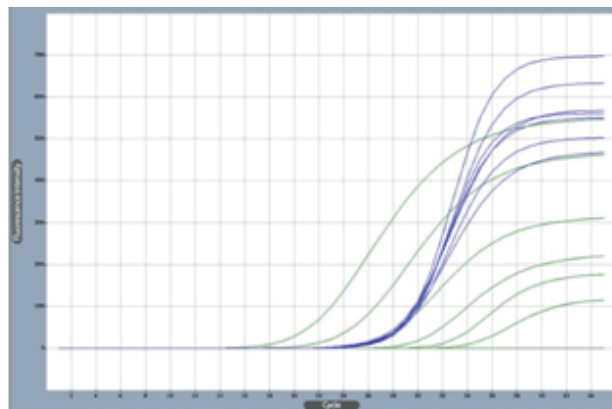
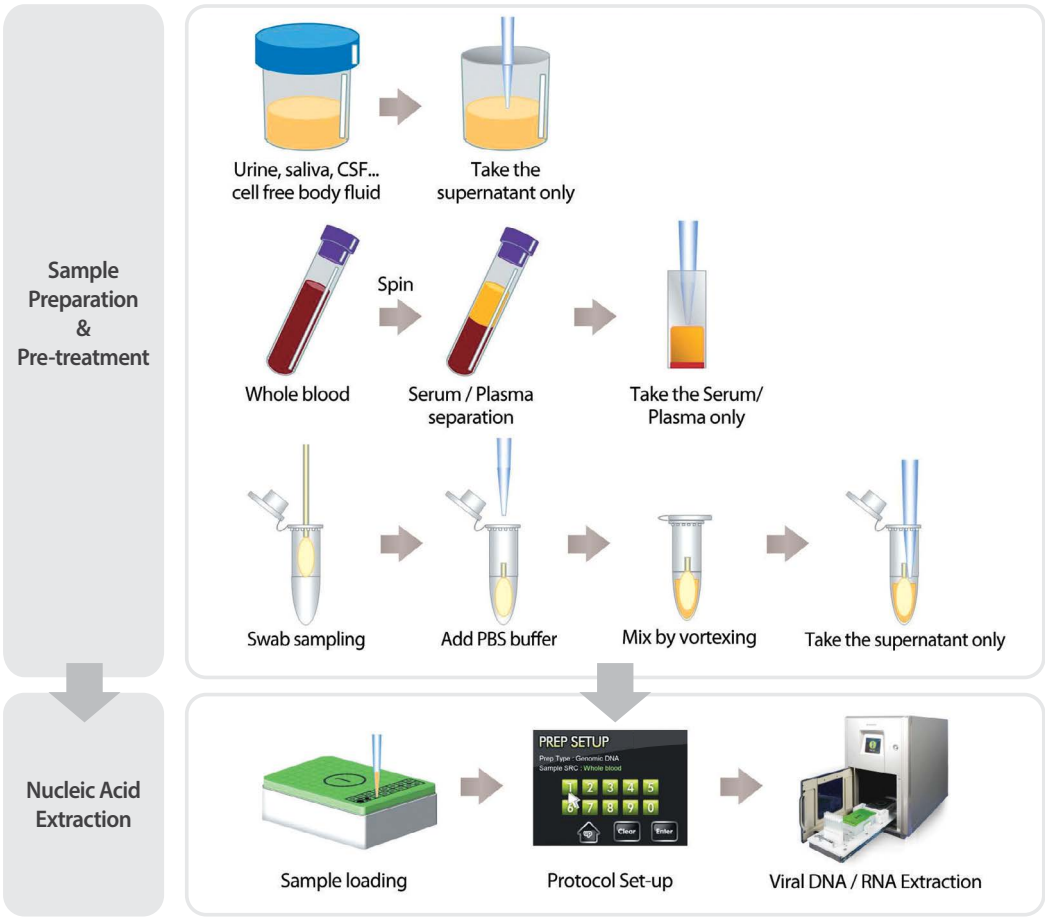


Figure 2. Viral RNA Extraction using *ExiPrep™* Plus Viral DNA/RNA Kit from HCV serum.

Results gained from real-time RT-PCR using *AccuPower®* HCV Quantitative PCR Kit (HCV-1111, Bioneer) and *Exicycler™* 96 Real-Time Quantitative Thermal Block (A-2060) after extracting HCV viral RNA from serum samples.

Viral DNA/RNA Kit

Procedure



Ordering Information

Cat. No.	Product Description	Instrument Type
K-4271	ExiPrep™ Plus Viral DNA/RNA Kit, 96 rxn	ExiPrep™ 16 Plus, ExiProgen™

02. Magnetic Bead Type Manual Nucleic Acid Extraction: *MagListo*[™]

Plasmid DNA Extraction Kit

<i>MagListo</i> [™] 5M Plasmid Extraction Kit	174
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Fragment DNA Purification Kit

<i>MagListo</i> [™] 5M Gel Extraction Kit	176
<i>MagListo</i> [™] 5M PCR Purification Kit	177

Genomic DNA Extraction Kit

<i>MagListo</i> [™] 5M Genomic DNA Extraction Kit	178
<i>MagListo</i> [™] 5M Plant Genomic DNA Extraction Kit	180
<i>MagListo</i> [™] 5M Forensic Sample DNA Extraction Kit	181

Circulating Cell free DNA Extraction Kit

<i>MagListo</i> [™] cfDNA Extraction Kit	182
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Total RNA Extraction Kit

<i>MagListo</i> [™] 5M Universal RNA Extraction Kit	184
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Viral DNA/RNA Extraction Kit

<i>MagListo</i> [™] 5M Viral DNA/RNA Extraction Kit	185
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MagListo[™] Magnetic Separation Rack

MagListo™ 5M Plasmid Extraction Kit

Just 5 minutes to extract nucleic acids without centrifuge! A single kit serves mini, midi and maxi scale!



Description

MagListo™ 5M Plasmid Extraction Kit uses alkaline lysis method applied with magnetic nanobeads to efficiently minimize the isolation time.

Extraction Time: Mini prep (5min), Midi prep (10min), Maxi prep (15min)

Features and Benefits

- Minimized plasmid DNA extraction time from cell-crushed products using Magnetic Beads
- No need of additional expensive instruments other than the kit and MagListo™ Magnetic Separation Rack
- Broad coverage of scales for Mini, Midi, and Maxi isolation protocols with just a single kit (Mini - within 5min, Midi - within 10min, Maxi - within 15min)

Application

Gene cloning, PCR, Real-Time PCR, sequencing, transformation, transfection, and *in vitro* transcription/translation

Specifications

Scale	8-channel	Mini scale	Midi scale	Maxi scale
Starting culture volume	1~1.5 ml	1~5 ml	20~50 ml	100~200 ml
Preparation time	< 5 min	< 5 min	< 10 min	< 15 min
Elution volume	100 µl	100 µl	500 µl	1 ml
Expected DNA yield	Up to 10 µg	Up to 20 µg	Up to 200 µg	Up to 500 µg
Expected DNA purity ($A_{260/280}$)	> 1.8			

*The measurement value may vary depending on the type and condition of plasmid.

Experimental Data

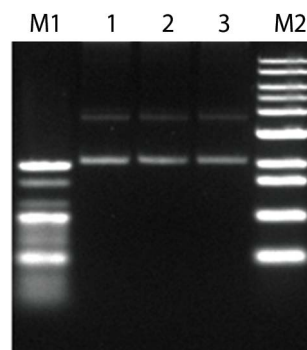


Figure 1. Comparison of plasmid DNA purified with MagListo™ 5M Plasmid Extraction Kit and competitors' products (magnetic bead type).

M1: 100 bp DNA ladder (Cat. No. D-1030, Bioneer)

Lane1: 2 kb plasmid DNA purified with Bioneer MagListo™ 5M Plasmid Extraction Kit

Lane2: 2 kb plasmid DNA purified with competitor P kit

Lane3: 2 kb plasmid DNA purified with competitor I kit

M2: 1 kb DNA ladder (Cat. No. D-1040, Bioneer)

Sample ID	Nucleic Acid Conc.	260/280	260/230
Bioneer	117.9 ng/µl	2.03	1.91
Competitor P	95.9 ng/µl	2.05	1.91
Competitor I	90.9 ng/µl	2.03	1.9

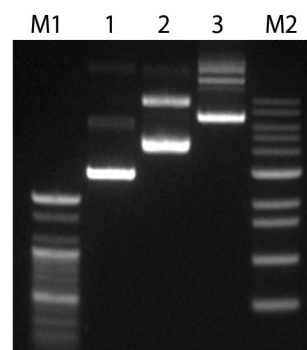


Figure 2. Electrophoresis data of 500 ng of several size plasmids purified with MagListo™ 5M Plasmid Extraction Kit.

M1: 100 bp DNA ladder (Cat. No. D-1030, Bioneer)

Lane1: 3.5 kb plasmid DNA

Lane2: 5.4 kb plasmid DNA

Lane3: 8 kb plasmid DNA

M2: 1 kb DNA ladder (Cat. No. D-1040, Bioneer)

MagListo™ 5M Plasmid Extraction Kit

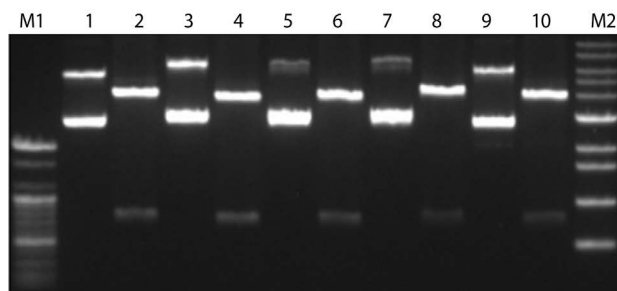


Figure 3. Electrophoresis data of three scale plasmid DNA extraction protocol (mini, midi, maxi) and restriction endonuclease treated (500 ng quantified).

M1: 100 bp DNA ladder (Cat. No. D-1030, Bioneer)

Lane 1: Plasmid DNA purified with mini scale protocol (1)

Lane 2: Plasmid DNA purified with mini scale protocol/digested by *EcoR* I (1)

Lane 3: Plasmid DNA purified with mini scale protocol (2)

Lane 4: Plasmid DNA purified with mini scale protocol/digested by *EcoR* I (2)

Lane 5: Plasmid DNA purified with midi scale protocol (1)

Lane 6: Plasmid DNA purified with midi scale protocol/digested by *EcoR* I (1)

Lane 7: Plasmid DNA purified with midi scale protocol (2)

Lane 8: Plasmid DNA purified with midi scale protocol/digested by *EcoR* I (2)

Lane 9: Plasmid DNA purified with maxi scale protocol

Lane 10: Plasmid DNA purified with maxi scale protocol/digested by *EcoR* I

M2: 1 kb DNA ladder (Cat. No. D-1040, Bioneer)

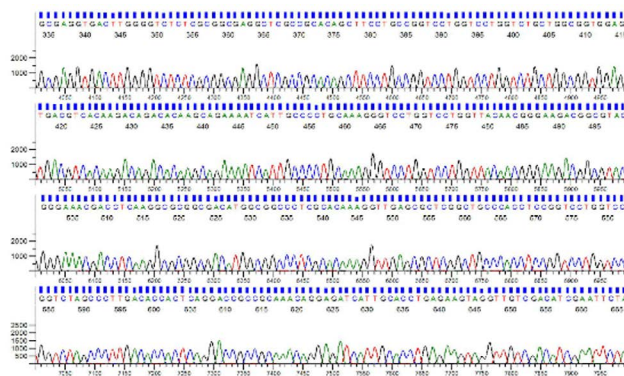
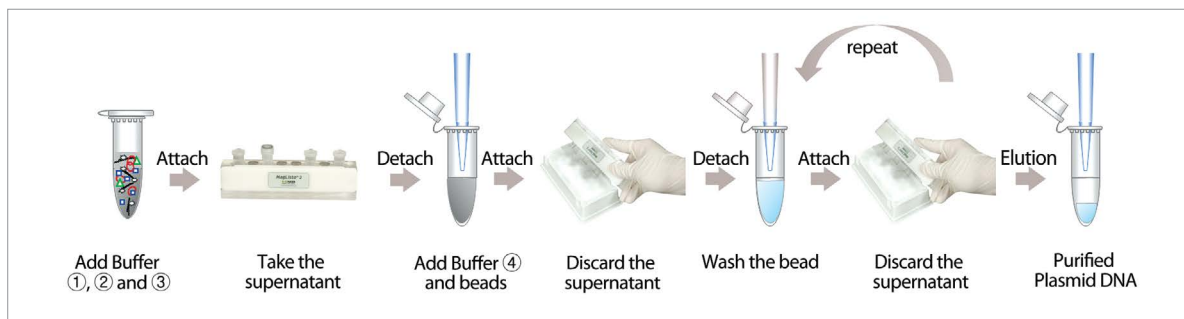


Figure 4. High quality sequencing data of pGEM-B1 clones purified with MagListo™ 5M Plasmid Extraction Kit

Procedure



Ordering Information

Cat. No.	Product Description
K-3600	MagListo™ 5M Plasmid Extraction Kit, 500 rxn in mini
K-3601	MagListo™ 5M Plasmid Extraction Kit, 100 rxn in mini

MagListo™ 5M Gel Extraction Kit

Fast, easy purification of fragment DNA from an agarose gel!



Description

MagListo™ 5M Gel Extraction Kit allows rapid extraction of DNA fragments from TAE or/and TBE agarose gels using Magnetic Nanobeads and MagListo™ Magnetic Separation Rack.

Features and Benefits

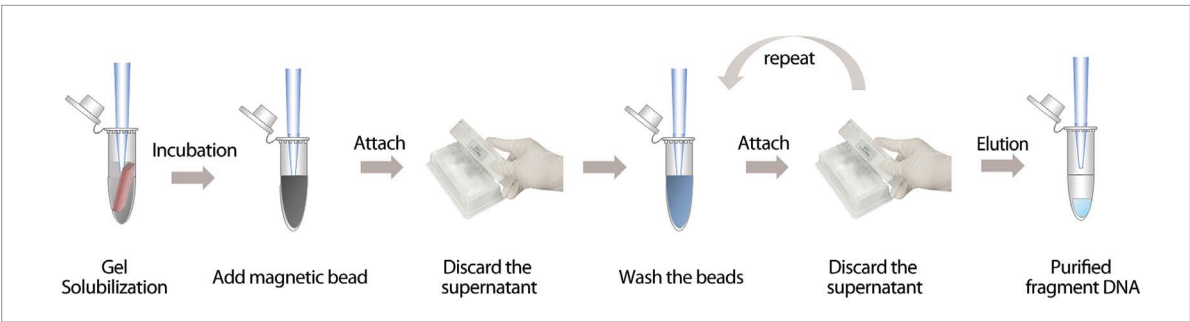
- Magnetic nano beads allow purification of DNA fragments from TAE and/or TBE agarose gels only within 15 minutes
- No need of additional expensive instruments other than the kit and MagListo™ Magnetic Separation Rack

Specifications

Feature	Specification
Size range	100 bp~10 kb
Typical recovery	80~100%
Expected purity (A_{260}/A_{280})	> 1.8
Purification time	< 15 min

*The measurement value may vary depending on the type and condition of the sample.

Procedure



Ordering Information

Cat. No.	Product Description
K-3607	MagListo™ 5M Gel Extraction Kit, 100 rxn in mini

Application

Subcloning, Sequencing, Labeling, DNA concentration and other molecular biological applications

Experimental Data

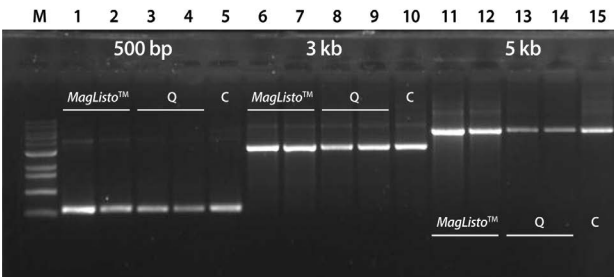


Figure 1. Comparison of fragment DNA from TBE agarose gel purified with MagListo™ 5M Gel Extraction Kit and competitor's kit (spin column type).

M: 1 kb ladder (Cat. No. D-1040, Bioneer)
Lane 1-2: 500 bp DNA purified with Bioneer MagListo™ 5M Gel Extraction Kit
Lane 3-4: 500 bp DNA purified with competitor Q kit
Lane 5: Control 500 bp DNA
Lane 6-7: 3 kb DNA purified with Bioneer MagListo™ 5M Gel Extraction Kit
Lane 8-9: 3 kb DNA purified with competitor Q kit
Lane 10: Control 3 kb DNA
Lane 11-12: 5 kb DNA purified with Bioneer MagListo™ 5M Gel Extraction Kit
Lane 13-14: 5 kb DNA purified with competitor Q kit
Lane 15: Control 5 kb DNA

MagListo™ 5M PCR Purification Kit

Fast & easy purification of fragment DNA from PCR product or enzymatic reactant!



Description

MagListo™ 5M PCR Purification Kit allows rapid extraction of DNA fragments using Magnetic Nanobeads and MagListo™ Magnetic Separation Rack from various enzymatic products such as those from PCR.

Features and Benefits

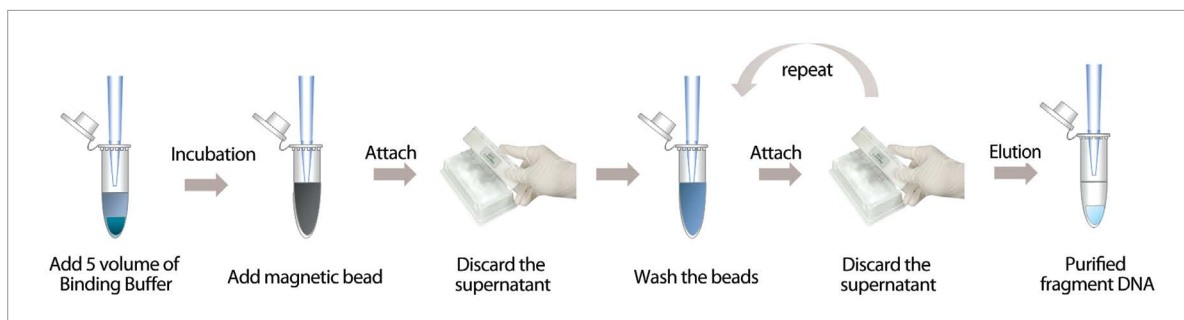
- Magnetic nano beads allow isolation of DNA fragments only within 5 minutes from PCR products and various enzymatic reactants (restriction enzyme, A-tailing, Labeling reaction, etc.)
- No need of additional expensive instruments other than the kit and MagListo™ Magnetic Separation Rack

Specifications

Feature	Specification
Size range	100 bp~10 kb
Typical recovery	90~100%
Expected purity	$A_{260/280} > 1.8$, $A_{260/230} > 1.6$
Purification time	< 5 min

*The measurement value may vary depending on the type and condition of the sample.

Procedure



Ordering Information

Cat. No.	Product Description
K-3609	MagListo™ 5M PCR Purification Kit, 100 rxn in mini

Application

Subcloning, Sequencing, Labeling, DNA concentration and other molecular biological applications

Experimental Data

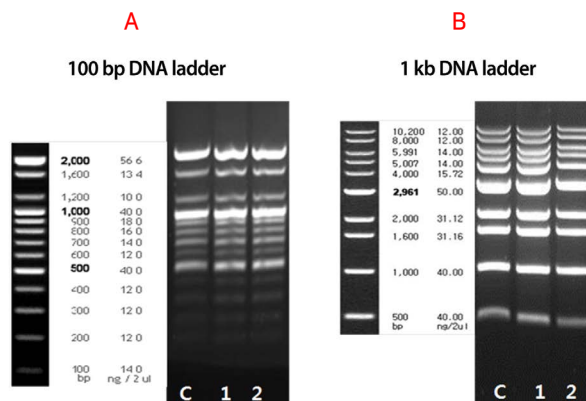


Figure 1. Comparison of fragment DNA purified with MagListo™ PCR Purification Kit and control.

A. C: Control 100 bp DNA Ladder (Cat.No. D-1030, Bioneer)

Lane 1-2: 100 bp DNA Ladder purified with MagListo™ 5M PCR Purification Kit

B. C: Control 1 kb DNA Ladder (Cat. No. D-1040, Bioneer)

Lane 1-2: 1 kb DNA Ladder purified with MagListo™ 5M PCR Purification Kit

MagListo™ 5M Genomic DNA Extraction Kit

Fast & easy genomic DNA extraction from blood, animal tissue and cultured cell! A single kit serves mini, midi and maxi scale!



Description

MagListo™ 5M Genomic DNA Extraction Kit allows rapid extraction of genomic DNA using Magnetic Nanobeads and *MagListo™* Magnetic from various samples such as blood, animal tissues and cultured cells.

Extraction time: Mini prep (5 min), Midi prep (10 min), Maxi prep (15 min)

Features and Benefits

- Extraction of genomic DNA from various samples such as blood, cultured cell, animal tissue and bacteria (Gram (-), (+))
- A wide range of possible sample sizes even with a cell count less than 10^4
- Broad coverage of scales for Mini, Midi, Maxi isolation protocols with just a single kit
- No need of additional expensive instrument other than the kit and *MagListo™* Magnetic Separation Rack

Application

Gene Cloning, PCR, Real-Time PCR, Southern Blotting, and SNP genotyping

Experimental Data

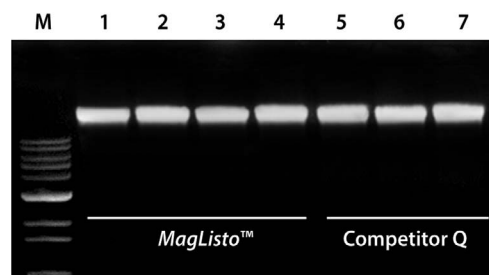


Figure 1. Comparison of genomic DNA from human whole blood (200 μ l) purified with *MagListo™* 5M Genomic DNA Extraction Kit and competitor's kit (spin column type).

M: 1 kb DNA ladder (Cat. No. D-1040, Bioneer)

Lane 1-4: Blood genomic DNA purified with Bioneer *MagListo™*

Yield; 6.45 μ g, Purity($A_{260/280}$); 1.85

Lane 5-7: Blood genomic DNA purified with competitor Q kit

Yield; 5.53 μ g, Purity($A_{260/280}$); 1.85

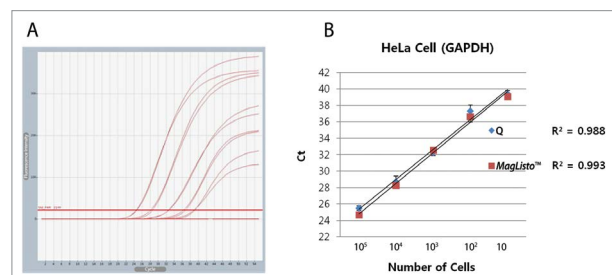


Figure 2. Comparison of Real-Time qPCR data of genomic DNA from HeLa cell ($1 \times 10^2 \sim 1 \times 10^5$) purified with *MagListo™* 5M Genomic DNA Extraction Kit and competitor's kit (spin column type).

A. Amplification curve of GAPDH from HeLa cell ($1 \times 10^1 - 1 \times 10^5$) genomic DNA purified with Bioneer *MagListo™* 5M Genomic DNA Extraction Kit.

The premix used was *AccuPower® Plus DualStar™* qPCR PreMix (K-6600).

B. Comparison of standard curves from qPCR results using genomic DNA purified with Bioneer *MagListo™* Genomic DNA Extraction Kit and competitor Q kit.

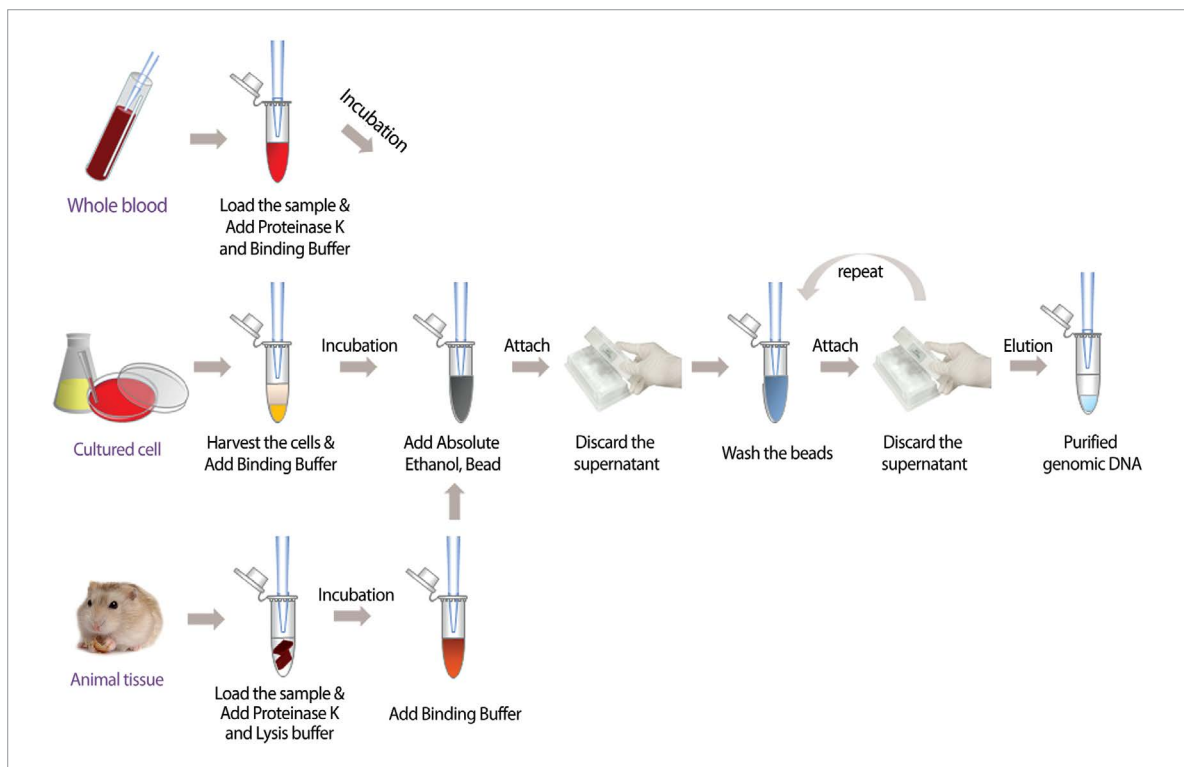
Specifications

Scale	Mini (Typical yield (μ g))	Midi (Typical yield (μ g))	Maxi (Typical yield (μ g))
Whole blood	200 μ l (< 10 μ g)	2 ml (< 80 μ g)	4 ml (< 150 μ g)
Cultured cell	Up to 1×10^6 (< 12 μ g)	Up to 5×10^6 (< 60 μ g)	Up to 1×10^7 (< 120 μ g)
Animal tissue	Up to 25 mg (< 10 μ g)	Up to 100 mg (< 40 μ g)	Up to 250 mg (< 120 μ g)
Bacteria (Gram (-), (+))	Up to 1×10^9 (< 15 μ g)	Up to 5×10^9 (< 80 μ g)	Up to 1×10^{10} (< 150 μ g)
Expected purity ($A_{260/280}$)	> 1.8		

*The measurement value may vary depending on the type and condition of the sample.

MagListo™ 5M Genomic DNA Extraction Kit

○ Procedure



○ Ordering Information

Cat. No.	Product Description
K-3603	MagListo™ 5M Genomic DNA Extraction Kit, 100 rxn in mini

MagListo™ 5M Plant Genomic DNA Extraction Kit

Fast & easy genomic DNA extraction from plant tissue without centrifuge! A single kit serves mini, midi and maxi scale!



Description

MagListo™ 5M Plant Genomic DNA Extraction Kit allows extraction of genomic DNA using Magnetic Nanobeads and MagListo™ Magnetic Separation Rack from various plant samples such as leaves, roots, seeds.

Extraction time: Mini prep (5 min), Midi prep (10 min), Maxi prep (15 min)

Features and Benefits

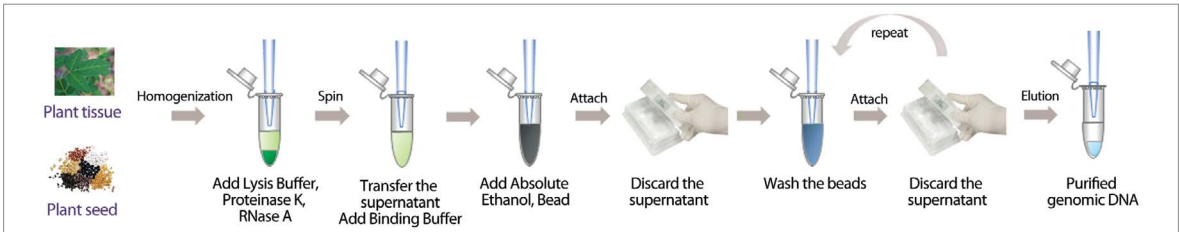
- Extraction of highly-pure genomic DNA from plant samples such as leaves, stem, roots, seeds with high-yield
- Lysis Buffer included in the kit for various plant seeds and tissue cells
- Broad coverage of scales for Mini, Midi, and Maxi isolation protocols with just a single kit
- No need of additional expensive instruments other than the kit and MagListo™ Magnetic Separation Rack

Specifications

Scale	Mini	Midi	Maxi
Plant tissue	Up to 100 mg	Up to 500 mg	Up to 1 g
Seed	Up to 50 mg	Up to 250 mg	Up to 500 mg
Elution volume	100 µl	500 µl	1 ml
Typical DNA yield	5~15 µg	15~80 µg	30~150 µg
Expected purity (A _{260/280})	> 1.7		

*The measurement value may vary depending on the type and condition of the sample.

Procedure



Ordering Information

Cat. No.	Product Description
K-3605	MagListo™ 5M Plant Genomic DNA Extraction Kit, 100 rxn in mini

Application

Gene Cloning, PCR, Real-Time PCR, Southern Blotting, and SNP genotyping

Experimental Data

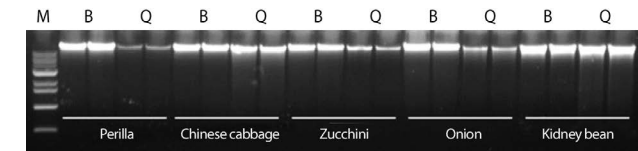


Figure 1. Comparison of genomic DNA from plant purified with MagListo™ 5M Plant Genomic DNA Extraction Kit and competitor's kit (spin column type).

M: 1 kb ladder (Cat. No. D-1040, Bioneer)
Lane B: MagListo™ 5M Plant Genomic DNA Extraction Kit
Lane Q: Competitor Q Kit
Perilla; Genomic DNA from 100mg leaves of *Perilla frutescens* var. japonica Regel
B; mean yield; 7.1 µg, mean purity; 1.80 Q; mean yield; 3.5 µg, mean purity; 1.85
Chinese cabbage; Genomic DNA from 100 mg leaves of *Brassica rapa* var. glabra Regel
B; mean yield; 5.9 µg, mean purity; 1.82 Q; mean yield; 4.7 µg, mean purity; 1.82
Zucchini; Genomic DNA from 100 mg tissue of *Cucurbita pepo*
B; mean yield; 3.6 µg, mean purity; 1.77 Q; mean yield; 3.0 µg, mean purity; 1.79
Onion; Genomic DNA from 100 mg tissue of *Allium cepa*
B; mean yield; 5.5 µg, mean purity; 1.80 Q; mean yield; 1.6 µg, mean purity; 1.84
Kidney bean; Genomic DNA from 50 mg seeds of *Phaseolus vulgaris*
B; mean yield; 7.7 µg, mean purity; 1.73 Q; mean yield; 6.6 µg, mean purity; 1.80

MagListo™ 5M Forensic Sample DNA Extraction Kit

Fast & easy genomic DNA extraction from forensic samples (Dried blood spot, hair, nail clipping, and saliva etc.)



○ Description

MagListo™ Forensic Sample DNA Extraction Kit allows rapid extraction of total DNA using Magnetic Nanobead and MagListo™ Magnetic Separation Rack from various forensic samples with ease.

○ Features and Benefits

- Extraction of total DNA from a broad range of forensic samples (whole blood, saliva, urine, fingerprints, hair, nails, bones, etc.)
- No need of additional expensive instruments other than the kit and MagListo™ Magnetic Separation Rack

○ Specifications

Feature	Specification
Sample Type	Various kinds of forensic samples
Technology	Magnetic nano bead
Preparation time	< 10 min
Expected purity ($A_{260/280}$)	> 1.8

*The measurement value may vary depending on the type and condition of the sample.

○ Ordering Information

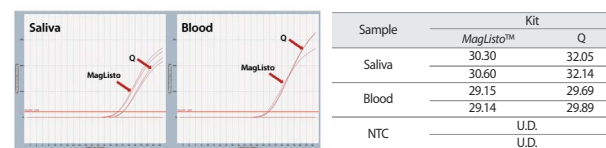
Cat. No.	Product Description
K-3615	MagListo™ 5M Forensic Sample DNA Extraction Kit, 100 rxn in mini

○ Application

PCR, Real-Time PCR, SNP genotyping, and STR analysis

○ Experimental Data

(A) Saliva (10 μ l) & Blood (10 μ l) stains from clothes (7 mm diameter)



(B) Hair 1 strand (25 cm)

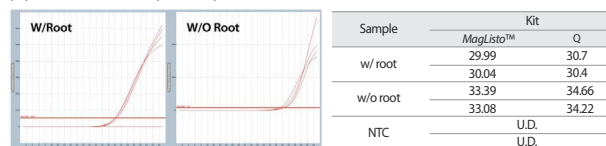


Figure 1. Comparison of Real-Time qPCR data of DNA extracted using MagListo™ and competitor's products (spin column type)

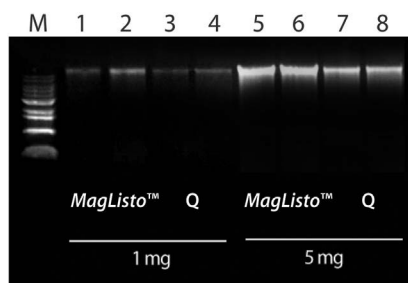


Figure 2. Comparison of Genomic DNA from Porcine Skeletal Muscle Tissue purified with MagListo™ Forensic Sample DNA Extraction Kit and competitor's kit (spin column type).

M: 1 kb Ladder

Lane 1-4 : 1 mg

MagListo™- yield: 1.35 μ g, purity($A_{260/280}$): 1.95

Competitor- yield: 0.57 μ g, purity($A_{260/280}$): 1.86

Lane 5-8: 5 mg

MagListo™- yield: 5.22 μ g, purity($A_{260/280}$): 1.90

Competitor- yield: 2.81 μ g, purity($A_{260/280}$): 1.88

MagListo™ cfDNA Extraction Kit

Quickly and easily extract DNA from whole blood (Plasma, Serum), Urine, and more! All the scales you want at once!



○ Description

MagListo™ cfDNA Extraction Kit allows rapid extraction of cell-free DNA using magnetic nanobeads and *MagListo™* Magnetic Separation Rack from various samples such as plasma, serum, urine, and saliva. The magnetic separation allows easier isolation and purification of cell-free DNA from crushed cell products than centrifugation separation.

○ Features and Benefits

- A broad range of cell-free DNA can be extracted from samples such as plasma, serum, urine, saliva, etc.
- Wide compatibility for scales of Mini, Midi, or Maxi isolation protocols with just a single kit
- No need of additional expensive instruments other than the kit and *MagListo™* Magnetic Separation Rack

○ Specifications

Scale	Mini	Midi	Maxi
Plasma / Serum / Urine / Saliva	~1 ml	~3 ml	~5 ml
Elution volume	30 µl	50 µl	70 µl
Preparation time	Up to 5 min	Up to 10 min	Up to 15 min
Typical DNA yield	~5 ng	~15 ng	~25 ng

*The measurement value may vary depending on the type and condition of the sample.

○ Application

PCR, Real-Time PCR, Southern Blot, and Next-generation sequencing(NGS)

○ Experiment Data

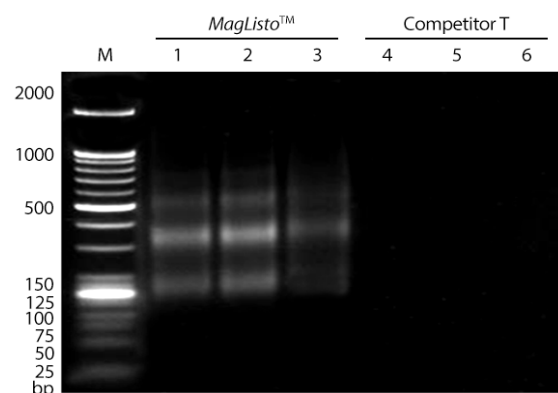


Figure 1. Comparison of circulating cell free DNA from normal human serum (Milipore, 2 ml) purified with *MagListo™* cfDNA Extraction Kit and competitor's kit (magnetic bead type).

M: 25/100 bp mixed DNA ladder (Cat. No. D-1020, Bioneer)

Lane 1-3: Circulating cell free DNA of serum purified with Bioneer

MagListo™

Yield; 32.4 ng

Lane 4-6: Circulating Cell Free DNA of serum purified with competitor T kit

Yield; 31.6 ng

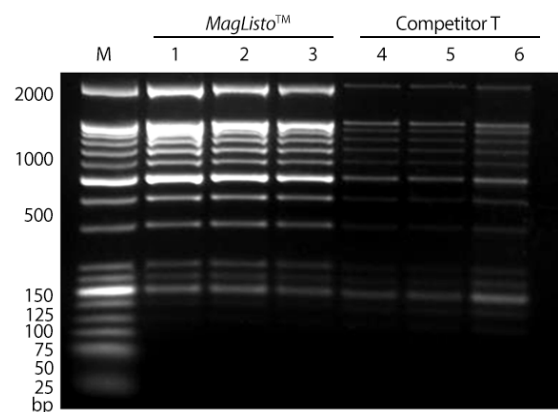


Figure 2. Comparison of circulating cell free DNA from EDTA human plasma (Seracare Life Science, 2 ml) with Bioneer ladder purified with *MagListo™* cfDNA Extraction Kit and competitor's kit (magnetic bead type).

M: 25/100 bp mixed DNA ladder (Cat. No. D-1020, Bioneer)

Lane 1-3: Circulating Cell free DNA of plasma purified with Bioneer *MagListo™*

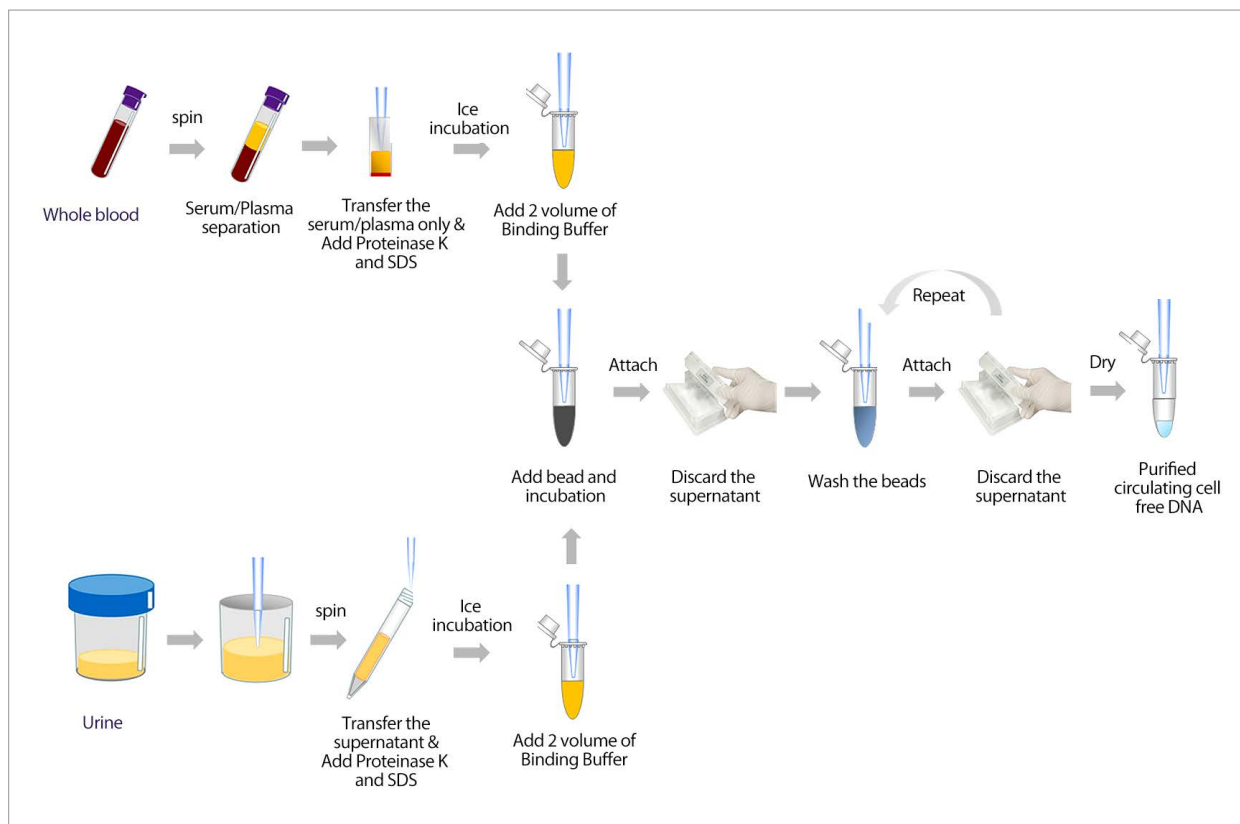
Yield; 147 ng

Lane 4-6: Circulating Cell free DNA of plasma purified with competitor T kit

Yield; 130 ng

MagListo™ cfDNA Extraction Kit

○ Procedure



○ Ordering Information

Cat. No.	Product Description
K-3619	MagListo™ cfDNA Extraction Kit, 50 rxn in mini

MagListo™ 5M Universal RNA Extraction Kit

Fast & easy RNA extraction from various cell types. A single kit serves mini and midi scale!



Description

MagListo™ Universal RNA Extraction Kit allows rapid extraction of total RNA using Magnetic Nanobeads and MagListo™ Magnetic Separation Rack from various samples such as animal/plant tissues, and cultured cells.

Extraction time: Mini prep (10 min), Midi prep (15 min)

Features and Benefits

- Extraction of highly-purity RNA from various samples such as cultured cells, animal tissue, and plant tissue with high-yield
- Mini, Midi scale can be used as a single kit
- Automate RNA extraction by applying to ExiPrep™96 Lite

Specifications

Scale	Mini	Midi
Starting sample	≤ 30 mg tissue 3×10 ⁶ cells	≤ 200 mg tissue 1×10 ⁶ cells
Extraction time	< 10 min	< 15 min
Minimum elution volume	50 µl	500 µl
Expected RNA yield	Up to 100 µg	Up to 500 µg
Expected purity (A _{260/280})	> 1.9	

Typical Yields of Total RNA

Tissue type (10 mg)	Yield (µg)
Kidney	20~30
Liver	40~60
Spleen	20~40
Thymus	30~50
Lung	10~20

*The measurement value may vary depending on the type and condition of the sample.

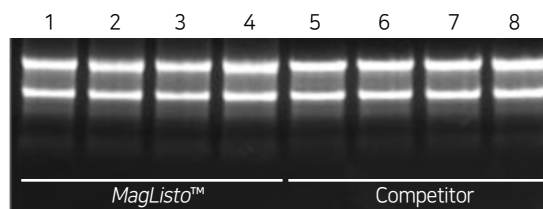
Ordering Information

Cat. No.	Product Description
K-3613	MagListo™ 5M Universal RNA Extraction Kit, 100 rxn

Application

RT-PCR and Real-Time RT-PCR, cDNA synthesis, Northern Blot, Dot and slot blot analysis, Primer extension, Microarrays, and RNA seq

Experimental Data



Prep kit	No.	Yield (µg)	A _{260/280}	A _{260/230}
MagListo™	1	58.6	2.09	2.03
	2	60.3	2.09	1.95
	3	55.7	2.08	2.02
	4	58.7	2.09	1.97
Competitor	5	36.8	2.04	1.76
	6	38.3	2.05	1.78
	7	34.5	2.03	1.91
	8	37.9	2.05	1.48

* Elution Volume: 100 µl

Figure 1. Comparison of total RNA purified from liver tissue (10 mg) with MagListo™ 5M Universal Total RNA Extraction Kit and competitor's kit (spin column type)

MagListo™ 5M Viral DNA/RNA Extraction Kit

Quickly and easily extract DNA from cell free body fluid (serum, plasma, CSF, saliva, and etc.) and swab



Description

MagListo™ 5M Viral DNA/RNA Extraction Kit is designed to extract viral DNA/RNA from cell free body fluid (serum, plasma, CSF, saliva, and etc.) and swab, using magnetic nanobeads. With *MagListo™* Magnetic Separation Rack, *MagListo™* 5M Viral DNA/RNA Extraction Kit enables easier and faster extraction of viral DNA/RNA in high purity rather than that of a centrifugation.

Features and Benefits

- Highly-pure viral DNA/RNA extraction from various samples such as Serum, plasma, CSF, saliva, swab, etc.
- Provided poly (A) can protect RNA degradation during the extraction steps and enhance the binding efficiency
- No need of expensive, complicated instrument except *MagListo™* Magnetic Separation Rack

Specifications

Sample type	Serum, plasma, CSF, saliva
Starting amount	Up to 400 µl
Minimum elution volume	50 µl
Preparation time	~ 30 min

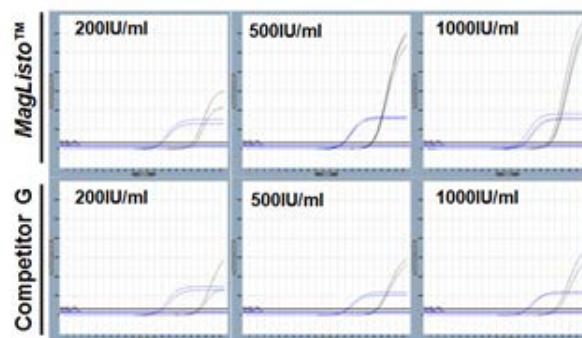
Application

cDNA synthesis, RT-PCR, Quantative real-time RT-PCR
poly A+ RNA selection, Northern blot analysis, and Pathogen detection

Ordering Information

Cat. No.	Product Description
K-3623	<i>MagListo™</i> 5M Viral DNA/RNA Extraction Kit, 500 rxn
K-3624	<i>MagListo™</i> 5M Viral DNA/RNA Extraction Kit, 100 rxn

Experiment Data



	<i>MagListo™</i>		Competitor G	
	HIV-1	IPC	HIV-1	IPC
200 IU/ml	36.27	26.18	38.51	26.24
	36.26	26.88	37.94	27.01
500 IU/ml	35.23	26.16	37.17	27.22
	35.39	26.25	37.21	27.26
1000 IU/ml	34.66	26.17	36.68	27.01
	34.61	26.54	36.03	26.94

Figure 1. Comparison of real-time qPCR of viral RNA from EDTA human plasma (WHO International Standard 3rd HIV-1, NIBSC code:10/152) 200 IU/ml, 500 IU/ml, and 1000 IU/ml) purified with *MagListo™* 5M Viral DNA/RNA Extraction Kit and competitor's kit (spin column type).

MagListo™ Magnetic Separation Rack

Innovative separation device for nucleic acid extraction and protein purification without centrifuge

Features and Benefits

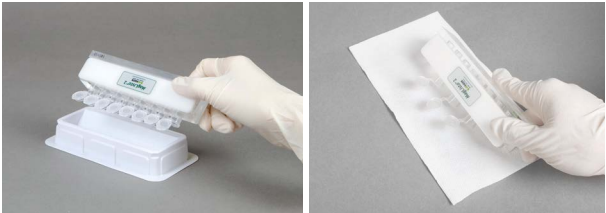
- Isolation of plasmic DNA, genomic DNA, and/or RNA only in 5~20 minutes depending on the sample volume and device specifications
- Quick and easy purification of Epitope-tagged protein
- Simple disposal of waste solution just by flipping the rack without the use of centrifuge or pipette as the silicon fixture secures the tube

Description

MagListo™ Magnetic Separation Rack is a separation device that uses magnetic nanobeads to extract nucleic acids or purify proteins. thanks to its magnetic force, our product allows faster isolation and purification than conventional column racks. Depending on the amount and number of samples needed, select the appropriate product: *MagListo™-8Ch* (Use with 8 multichannel pipette), *MagListo™-2* (Use with 2mL tube), *MagListo™-15* (Use with 15 mL tube), and *MagListo™-50* (Use with 50 mL tube).

Specifications

MagListo™-8Ch Magnetic Separation Rack	Composition	Stand 1 ea / Magnet Plate 1 ea	
	Size (mm)	Stand: 104(W) x 23(D) x 31(H)	
		Magnet Plate: 104(W) x 8(D) x 23(H)	
	Weight (g)	105	
MagListo™-2 (8 holes) Magnetic Separation Rack	Size (mm)	Stand: 136(W) x 27(D) x 53(H)	
		Magnet Plate: 136(W) x 9.5(D) x 25(H)	
	Weight (g)	150	
	Volume	2 ml tube x 8 positions	
MagListo™-2 (12 holes) Magnetic Separation Rack	Size (mm)	Stand: 194(W)x27(D)x33(H)	
		Magnet Plate: 194(W)x9.5(D)x25(H)	
	Weight (g)	210	
	Volume	2 ml tube x 12 positions	
MagListo™-15 Magnetic Separation Rack	Composition	Stand 1 ea / Magnet Plate 1 ea	
	Size (mm)	Stand: 164(W) x 37(D) x 78(H)	
		Magnet Plate: 164(W) x 11(D) x 58.5(H)	
	Weight (g)	525	
	Volume	15 ml tube x 6 positions	



MagListo™ Magnetic Separation Rack

MagListo™-50 Magnetic Separation Rack	Composition	Stand 1 ea / Magnet Plate 1 ea	
	Size (mm)	Stand: 154(W) x 47.5(D) x 76(H)	
		Magnet Plate: 154(W) x 11(D) x 58.5(H)	
	Weight (g)	530	
	Volume	50 ml tube x 3 positions	

*There may be slight differences from the actual size.

Ordering Information

Cat. No.	Product Description
TM-1000	MagListo™-8Ch Magnetic Separation Rack
TM-1010	MagListo™-2 Magnetic Separation Rack
TM-1011	MagListo™-2-12h Magnetic Separation Rack
TM-1020	MagListo™-15 Magnetic Separation Rack
TM-1030	MagListo™-50 Magnetic Separation Rack

03. Spin Column Type Manual Nucleic Acid Extraction: *AccuPrep*[®]

Plasmid DNA Extraction Kit

<i>AccuPrep</i> [®] Nano-Plus Plasmid Extraction Kit	189
<i>AccuPrep</i> [®] Plasmid Mini Extraction Kit	192

Fragment DNA Purification Kit

<i>AccuPrep</i> [®] PCR/Gel Purification Kit	193
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Genomic DNA Extraction Kit

<i>AccuPrep</i> [®] Genomic DNA Extraction Kit	194
<i>AccuPrep</i> [®] Plant DNA Extraction Kit	195
<i>AccuPrep</i> [®] Stool DNA Extraction Kit	197

RNA Extraction Kit

<i>AccuPrep</i> [®] Universal RNA Extraction Kit	199
<i>AccuPrep</i> [®] Viral RNA Extraction Kit	201
<i>AccuPrep</i> [®] Bacterial RNA Extraction Kit	203

AccuPrep® Nano-Plus Plasmid Extraction Kit



○ Description

AccuPrep® Nano-Plus Plasmid Extraction Kit uses the alkaline lysis method applied with innovative cell debris and protein removal technology to effectively reduce the time for plasmid DNA extraction.

Extraction time: Mini prep (10 min), Midi prep (40 min),
Maxi prep (60 min)

○ Features and Benefits

■ Effective purification

A new concept of plasmid DNA extraction kit applied with Bioneer's patented technology to effectively remove cell debris particles and proteins

■ Rapid high-quality, high-yield productivity

Purification only within 10 minutes (mini), 40 minutes (midi) or 60 minutes (maxi)

■ Comprehensiveness

A wide range of isolation from high- to low-copy number plasmid

■ High binding capacity

Up to 30 µg using silica based DNA binding column

■ Rich contents

Endonuclease A Denaturation Buffer (PB Buffer) for *endA+* strain

■ Convenience

Ethanol already added to the Wash Buffer

○ Specifications

Scale	Mini	Midi	Maxi
Starting amount	1~10 ml	25~75 ml	100~200 ml
Column binding capacity	Up to 30 µg	Up to 100 µg	Up to 500 µg
Preparation time	< 10 min	< 40 min	< 60 min
Elution volume	50~100 µl	1 ml	1~2 ml
Expected DNA yield	Up to 20 µg	75~100 µg	300~500 µg
Expected DNA purity (A ₂₆₀ /A ₂₈₀)	> 1.8		

*The measurement value may vary depending on the type and condition of plasmid.

○ Application

Gene cloning, Sequencing, Transformation, Transfection, and
In vitro transcription/translation

○ Experiment Data

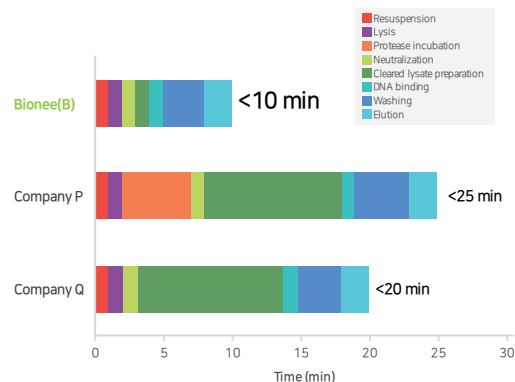


Figure 1. Reduced total preparation time.

The centrifugation time for obtaining cleared lysate (the solution containing plasmid DNA) by Buffer ① (Resuspension buffer) of this product has been shortened from traditional 10 minutes to just 1 minute thanks to the nanoparticles inside the solution. AccuPrep® Nano-Plus Plasmid Mini Extraction Kit allows the extraction of plasmid DNA on mini-scale (up to 20 µg) only within 10 minutes.

B: AccuPrep® Nano-Plus Plasmid Mini Extraction Kit

P, Q: Competitors' plasmid extraction kit

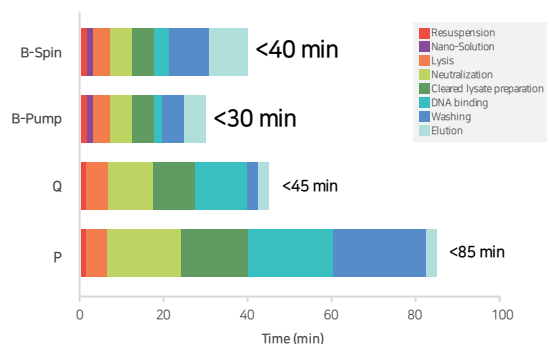


Figure 2. Reduced total preparation time.

The centrifugation time for obtaining cleared lysate (the solution containing plasmid DNA) by Buffer ① (Resuspension buffer) of this product has been shortened from traditional 20 minutes to just 5 minutes thanks to the nanoparticles inside the solution. AccuPrep® Nano-Plus Plasmid Midi Extraction Kit allows the extraction of plasmid DNA on midi-scale (up to 75-100 µg) only within 40 minutes (Air-pressure method-within 30 minutes)

B: AccuPrep® Nano-Plus Plasmid Midi Extraction Kit

Q, P: Competitors' plasmid extraction kit

AccuPrep® Nano-Plus Plasmid Extraction Kit

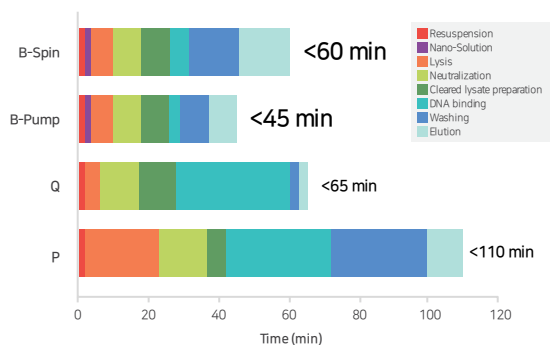


Figure 3. Reduced total preparation time.

The centrifugation time for obtaining cleared lysate (the solution containing plasmid DNA) by Buffer ① (Resuspension buffer) of this product has been shortened from traditional 20 minutes to just 5 minutes thanks to the nanoparticles inside the solution. *AccuPrep® Nano-Plus Plasmid Maxi Extraction Kit* allows the extraction of plasmid DNA on maxi-scale (up to 300-500 µg) only within 60 minutes (Air-pressure method-within 45 minutes)
 B: *AccuPrep® Nano-Plus Plasmid Maxi Extraction Kit*
 Q, P: Competitors' plasmid extraction kit

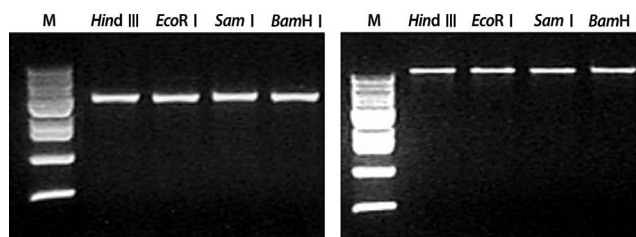


Figure 4. Restriction enzyme digestion test.

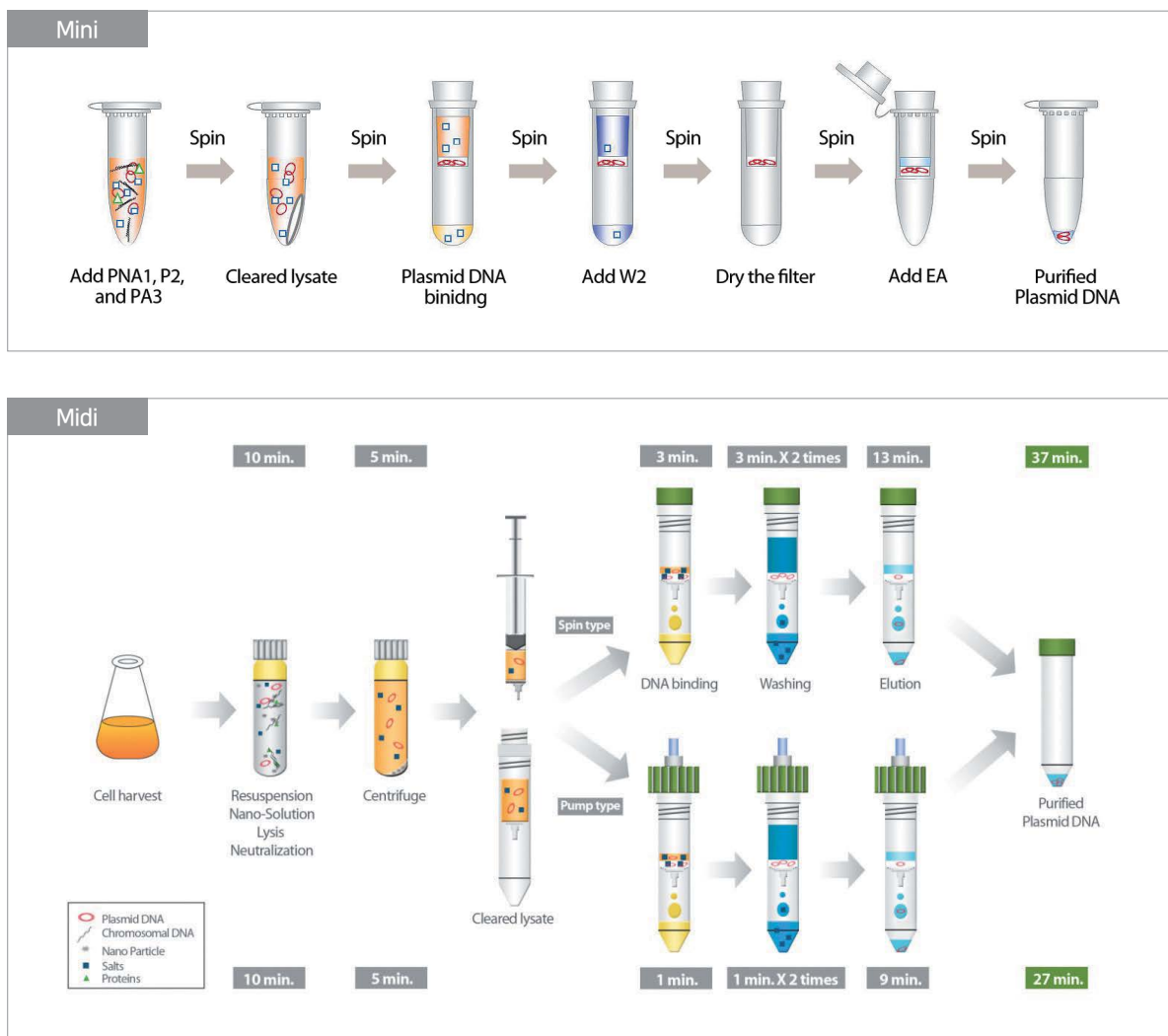
Plasmid DNA extracted using *AccuPrep® Nano-Plus Plasmid Mini Extraction Kit* was verified using agarose gel electrophoresis after digesting with various restriction enzymes.

Left- pBluescript SK(+)

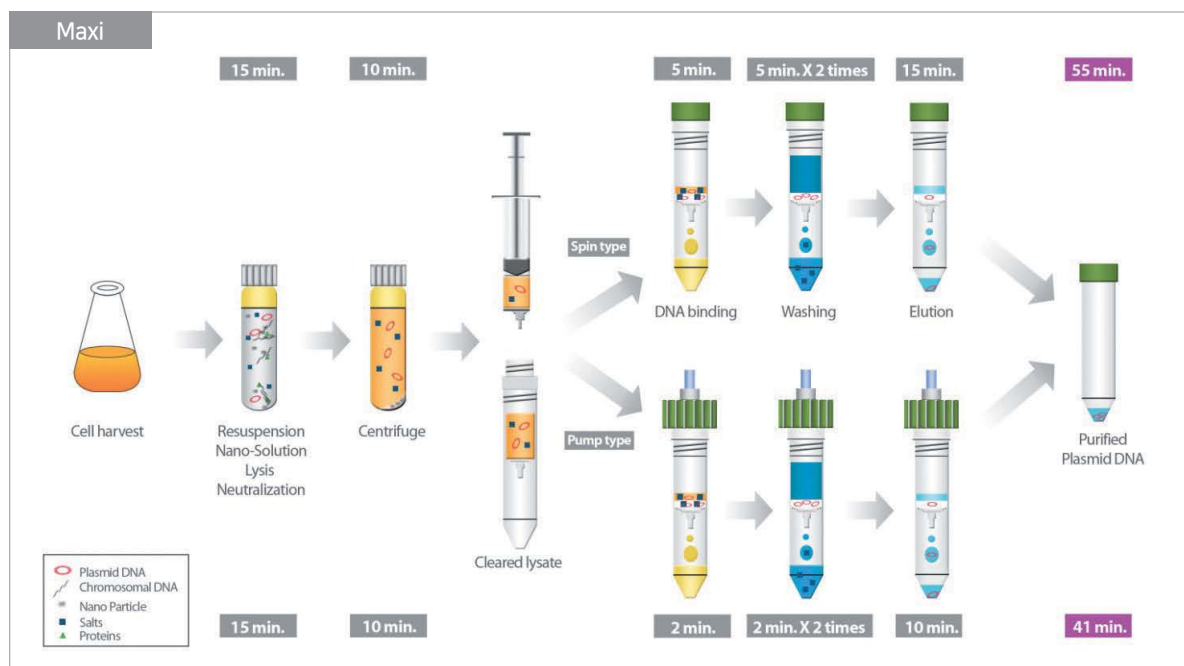
Right- pBI121

Lane M: 1 kb DNA Ladder (Cat. No. D-1040, Bioneer)

Procedure



AccuPrep® Nano-Plus Plasmid Extraction Kit



Ordering Information

Cat. No.	Product Description
K-3111	AccuPrep® Nano-Plus Plasmid Mini Extraction Kit, 200 rxn
K-3112	AccuPrep® Nano-Plus Plasmid Mini Extraction Kit, 50 rxn
K-3122	AccuPrep® Nano-Plus Plasmid Midi Extraction Kit, 25 rxn
K-3131	AccuPrep® Nano-Plus Plasmid Maxi Extraction Kit, 25 rxn
K-3132	AccuPrep® Nano-Plus Plasmid Maxi Extraction Kit, 10 rxn
KB-0101	RNase A powder, lyophilized (6 mg/tube)
KA-1130	AccuPrep® Binding Column-II (50 ea/pk)

AccuPrep® Plasmid Mini Extraction Kit



Specifications

Feature	Specification
Starting amount	1~10 ml
Preparation time	< 20 min
Elution volume	50~100 µl
Expected DNA yield	Up to 20 µg
Expected DNA purity (A _{260/280})	> 1.8

*The measurement value may vary depending on the type and condition of the sample

Description

AccuPrep® Plasmid Mini Extraction Kit uses the alkaline lysis method to effectively extract high yields of plasmid DNA with high-purity. The isolated plasmid DNA can be used for various experiments such as sequencing, sub-cloning, and transformation, etc.

Features and Benefits

- **High binding capacity**
Up to 30 µg using silica based DNA binding column
- **Rich contents**
Endonuclease A Denaturation Buffer (PB Buffer) for *endA*⁺ strain
- **Convenience**
Ethanol already added to the Wash Buffer

Application

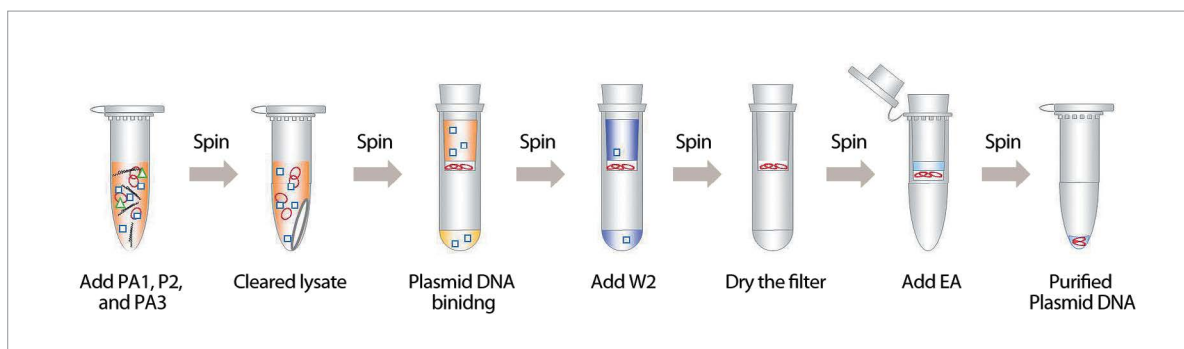
Subcloning, Sequencing, Transformation, Transfection, and *In vitro* transcription/translation

Experimental Data



Figure 1. Plasmid DNA extracted by AccuPrep® Plasmid Extraction Kit.
Extraction of pGEM®-T easy vector from 3.6 × 10⁹ DH5α cells
M: 1 kb DNA ladder (Cat. No. D-1040, Bioneer)

Procedure



Ordering Information

Cat. No.	Product Description
K-3030	AccuPrep® Plasmid Mini Extraction Kit, 200 rxn
K-3030-1	AccuPrep® Plasmid Mini Extraction Kit, 50 rxn
KB-0101	RNase A powder, lyophilized (6 mg/tube)
KA-1130	AccuPrep® Binding Column-II (50 ea/pk)

AccuPrep® PCR/Gel Purification Kit



○ Description

AccuPrep® PCR/Gel Purification Kit allows rapid purification of DNA fragments from various enzymatic reactants and agarose gels.

○ Application

Subcloning, Sequencing, Labeling, and DNA concentration

○ Features and Benefits

- **Quick & Comprehensive purification**
Purification from PCR products and various enzymatic reactants (restriction enzyme, A-tailing, Labeling reaction, etc.)
- **Wide flexibility**
Can be used on low-melting agarose gels, TAE, and TBE agarose gel
- **Comprehensive size compatibility**
A wide range of possible fragment sizes for isolation from 50 bp to 20 kb
- **High binding capacity**
Up to 30 µg with silica-based DNA binding column
- **Effective DNA enrichment**
Capable of lowering elution volume up to 30 µl
- **Convenience**
Ethanol already included in the Washing Buffer

○ Specifications

Feature	Specification
Size range	50 bp~20 kb
Max. binding capacity	30 µg
Recommended agarose gel amount	400 mg
Expected purity (A ₂₆₀ /A ₂₈₀)	> 1.8

*The measurement value may vary depending on the type and condition of the sample.

○ Procedure



○ Ordering Information

Cat. No.	Product Description
K-3037	AccuPrep® PCR/Gel Purification Kit, 200 rxn
K-3038	AccuPrep® PCR/Gel Purification Kit, 50 rxn
KA-1130	AccuPrep® Binding Column-II (50 ea/pk)

AccuPrep® Genomic DNA Extraction Kit



Experimental Data

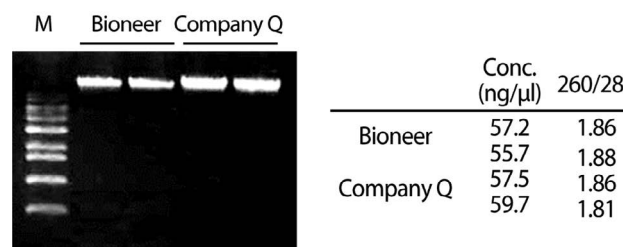


Figure 1. Genomic DNA extracted from Bovine tissue (30 mg)

M: 1 kb DNA ladder (Cat. No. D-1040, Bioneer)

Description

AccuPrep® Genomic DNA Extraction Kit allows rapid extraction of genomic DNA from blood, animal tissues, and cultured cells.

Features and Benefits

- Comprehensive sample compatibility**
 High-quality, high-yield genomic DNA extraction from various samples such as blood, animal tissues, cultured cells, etc.
- Optimized for various animal tissue lysis**
 Lysis Buffer (TL Buffer) included
- High binding capacity**
 Up to 30 μg using silica based DNA binding column
- Convenience**
 Ethanol already added to the Wash Buffer

Specifications

Sample	Starting amount	Expected DNA yield	Expected purity (A ₂₆₀ /A ₂₈₀)
Whole blood	200 μl	3~6 μg	> 1.8
Buffy coat	200 μl	15~20 μg	
Cultured cells	10 ⁴ ~10 ⁸ cells	15~20 μg	
Mammalian tissue	25~50 mg	10~15 μg	

*The measurement value may vary depending on the type and condition of the sample.

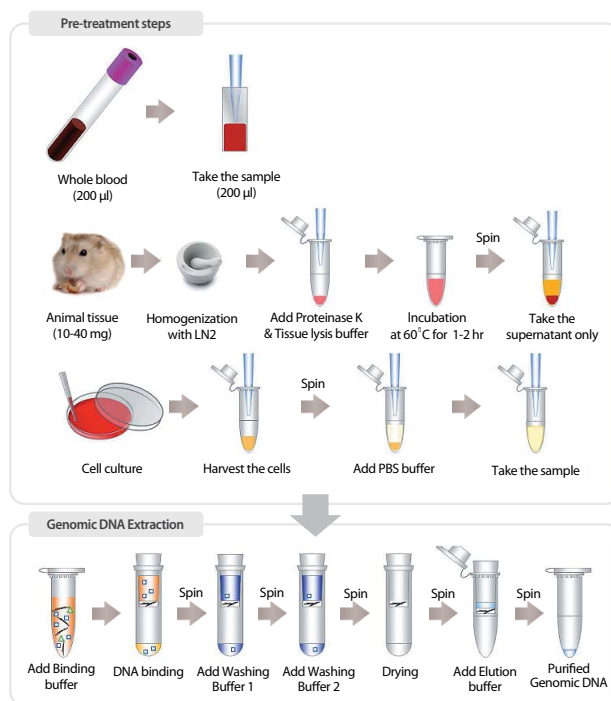
Application

Gene cloning, PCR, Real-Time PCR, Southern blotting, and SNP genotyping

Ordering Information

Cat. No.	Product Description
K-3032	AccuPrep® Genomic DNA Extraction Kit, 100 rxn
KB-0111	Proteinase K powder, lyophilized (25 mg/tube X 2 tubes)
KB-0101	RNase A powder, lyophilized (6 mg/tube)
KA-1120	AccuPrep® Binding Column-I (50 ea/pk)

Procedure



AccuPrep® Plant Genomic DNA Extraction Kit



Description

AccuPrep® Plant Genomic DNA Extraction Kit allows extraction and purification of genomic DNA from various plant samples such as leaves, stems, roots, seeds of plants.

Features and Benefits

- Extraction of highly-pure, high-yield genomic DNA from plant samples such as leaves, stem, roots, seeds
- Lysis Buffer (PL Buffer) included in the kit for various plant seeds and tissue cells
- Using silica based DNA binding column with high binding capacity up to 30 µg

Specifications

Sample type	Starting amount	Expected DNA yield	Expected purity (A ₂₆₀ /A ₂₈₀)
Soybean	100 mg	2~5 µg	> 1.7
Maize	100 mg	1~4 µg	
Potato	100 mg	1~4 µg	

*The measurement value may vary depending on the type and condition of the sample.

Experimental Data

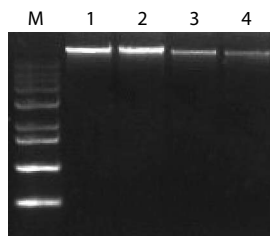


Figure 1. Comparison of genomic DNA extracted from *Raphanus sativus* (100 mg) using AccuPrep® Plant Genomic DNA Extraction Kit (Bioneer, single column) and competitor's kit (Competitor Q, single column).

M: 1 kb DNA ladder (Cat. No. D-1040, Bioneer)

Lane 1-2: Bioneer AccuPrep® Plant Genomic DNA Extraction Kit, mean yield; 1.5 µg, mean purity; 1.71

Lane 3-4: Competitor Q Genomic DNA Extraction Kit, mean yield; 0.9 µg, mean purity; 1.86

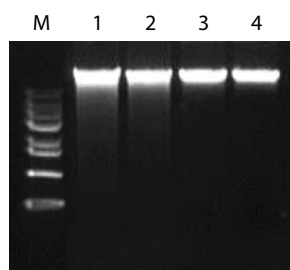


Figure 2. Comparison of genomic DNA extracted from *Brassica oleracea* (100 mg) using AccuPrep® Plant Genomic DNA Extraction Kit (Bioneer, single column) and competitor's kit (Competitor Q, single column).

M: 1 kb DNA ladder (Cat. No. D-1040, Bioneer)

Lane 1-2: Bioneer AccuPrep® Plant Genomic DNA Extraction Kit, mean yield; 5.4 µg, mean purity; 1.78

Lane 3-4: Competitor Q Genomic DNA Extraction Kit, mean yield; 4.7 µg, mean purity; 1.79

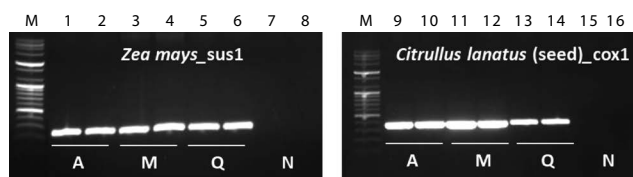


Figure 3. Comparison of Conventional PCR targeting *sus1* (sucrose synthase 1) gene from Maize (50 mg) genomic DNA and *cox1* (cytochrome c oxidase subunit I) gene from watermelon seed (50 mg) genomic DNA purified with AccuPrep® Plant Genomic DNA Extraction Kit (Bioneer, manual/single column), MagListo™ 5M Plant Genomic DNA Extraction Kit (Bioneer, manual/magnetic bead) and competitor's kit (Competitor Q, single column). AccuPower® GoldHotstart Taq PCR PreMix was used for amplification.

M: 100 bp plus ladder (Cat. No. D-1035, Bioneer)

N: Negative control

Lane 1-2: PCR product from genomic DNA of *Zea mays* purified with AccuPrep® Plant Genomic DNA Extraction Kit

Lane 3-4: PCR product from genomic DNA of *Zea mays* purified with MagListo™ 5M Plant Genomic DNA Extraction Kit

Lane 5-6: PCR product from genomic DNA of *Zea mays* purified with competitor Q kit

Lane 7-8: Negative control

Lane 9-10: PCR product from genomic DNA of *Citrullus lanatus* purified with AccuPrep® Plant Genomic DNA Extraction Kit

Lane 11-12: PCR product from genomic DNA of *Citrullus lanatus* purified with MagListo™ 5M Plant Genomic DNA Extraction Kit

Lane 13-14: PCR product from genomic DNA of *Citrullus lanatus* purified with competitor Q kit

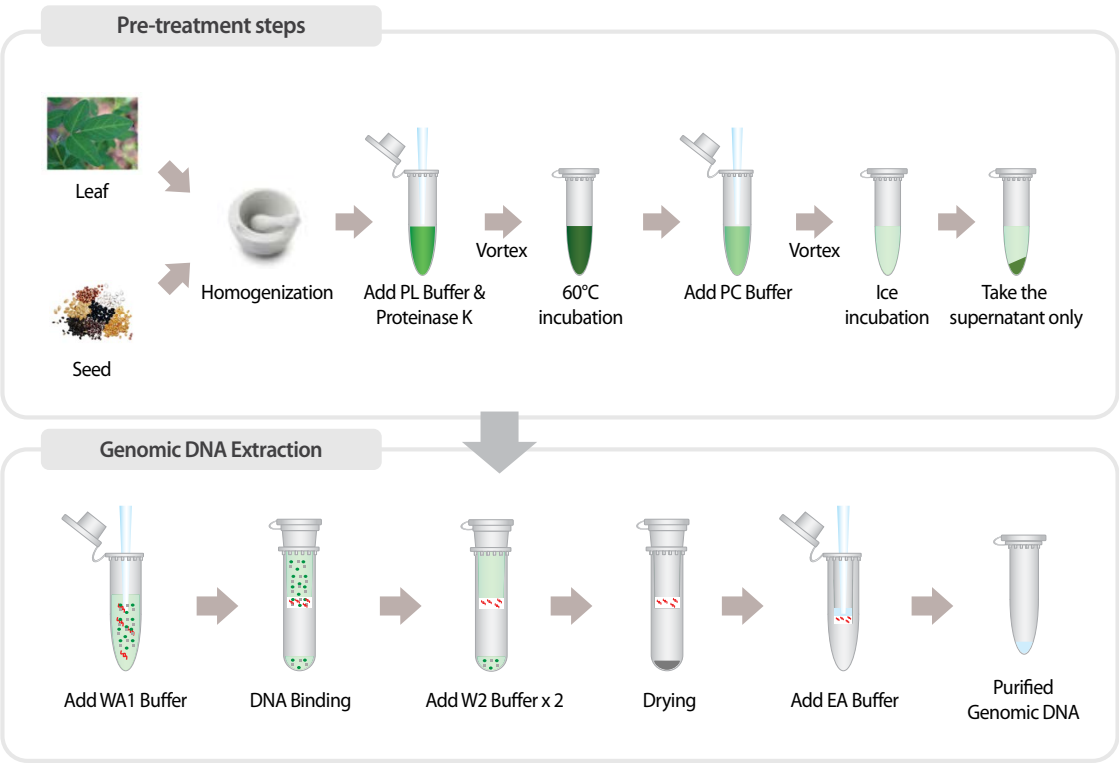
Lane 15-16: Negative control

Application

Gene cloning, PCR, Quantitative Real-Time PCR, Southern blotting, and SNP genotyping

AccuPrep® Plant Genomic DNA Extraction Kit

Procedure



Ordering Information

Cat. No.	Product Description
K-3031	AccuPrep® Plant Genomic DNA Extraction Kit, 100 rxn
KB-0111	Proteinase K powder, lyophilized (25 mg/tube X 2 tubes)
KA-0101	RNase A powder, lyophilized (6 mg/tube)
KA-1120	AccuPrep® Binding Column-I (50 ea/pk)

AccuPrep® Stool DNA Extraction Kit



Description

AccuPrep® Stool DNA Extraction Kit is a product that can be extracted high purity genomic DNA removing various PCR inhibitors from fresh or frozen stools of various animals including humans.

Features and Benefits

- High purity genomic DNA extraction from human and various animal stools
- Using silica based DNA binding column with high binding capacity up to 30 µg
- Genomic DNA extraction with various PCR inhibitors (heparin, bilirubin, etc.) completely removed using Stool Lysis buffer (SL Buffer) optimized for various stool samples
- Easy to use because ethanol is added to Washing buffer

Specifications

Sample type	Starting amount	Expected DNA yield
Stool	100 mg	2~5 µg

*The measurement value may vary depending on the type and condition of the sample.

Application

PCR, Real-Time PCR, Southern blotting, SNP genotyping, and Pathogen characterization

Experimental Data

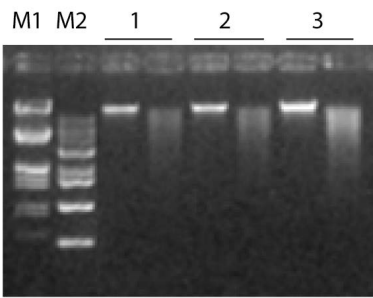


Figure 1. Gel electrophoresis of stool genomic DNA extracted by AccuPrep® Stool DNA Extraction Kit.

Lane M1: λ DNA/EcoRI + HindIII Markers (Cat. No. D-1070, Bioneer)
Lane M2: 1 kb ladder (Cat. No. D-1040, Bioneer)
Lane 1-3: DNA purified with AccuPrep® Stool DNA Extraction Kit
100 ng of Intact DNA (left) and HindIII enzyme digested DNA (right)

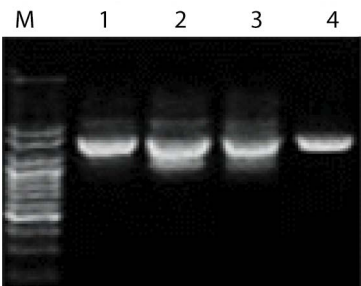
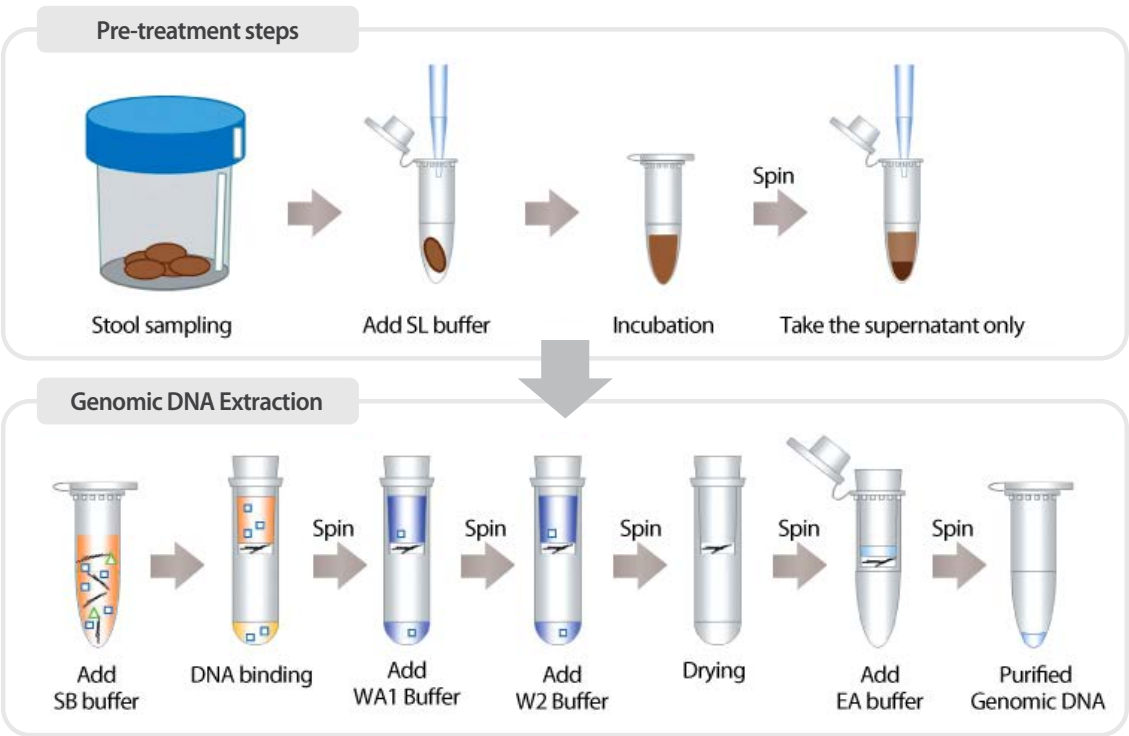


Figure 2. PCR results of *H. pylori* DNA extracted with AccuPrep® Stool DNA Extraction Kit.

Lane M: 100 bp ladder (Cat. No. D-1030, Bioneer)
Lane 1-4: PCR results for *H. pylori* detection

AccuPrep® Stool DNA Extraction Kit

Procedure



Ordering Information

Cat. No.	Product Description
K-3036	AccuPrep® Stool DNA Extraction Kit, 100 rxn
KB-1042	SL Buffer (Stool Lysis Buffer; 50 ml)
KB-0111	Proteinase K powder, lyophilized (25 mg/tube X 2 tubes)
KA-1120	AccuPrep® Binding Column-I (50 ea/pk)

AccuPrep® Universal RNA Extraction Kit



Description

AccuPrep® Universal RNA Extraction Kit allows rapid extraction of RNA from cultured cells, mammalian tissues, and plant tissues.

Features and Benefits

- Isolation of RNA from a wide variety of samples such as cultured cells, animal tissues, plant tissues, etc.
- Using silica based RNA binding columns with high binding capacity up to 120 µg
- Columns Individually sterilized and packaged
- Ethanol already added to the Washing Buffer

Specifications

Feature	Specification
Column loading volume	800 µl
Max binding capacity	~120 µg
Elution volume	30~100 µl
Preparation time	~ 20 min

Sample type	Starting amount	Expected RNA yield *	Expected purity
Cultured cells	10 ⁴ ~10 ⁸ cells	15~20 µg	A _{260/280} > 2.0
Mammalian tissue	25~50 mg	10~60 µg	
Plant tissue	100 mg	30~60 µg	A _{260/230} > 1.7

*The measurement value may vary depending on the type and condition of the sample.

Application

cDNA synthesis, RT-PCR, Quantitative real-time RT-PCR, and Northern blot

Experimental Data

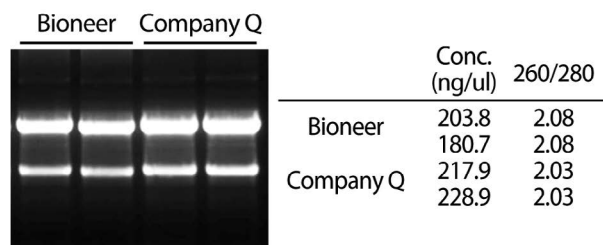


Figure 1. RNA extracted from cultured cell.

RNA extraction from 1×10⁶ of HeLa cell. DNase was not treated.



Elution volume: 100 µl

Figure 2. RNA extracted from plant tissue.

RNA extraction from 100 mg of *Brassica oleracea* var. *italica*. DNase was not treated.



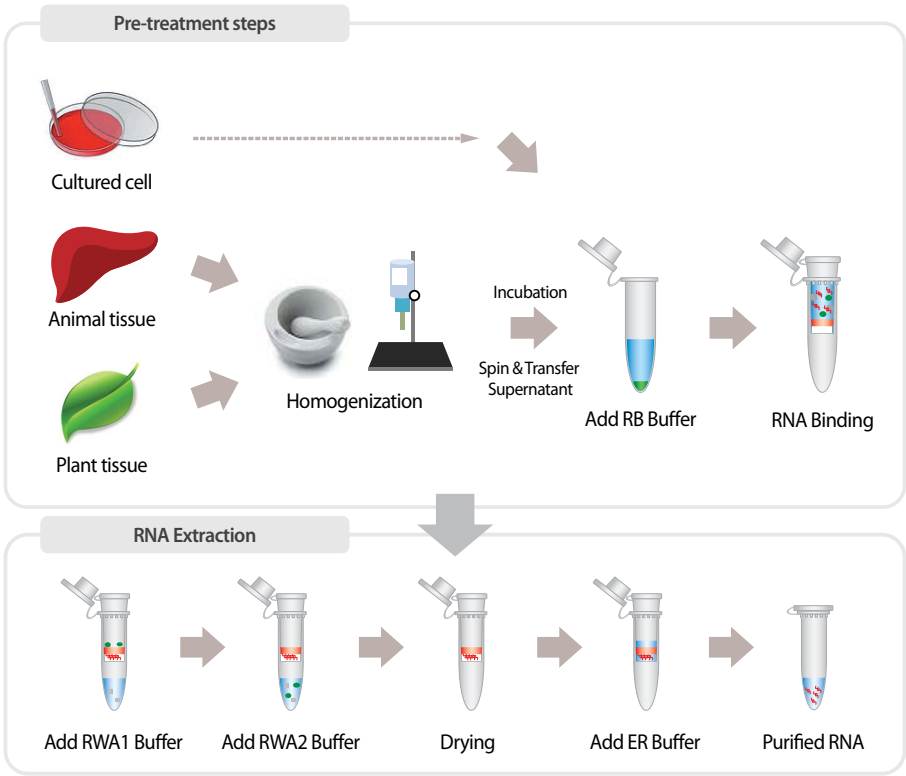
Elution volume: 100 µl

Figure 3. RNA extracted from animal tissue.

RNA extraction from 20 mg of *Mus musculus* liver. DNase was not treated.

AccuPrep® Universal RNA Extraction Kit

Procedure



Ordering Information

Cat. No.	Product Description
K-3140	AccuPrep® Universal RNA Extraction Kit, 100 rxn
K-3141	AccuPrep® Universal RNA Extraction Kit, 50 rxn
KA-1140	AccuPrep® Binding Column-III (50 ea/pk)
KA-1160	AccuPrep® filtering column

AccuPrep® Viral RNA Extraction Kit



Description

AccuPrep® Viral RNA Extraction Kit allows rapid extraction of viral RNA taken from various cell-free samples such as serum, plasma, CSF and urine with ease. Furthermore, poly(A) powder is included in the product for improved efficiency. This product can separate comprehensive types of viral RNA from HIV, HAV, HCV, enterovirus, etc. The isolated RNA can be used for a wide range of experiments such as RT-PCR and Quantitative Real time RT-PCR, etc.

Features and Benefits

Comprehensive sample type

Highly-pure viral RNA extraction from various clinical samples such as serum, blood samples, CSF (Cerebrospinal Fluid), urine, swab, etc.

Poly(A) powder

Maximized RNA degradation protection and binding efficiency

High binding capacity

Using silica based RNA binding column with high binding capacity

Convenience

Ethanol already added to the Wash Buffer

Specifications

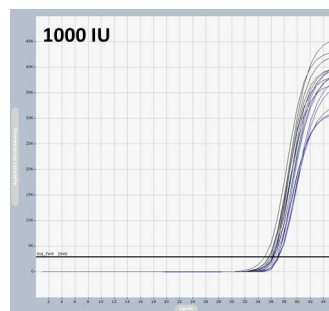
Sample type	Starting amount	Expected yield
Serum	200 µl	> 90% recovery
Plasma		
CSF		
Cell free body fluid		
Swab	1 ea	

*The measurement value may vary depending on the type and condition of the sample.

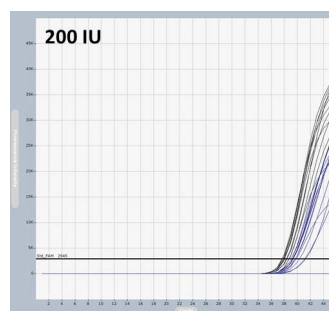
Application

cDNA synthesis, RT-PCR, RT-qPCR, poly A+ RNA selection, Northern blot analysis, and Pathogen detection

Experimental Data



Kit	Bioneer	Company I
Ct	37.07	36.63
	36.03	37.17
	35.57	36.29
	35.58	37.13
	36.27	36.37
	35.03	36.14
	35.75	37.00
	36.21	37.18
AVERAGE	35.94	36.74
CV	1.69	1.17

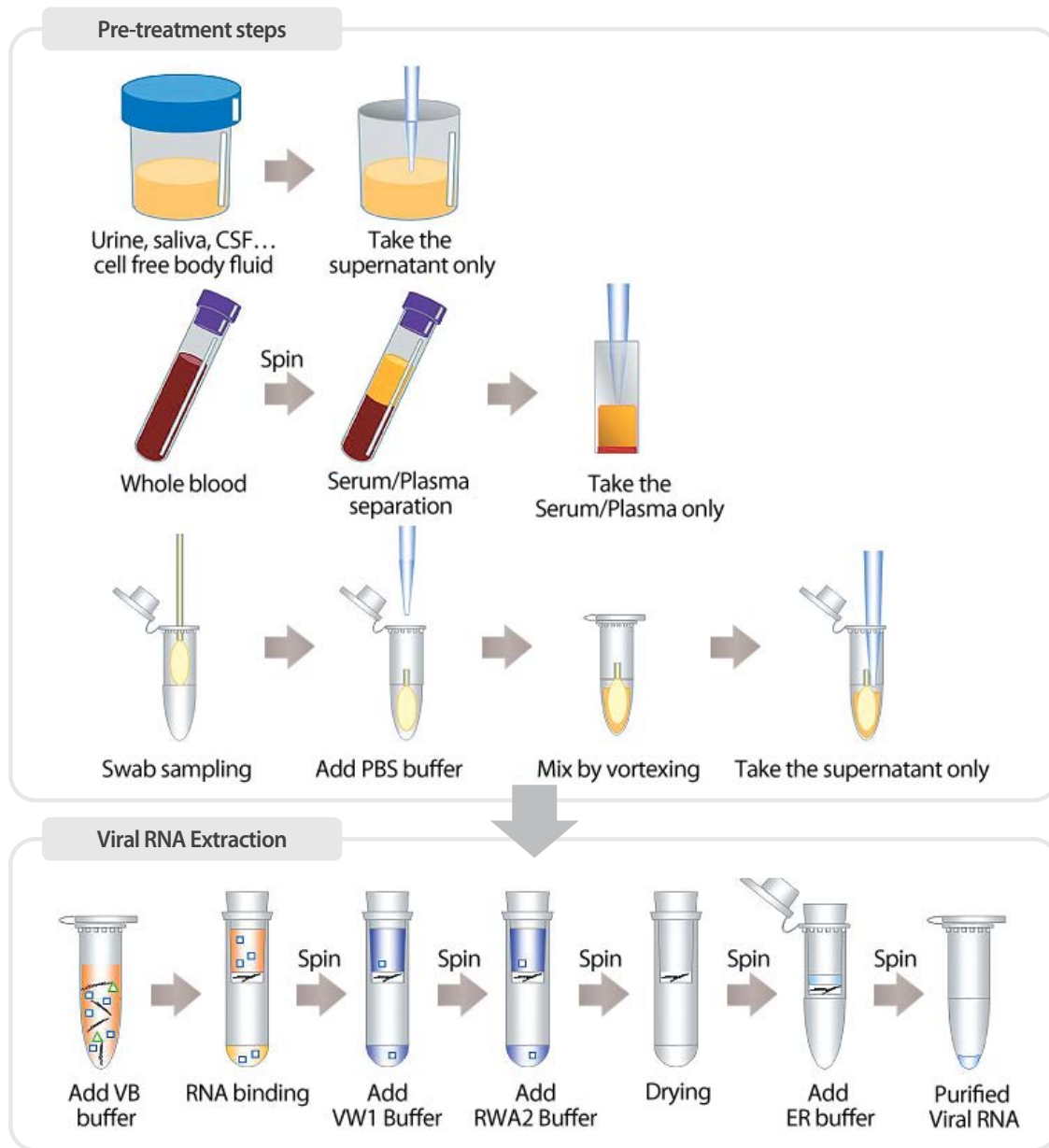


Kit	Bioneer	Company I
Ct	38.75	39.69
	39.12	40.32
	37.78	39.84
	38.03	39.68
	38.34	39.30
	37.87	39.33
	37.67	41.26
	39.30	41.15
	38.07	U.D.
	38.75	39.12
	38.07	39.32
	38.41	39.36
AVERAGE	38.35	39.85
CV	1.38	1.87

Figure 1. Comparison of real-time RT-PCR data of hepatitis C virus (HCV) RNA in human normal serum using AccuPrep® Viral RNA Extraction Kit (manual/single column) and a competitor's kit (Competitor I, manual/single column). AccuPower® HCV Quantitative RT-PCR Kit (Cat. No. HCV-1111, Bioneer) and 1/10 of eluate as a template was used for detection.

AccuPrep® Viral RNA Extraction Kit

Procedure



Ordering Information

Cat. No.	Product Description
K-3033	AccuPrep® Viral RNA Extraction Kit, 100 rxn
KB-0111	Proteinase K powder, lyophilized (25 mg/tube X 2 tubes)
KB-0121	Poly (A) powder, lyophilized (2 mg/tube)
KA-1120	AccuPrep® Binding Column-I (50 ea/pk)

AccuPrep® Bacterial RNA Extraction Kit



Description

AccuPrep® Bacterial RNA Extraction Kit enables rapid and convenient extraction of RNA from gram-positive and gram-negative bacteria. Proteins and other contaminants are effectively removed through silica-based spin columns and optimized buffers. This process is ideal for safe and convenient extraction since no organic solvents are used. Using AccuPrep® Bacterial RNA Extraction Kit, you can extract stable RNA without degradation.

Features and Benefits

- High purity, high yield RNA extraction from gram positive and gram negative bacterial samples
- Minimize Bacterial RNA degradation
- Use silica based RNA binding column with high binding capacity up to 120 µg
- Minimize contamination by individually sterilizing columns
- Convenient use because ethanol is added to the washing buffer

Specifications

Feature	Specification
Column loading volume	800 µl
Max binding capacity	~120 µg
Elution volume	30~100 µl
Preparation time	~ 40 min

Sample type	Starting amount	Expected RNA yield *	Expected purity
Gram-negative bacteria	10 ⁸ cells	4~8 µg	A _{260/280} > 2.0
Gram-positive bacteria	10 ⁸ cells	3~6 µg	A _{260/230} > 1.7

*The measurement value may vary depending on the type and condition of the sample.

Ordering Information

Cat. No.	Product Description
K-3142	AccuPrep® Bacterial RNA Extraction Kit, 100 rxn
K-3143	AccuPrep® Bacterial RNA Extraction Kit, 50 rxn
KB-0111	Proteinase K powder, lyophilized (25 mg/tube X 2 tubes)
KA-1140	AccuPrep® Binding Column-III (10 ea x 5)

Application

cDNA synthesis, RT-PCR, Quantitative Real-Time RT-PCR, and Northern blot analysis

Experimental Data

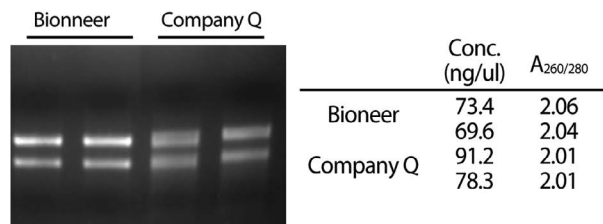


Figure 1. Gram-negative bacterial RNA extraction using AccuPrep® Bacterial RNA Extraction Kit.

RNA extraction from 1x10⁸ cell of *E. coli*. DNase was not treated.

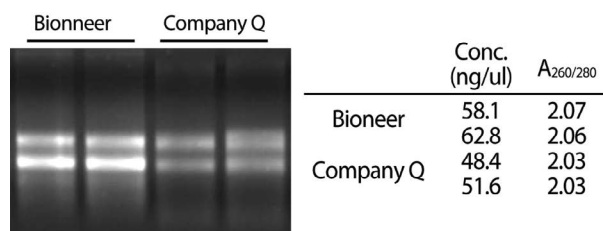
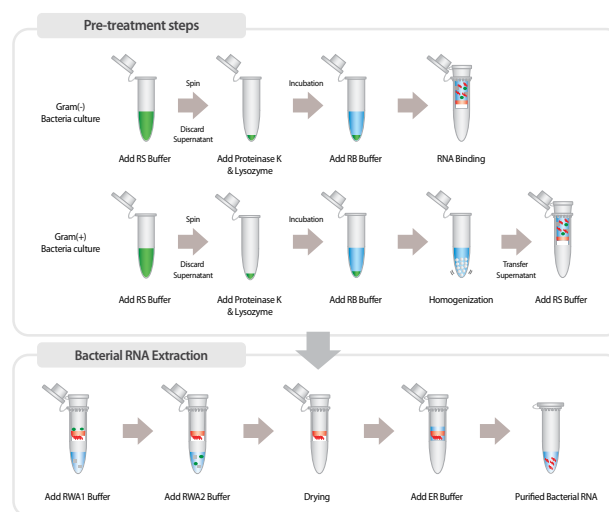


Figure 2. Gram-Positive bacterial RNA extraction using AccuPrep® Bacterial RNA Extraction Kit.

RNA extraction from 1x10⁸ cell of *Bacillus Subtilis*. DNase was not treated.

Procedure



04. 96-Well Vacuum Block Type Manual Nucleic Acid Extraction

Plasmid DNA Extraction Kit

AccuPrep® Plasmid Mini Extraction Kit for 96 Well Vacuum Block 205

Genomic DNA Extraction Kit

AccuPrep® Genomic DNA Extraction Kit for 96 Well Vacuum Block 206

Fragment DNA Purification Kit

AccuPrep® PCR Purification Kit for 96 Well Vacuum Block 207

Vacuum Manifold

BioVac™ 96 Vacuum Manifold 208

AccuPrep® Plasmid Mini Extraction Kit for 96 Well Vacuum Block



Description

AccuPrep® Plasmid Mini Extraction Kit for 96-well vacuum manifold allows rapid extraction of highly pure plasmid DNA with high yield production from cell culture media such as *E. coli* using a 96-well plate and a vacuum manifold. This product is compatible with vacuum manifolds from other companies such as Qiagen, Axygen, Promega, etc.

Features and Benefits

- **High binding capacity**
Utilization of 96 well-type binding plates
- **Rich contents**
Endonuclease A Denaturation Buffer (PB Buffer) for *endA*+ strain
- **Rapid high-quality, high-yield productivity**
Purification with simultaneous processing of 96 large samples
- **Wide compatibility**
Vacuum manifolds from other companies such as QIAGEN, Axygen, and Promega

Specifications

Feature	Specification
Starting culture volume	1~10 ml
Elution volume	50~100 µl
Expected DNA yield	Up to 10 µg
Preparation time	< 40 min

*The measurement value may vary depending on the type and condition of the sample.

Application

Subcloning, Sequencing, Transformation, Transfection, and *In vitro* transcription/translation

Ordering Information

Cat. No.	Product Description
K-3030-2	AccuPrep® Plasmid Mini Extraction Kit for 96 Well Vacuum Block, 192 rxn
A-9030	BioVac™ 96 Vacuum Manifold

AccuPrep® Genomic DNA Extraction Kit for 96 Well Vacuum Block



○ Description

AccuPrep® Genomic DNA Extraction Kit for 96-well vacuum manifold allows rapid extraction of genomic DNA using a 96-well plate and a vacuum manifold from samples such as blood and cultured cells.

This product is compatible with vacuum manifolds from other companies such as Qiagen, Axygen, Promega, etc.

○ Features and Benefits

- **Comprehensive sample compatibility**
High-quality, high-yield genomic DNA extraction from various samples such as blood, cultured cells, etc.
- **High binding capacity**
Utilization of 96 well-type binding plates
- **Safety**
Organic solvent unused
- **Convenience**
ethanol precipitation process is not needed
- **Wide compatibility**
Vacuum manifolds from other companies such as QIAGEN, Axygen, and Promega

○ Specifications

Sample	Starting Amount	Expected DNA yield
Whole blood	200 µl	Up to 3 µg
Buffy coat	200 µl	Up to 10 µg
Cultured cells	10 ⁴ ~10 ⁸ cells	Up to 10 µg

*The measurement value may vary depending on the type and condition of the sample.

○ Application

Gene cloning, PCR, Real-Time PCR, Southern blotting, and SNP genotyping

○ Ordering Information

Cat. No.	Product Description
K-3032-2	AccuPrep® Genomic DNA Extraction Kit for 96 Well Vacuum Block, 192 rxn
A-9030	BioVac™ 96 Vacuum Manifold

AccuPrep® PCR Purification Kit for 96 Well Vacuum Block



○ Description

AccuPrep® PCR Purification Kit for 96-well vacuum manifold is a high-throughput PCR purification kit that can purify PCR products and eliminate primers, enzymes, dNTPs, salts and buffer. By using the special BioVac™ 96 Vacuum Manifold developed by Bioneer, 96 separate PCR products can be simultaneously purified in 25 minutes.

This product is compatible with vacuum manifolds from other companies such as Qiagen, Axygen, Promega, etc.

○ Ordering Information

Cat. No.	Product Description
K-3034-2	AccuPrep® PCR Purification Kit for 96 Well Vacuum Block, 192 rxn
A-9030	BioVac™ 96 Vacuum Manifold

○ Features and Benefits

- Highly purified and high yield fragment DNA can be purified from various enzymatic reactants
- Double strand and single strand DNA can be purified with high recovery
- Usable range is 100 bp to 10 kb with 70 - 90% recovery
- 96 well binding plates with high binding efficiency
- The 96 sample can be handled without additional instruments

○ Application

Subcloning, Sequencing, Southern Blot, and Northern Blot

BioVac™ 96 Vacuum Manifold



Description

BioVac™ 96 Vacuum Manifold is a instrument that can extract 96 samples of DNA / RNA / genomic DNA in a short time. It can be used not only with products from Bioneer, such as 96-well plasmid extraction kit, PCR purification kit and genomic DNA extraction kit, but also with 96-well extraction kits from other companies.

Features and Benefits

Reproducible, quick results

Rapid, reproducible results through simultaneous experimentation of 96 samples

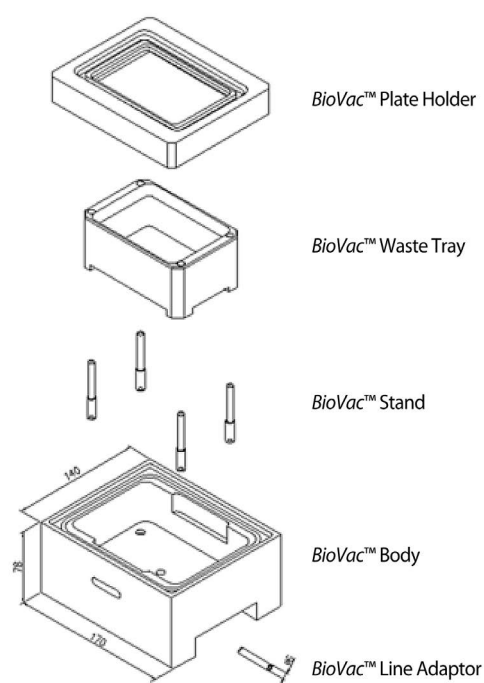
Compatibility of products

High utilization with wide compatibility of products from Bioneer and other company's, not requiring to buy additional accessories

Application

Subcloning, Sequencing, Labeling, DNA concentration, etc.

Specification



Ordering Information

Cat. No.	Product Description
A-9030	<i>BioVac™ 96 Vacuum Manifold</i>
Cat. No.	Kits for <i>BioVac™</i> Vacuum Manifold
K-3030-2	<i>AccuPrep®</i> Plasmid Mini Extraction Kit for 96 Well Vacuum Block, 192 rxn
K-3032-2	<i>AccuPrep®</i> Genomic DNA Extraction Kit for 96 Well Vacuum Block, 192 rxn
K-3034-2	<i>AccuPrep®</i> PCR Purification Kit for 96 Well Vacuum Block, 192 rxn