20200107 | Ver.5 (EN)

MagListo™

Magnetic Bead-based Prep and Purification Solution

BIONEER
Innovation • Value • Discovery

Bioneer Corporation is Korea's leading biotech company.
Bioneer is the first Korean biotechnology company when it was established in 1992.

Selection Chart

Selection chart of Bioneer's nucleic acid extraction and protein purification kits

Type		Automatic type			Manual type	
		ExiPrep™16 Plus	*ExiPrep*™96 Lite	*ExiProgen*™	*MagListo*™ (magnetic bead)	*AccuPrep*® (spin-column)
RNA	Cell	√	√	√	√	√
	Tissue	√	√	√	√	√
	Plant	√	√	√	√	√
Genomic DNA	Cell	√	√	√	√	√
	Tissue	√	√	√	√	√
	Plant	√	√	√	√	√
	Bacteria	√	√	√	√	√
	Forensic sample				√	
	Blood	√	√	√	√	√
	Stool					√
Fragment DNA	PCR		√		√	√
	Gel				√	√
Cell Free DNA			√		√	
Plasmid			√		√	√
Viral DNA/RNA		√		√		√
His-tagged protein			√	√	√	
Antibody			√	√	√	

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- A *AccuNanoBead*™ Magnetic Nanobeads
- B *MagListo*™ Magnetic Separation Rack

02 Manual type

- A 5M Nucleic Acid Extraction Kit
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  2. *MagListo*™ 5M Plasmid Extraction Kit
  3. *MagListo*™ 5M Genomic DNA Extraction Kit
  4. *MagListo*™ 5M Plant Genomic DNA Extraction Kit
  5. *MagListo*™ 5M Forensic Sample DNA Extraction Kit
  6. *MagListo*™ 5M Gel Extraction Kit
  7. *MagListo*™ 5M PCR Purificaction Kit
  8. *MagListo*™ 5M cfDNA Extraction Kit
- B Protein Purification Kit
  1. *MagListo*™ His-tagged Protein Purification Kit
  2. *MagListo*™ Protein G/A/L Kit

03 Automatic type

- A Nucleic Acid Extraction Kits for *ExiPrep*™96 Lite

MagListo™

Magnetic Bead-based Prep and Purification Solution

1 **Fast,easy separation** — Takes only 5 minutes without the use of centrifuge

2 **Flexible capacity** — Three different scales available for purchase – Mini, Midi and Maxi

3 **High yield and purity** — High yield, High purity of final product by uniformed magnetic nanobeads

Technology | AccuNanoBead™

AccuNanoBead™ Magnetic Nanobeads?

Recently, many researchers have been applying magnetic beads in their biological studies: including cellular experiments, DNA purification, disease monitoring and even in disease treatment. The surface of magnetic beads is coated with functional groups, increasing specificity to bind with specific DNA, RNA, proteins, and cells. The beads are then moved, attached onto desired position through external magnetic fields for purification. Additionally, while conventional magnetic beads are micro-sized, our beads from *AccuNanoBeads*™ products are nano-sized, greatly increasing their binding capacity with their larger surface area.

Key Features	Applications
▪ Minuscule size | Average sizes of 400 nm magnetic nanobeads ▪ Uniformed size distribution ▪ Sphere form of silica coated magnetic nanobeads ▪ Excellent protein purification efficiency ▪ Rapid purification	▪ Magnetic DNA/RNA Purification ▪ Magnetic Protein Purification ▪ Magnetic Biosimilar Separation ▪ Magnetic Antibody Separation

FE-SEM and TEM images of *AccuNanoBead*™-Magnetic Nanobead

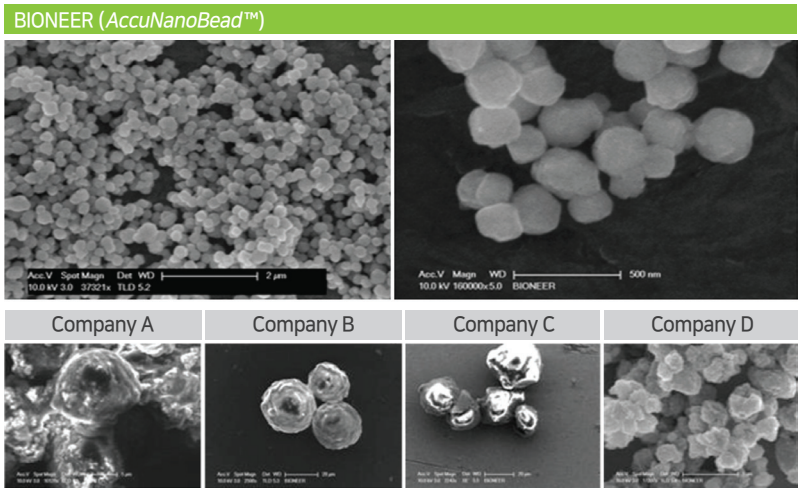


Figure 1. FE-SEM and TEM images of *AccuNanoBead*™ Magnetic Nanobead showing nano-sized spheres uniform in both size and shape while the ones from competitors show large, irregular spheres.

4 **Cost effective**

Competitive prices using our own technologies and raw materials

Complete Recovery within a Second

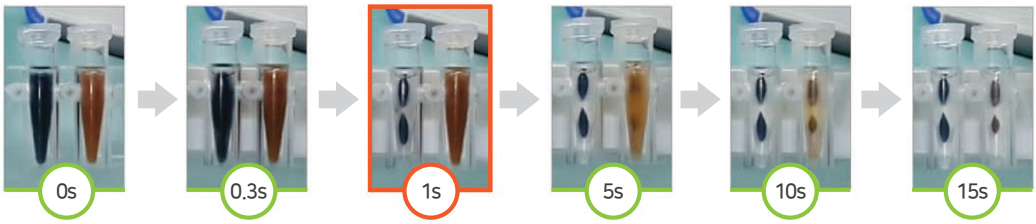


Figure 2. *AccuNanoBead*™ Magnetic Nanobeads (Dark blue) have been recovered only within a second, being 15 times faster than the other production form competitor L (Brown). This allows our customers to quickly finish the experiment, allowing time-efficient experiments.

Ordering Information

Cat No.	Product Descriptions	Specification
TA-1010-1	*AccuNanoBead*™ Silica Magnetic Nanobeads, size 400 nm	0.5 g/25 ml
TA-1010-2	*AccuNanoBead*™ Silica Magnetic Nanobeads, size 400 nm	1.0 g/50 ml
TA-1010-3	*AccuNanoBead*™ Silica Magnetic Nanobeads, size 400 nm	10 g/500 ml
TB-1010-1	*AccuNanoBead*™ Silica Magnetic Nanobeads, size 200 nm	0.5 g/25 ml
TD-1010-1	*AccuNanoBead*™ Silica Magnetic Nanobeads, size 100 nm	0.5 g/25 ml
TA-1011-1	*AccuNanoBead*™ NH2 Magnetic Nanobeads, size 400 nm	0.5 g
TA-1012-1	*AccuNanoBead*™ COOH Magnetic Nanobeads, size 400 nm	0.5 g
TB-1012-1	*AccuNanoBead*™ COOH Magnetic Nanobeads, size 200 nm	0.5 g
TF-1012-1	*AccuNanoBead*™ COOH Magnetic Beads for NGS	0.5 g
TF-1012-2	*AccuNanoBead*™ COOH Magnetic Beads for NGS	1 g
TF-1012-3	*AccuNanoBead*™ COOH Magnetic Beads for NGS	4 g
TA-1013-1	*AccuNanoBead*™ Epoxy Magnetic Nanobeads, size 400 nm	0.5 g
TA-1014-1	*AccuNanoBead*™ C18 Magnetic Nanobeads, size 400 nm	0.5 g
TA-1015-1	*AccuNanoBead*™ Streptavidin Magnetic Nanobeads, size 400 nm	50 mg/5 ml
TA-1016-1	*AccuNanoBead*™ Biotin Magnetic Nanobeads, size 400 nm	0.5 g/25 ml
TA-1017-1	*AccuNanoBead*™ Ni-NTA Magnetic Nanobeads, size 400 nm	0.5 g/25 ml
TA-1019-1	*AccuNanoBead*™ Thiol Magnetic Nanobeads, size 400 nm	0.5 g
TA-1021-1	*AccuNanoBead*™ Protein G Magnetic Nanobeads, size 400 nm	40 mg/1 ml
TA-1022-1	*AccuNanoBead*™ Protein A Magnetic Nanobeads, size 400 nm	40 mg/1 ml
TA-1023-1	*AccuNanoBead*™ Protein L Magnetic Nanobeads, size 400 nm	40 mg/1 ml
TS-1000-1	Magnet Φ15x1.5 and Screw Tube 1.5 ml	1 set

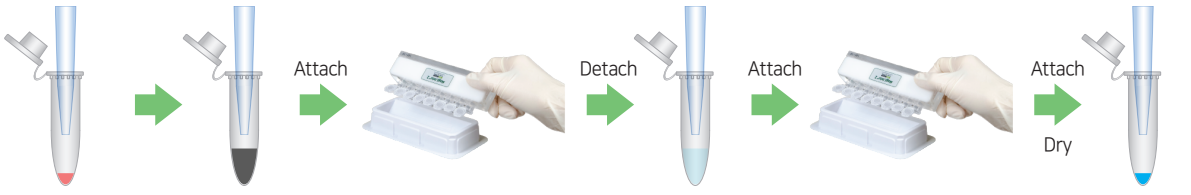
MagListo™ Magnetic Separation Rack?

MagListo™ Magnetic Separation Rack uses magnetic nanobeads to extract nucleic acids or purify proteins. By using the silicon fixture, the tubes can be easily inserted or removed, but will not slide out, even if the rack is turned upside down. This allows to easily dispose the solutions by inverting it without using a pipette. Not only that, but thanks to its magnetic force, our product also allows faster isolation and purification than conventional column racks. Depending on the amount and number of samples needed, different types of racks are available for purchase: *MagListo*™-8Ch (Use with 8 multi-channel pipette), *MagListo*™- 2 (Use with 2 ml tube), *MagListo*™-15 (Use with 15 ml tube) and *MagListo*™- 50 (Use with 50 ml tube).

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

Procedure for DNA/RNA Extraction using *MagListo*™ Magnetic Separation Rack

Washing step: Centrifuge-free extraction using *MagListo*™ without use of balance tubes. Just insert tubes into the rack, attach the magnet plate to fix the beads binding nucleic acid and pour off the supernatant.



Ordering Information

Cat. No.	Product Description	Specification
TM-1000	*MagListo*™-8 Ch Magnetic Separation Rack	1 ml tube x 8 holes
TM-1010	*MagListo*™-2 Magnetic Separation Rack	2 ml tube x 8 holes
TM-1020	*MagListo*™-15 Magnetic Separation Rack	15 ml tube x 6 holes
TM-1030	*MagListo*™-50 Magnetic Separation Rack	50 ml tube x 3 holes

Manual type

- 5M Nucleic Acid Extraction Kit
- Proten Purification Kit

MagListo™ nucleic acid extraction and protein purification kits

Target	Product
Total RNA	*MagListo*™ 5M Universal RNA Extraction Kit
Plasmid DNA	*MagListo*™ 5M Plasmid Extraction Kit
Genomic DNA	*MagListo*™ 5M Genomic DNA Extraction Kit
	MagListo™ 5M Plant Genomic DNA Extraction Kit
	MagListo™ 5M Forensic Sample DNA Extraction Kit
Fragment DNA	*MagListo*™ 5M PCR Purification Kit
	MagListo™ 5M Gel Extraction Kit
Cell Free DNA	*MagListo*™ cfDNA Extraction Kit
His-tagged protein	*MagListo*™ His-tagged Protein Purification Kit
Antibody	*MagListo*™ Protein G Kit
	MagListo™ Protein A Kit
	MagListo™ Protein L Kit

MagListo™ 5M Universal RNA Extraction Kit

MagListo™ 5M Universal RNA Extraction Kit allows rapid extraction of total RNA using *MagListo*™ Magnetic Separation Rack and Magnetic Nanobeads from various animal tissues, plant tissues and cultured cells. The isolated RNA can be used for a wide range of experiments such as RT-PCR, Quantitative Real time RT-PCR, microarray analysis, etc.

Key Features	▪Isolation of total RNA from various types of animal tissues and cultured cells ▪Broad coverage of scales for Mini and Midi isolation protocols with just a single kit (Mini - 10min, Midi - 15min) ▪No need of additional expensive instruments other than the kit and *MagListo*™ Magnetic Separation Rack
Application	RT-PCR and Real-time RT-PCR, cDNA synthesis, Northern blot analysis, Primer extension, Microarray

Specifications

Scale	Mini	Midi
Starting cell number	≤ 30 mg tissue $3x10^6$ cells	≤ 200 mg tissue $2x10^7$ cells
Preparation time	< 10 min	< 15 min
Elution volume	50 µl	500 µl
Expected RNA yield	Up to 100 µg	Up to 500 µg
Expected purity	$A_{260/280}$ > 1.9	

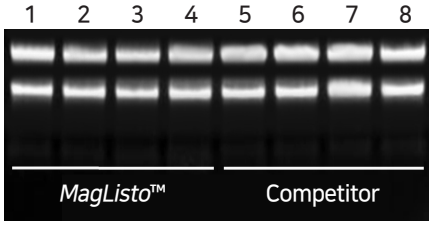
*Differences in the quantified value may occur depending on the types of samples.

Typical Yield of Total RNA	
Tissue type (10 mg)	Yield (µg)
Kidney	20 - 30
Liver	40 - 60
Spleen	20 - 40
Thymus	30 - 50
Lung	10 - 20

Components	
RD Buffer	30 ml x 2 ea
RWM1 Buffer	90 ml x 1 ea
RWA2 Buffer	100 ml x 1 ea
W3 Buffer	120 ml x 1 ea
ER Buffer	20 ml x 1 ea
Magnetic Nanobead	11 ml x 1 ea

*mini - 100 rxn, midi - 10 rxn

Experimental Data



Product	*MagListo*™				Competitor			
Lane	1	2	3	4	5	6	7	8
Yield (µg)	58.6	60.3	55.7	58.7	36.8	38.3	34.5	37.9
$A_{260/280}$	2.09	2.09	2.08	2.09	2.04	2.05	2.03	2.05
$A_{260/230}$	2.03	1.95	2.02	1.97	1.76	1.78	1.91	1.48

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

Ordering Information

Cat. No.	Product Description
K-3613	*MagListo*™ 5M Universal RNA Extraction Kit, 100 rxns in mini

MagListo™ 5M Plasmid Extraction Kit

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

Key Features	▪ Minimized plasmid DNA extraction time from cell-crushed products using Magnetic Beads ▪ Broad coverage of scales for Mini, Midi, and Maxi isolation protocols with just a single kit (Mini - within 5 min, Midi - within 10 min, Maxi - within 15 min) ▪ No need of expensive instruments other than the kit and *MagListo*™ Magnetic Separation Rack
Application	Gene cloning, PCR, Real-time PCR, Sequencing, Transformation, Transfection, *in-vitro* transcription / translation

Specifications

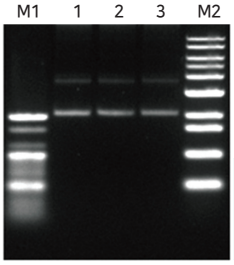
	8-channel scale	Mini scale	Midi scale	Maxi scale
Starting volume	1 ~ 1.5 ml	2 ~ 10 ml	20 ~ 50 ml	100 ~ 200 ml
Preparation time	< 5 min	< 5 min	< 10 min	< 15 min
Elution volume	100 µl	100 µl	500 µl	1 ml
Expected DNA yield	Up to 10 µg	Up to 20 µg	Up to 200 µg	Up to 500 µg
Expected purity	$A_{260/280}$ > 1.8			

*Differences in the quantified value may occur depending on the types of plasmids.

Components	K-3601*	K-3600**
PM1 Buffer	25 ml x 1 ea	110 ml x 1 ea
P2 Buffer	25 ml x 1 ea	110 ml x 1 ea
P3 Buffer	25 ml x 1 ea	110 ml x 1 ea
PB Buffer	75 ml x 1 ea	160 ml x 2 ea
W2 Buffer	120 ml x 1 ea	250 ml x 2 ea
EA Buffer	15 ml x 1 ea	50 ml x 1 ea
RNase A Powder, lyophilized	3 mg x 1 ea	12 ml x 1 ea
Magnetic Nanobead	1.2 ml x 5 ea	1.2 ml x 25 ea

*mini -100 rxn, midi - 10 rxn, maxi - 4 rxn, ** mini -500 rxn, midi - 50 rxn, maxi - 18 rxn

Experimental Data



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 1. Compared purified plasmid DNA yields between *MagListo*™ 5M Plasmid Extraction Kit and Competitor's kit (Magnetic Bead Type).

M1: 100 bp ladder (Cat.No. D-1030, Bioneer)
Lane 1: 2 kb plasmid DNA purified with *MagListo*™ 5M Plasmid Extraction Kit
Lane 2: 2 kb plasmid DNA purified with competitor P kit
Lane 3: 2 kb plasmid DNA purified with competitor I kit
M2: 1 kb ladder (Cat.No. D-1040, Bioneer)

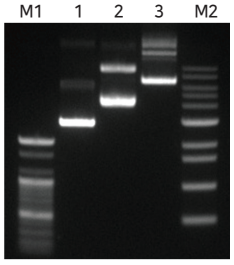


Figure 2. Electrophoresis data of 500 ng of plasmids of various sizes purified with *MagListo*™ 5M Plasmid Extraction Kit.

M1: 100 bp ladder (Cat.No. D-1030, Bioneer)
Lane 1: 3.5 kb plasmid DNA
Lane 2: 5.4 kb plasmid DNA
Lane 3: 8 kb plasmid DNA
M2: 1 kb ladder (Cat.No. D-1040, Bioneer)

Ordering Information

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

MagListo™ 5M Genomic DNA Extraction Kit

MagListo™ 5M Genomic DNA Extraction Kit allows fast extraction of genomic DNA using Magnetic Nanobeads and *MagListo*™ Magnetic Separation Rack from various samples such as blood, animal tissues and cultured cells. The isolated genomic DNA may be used for a wide range of experiments such as gene cloning, PCR, quantitative real time PCR, southern blotting, and etc.

Key Features	▪ Isolation of genomic DNA from samples such as blood, cultured cells, animal tissues, bacteria (Gram (-), (+)) and etc. ▪ A wide range of possible sample sizes even with a cell count less than 10^4 ▪ Broad coverage of scales for Mini, Midi, and Maxi isolation protocols with just a single kit (Mini - within 5 min, Midi - within 10 min, Maxi - within 15 min) ▪ No need of additional costly instruments except the kit and *MagListo*™ Magnetic Separation Rack
Application	Gene cloning, PCR, Real-time PCR, Southern blotting, SNP genotyping

Specifications

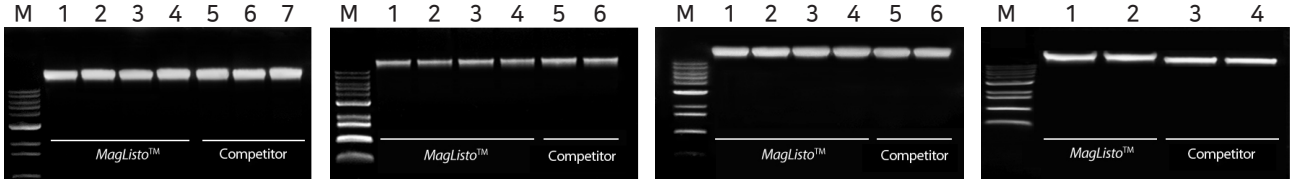
	Mini scale (Typical yield [μg])	Midi scale (Typical yield [μg])	Maxi scale (Typical yield [μg])
Whole blood	200 μl (< 10 μg)	2 ml (< 80 μg)	4 ml (< 150 μg)
Cultured cell	Up to 1 x 10^6 (< 12 μg)	Up to 5 x 10^6 (< 60 μg)	Up to 1 x 10^7 (< 120 μg)
Animal tissue	Up to 25 mg (< 10 μg)	Up to 100 mg (< 40 μg)	Up to 250 mg (< 120 μg)
Bacteria (Gram (-),(+))	Up to 1 x 10^9 (< 15 μg)	Up to 5 x 10^9 (<80 μg)	Up to 1 x 10^{10} (< 150 μg)
Preparation time	< 5 min	< 10 min	< 15 min
Expected purity	$A_{260/280}$ > 1.8		

*Minor differences in the size may be found in the actual product.

Components	
TL Buffer	35 ml x 1 ea
GB Buffer	30 ml x 1 ea
WM1 Buffer	60 ml x 1 ea
W2 Buffer	80 ml x 1 ea
WE Buffer	120 ml x 1 ea
EA Buffer	25 ml x 1 ea
RNase A Powder, lyophilized	24 mg x 2 ea
Proteinase K, lyophilized	25 mg x 2 ea
Magnetic Nanobead	11 ml x 1 ea

*mini - 100 rxn, midi - 10 rxn, maxi - 5 rxn

Experimental Data



(a) Whole blood
MagListo™- yield: 6.45 μg
purity($A_{260/280}$): 1.85
Competitor- yield: 5.53 μg
purity($A_{260/280}$): 1.85

(b) Animal tissue
MagListo™- yield: 5.48 μg
purity($A_{260/280}$): 1.86
Competitor- yield: 5.60 μg
purity($A_{260/280}$): 1.85

(c) HeLa cell (1x10^6)
MagListo™- yield: 24.1 μg
purity($A_{260/280}$): 1.92
Competitor- yield: 23.3 μg
purity($A_{260/280}$): 2.00

(d) *E.coil* (1x10^9)
MagListo™- yield: 14.7 μg
purity($A_{260/280}$): 1.83
Competitor- yield: 15.5 μg
purity($A_{260/280}$): 2.05

Figure 1. Comparison of genomic DNA extracted using *MagListo*™ and competitor's kit (spin column type).

Ordering Information

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

MagListo™ 5M Plant Genomic DNA Extraction Kit

MagListo™ 5M Plant Genomic DNA Extraction Kit allows extraction of total DNA using Magnetic Nanobeads and *MagListo*™ Magnetic Separation Rack from various plant samples such as leaves, roots, seeds. The isolated genomic DNA can be used for a wide range of experiments such as gene cloning, PCR, Quantitative real time PCR, southern blotting, etc.

Key Features	▪Isolation 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 (Mini - within 5 min, Midi - within 10 min, Maxi - within 15 min) ▪No need of additional costly instruments except the kit and *MagListo*™ Magnetic Separation Rack
Application	Gene cloning, PCR, Real-time PCR, Southern blotting, SNP genotyping

Specifications

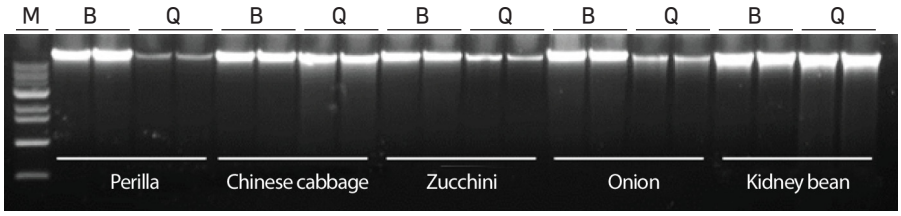
	Mini scale	Midi scale	Maxi scale
Plant tissue	Up to 100 mg	Up to 500 mg	Up to 1 g
Seed	Up to 50 mg	Up to 250 mg	Up to 500 mg
Elution volume	100 µl	500 µl	1 ml
Typical DNA yield*	5 - 15 µg	15 - 80 µg	30 - 150 µg
Expected purity	$A_{260/280}$ > 1.7		

*Differences in the quantified value may occur depending on the types of samples.

Components	
PL Buffer	40 ml x 1 ea
PC Buffer	25 ml x 1 ea
WM1 Buffer	60 ml x 1 ea
W2 Buffer	80 ml x 1 ea
WE Buffer	120 ml x 1 ea
EA Buffer	15 ml x 1 ea
RNase A Powder, lyophilized	24 mg x 2 ea
Proteinase K, lyophilized	25 mg x 2 ea
Magnetic Nanobead	11 ml x 1 ea

*mini – 100 rxn, midi – 15 rxn, maxi – 8 rxn

Experimental Data



M: 1 kb ladder (Cat.No. D-1040, Bioneer)
B: *MagListo*™ 5M Plant Genomic DNA Extraction Kit
Q: Competitor Q kit

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

Perilla: *MagListo*™- yield; 7.1 µg, purity; 1.80, Competitor Q- yield; 3.5 µg, purity; 1.85
Chinese cabbage: *MagListo*™- yield; 5.9 µg, purity; 1.82, Competitor Q- yield; 4.7 µg, purity; 1.82
Zucchini: *MagListo*™- yield; 3.6 µg, purity; 1.77, Competitor Q- yield; 3.0 µg, purity; 1.79
Onion: *MagListo*™- yield; 5.5 µg, purity; 1.80, Competitor Q- yield; 1.6 µg, purity; 1.84
Kidney bean: *MagListo*™- yield; 7.7 µg, purity; 1.73, Competitor Q- yield; 6.6 µg, purity; 1.80

Ordering Information

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

MagListo™ 5M Forensic Sample DNA Extraction Kit

MagListo™ 5M 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. The isolated DNA can be used for a wide range of experiments such as PCR, quantitative real time PCR, SNP genotyping and STR analysis.

Key Features	▪ Utilization of Magnetic Nanobead for total DNA extraction 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
Application	PCR, Real-time PCR, SNP genotyping, STR analysis

Specifications

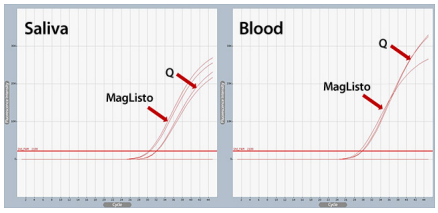
Feature	Specification
Sample type	Various kind of forensic sample
Technology	Magnetic nanobeads
Hands-on time	< 10 min
Expected Purity	$A_{260/280}$ > 1.8

*Differences in the quantified value may occur depending on the types of samples.

Components	
TL Buffer	35 ml x 1 ea
GB Buffer	30 ml x x1 ea
WM1 Buffer	80 ml x 1 ea
W2 Buffer	80 ml x 1 ea
WE Buffer	80 ml x 1 ea
EA Buffer	15 ml x 1 ea
Poly (A), lyophilized	1 mg x 1 ea
Proteinase K, lyophilized	25 mg x 2 ea
Magnetic Nanobead - DNA	11 ml x 1 ea

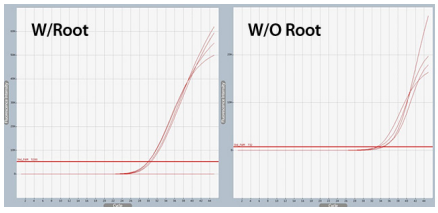
Experimental Data

[Saliva (10 µl) & Blood (10 µl) stains from clothes (7 mm diameter)]



Sample	Kit	
	MagListo™	Competitor
Saliva	30.30	32.05
	30.60	32.14
Blood	29.15	26.69
	29.14	29.89
NTC	U.D.	
	U.D.	

[Hair 1 strand (25 cm)]



Sample	Kit	
	MagListo™	Competitor
W/ root	29.99	30.7
	30.04	30.4
W/o root	33.39	34.66
	33.08	34.22
NTC	U.D.	
	U.D.	

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

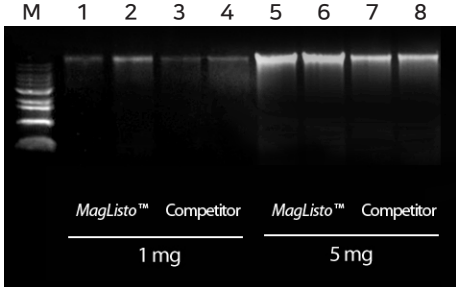


Figure 2. Comparison of total DNA from skeletal muscle tissue purified with *MagListo*™ and competitor's kit (single column type).

M: 1 kb ladder (Cat.No. D-1040, Bioneer)
[1 mg]
***MagListo*™**- yield: 1.35 µg, purity($A_{260/280}$): 1.95
Competitor- yield: 0.57 µg, purity($A_{260/280}$): 1.86
[5 mg]
***MagListo*™**- yield: 5.22 µg, purity($A_{260/280}$): 1.90
Competitor- yield: 2.81 µg, purity($A_{260/280}$): 1.88

Ordering Information

Cat. No.	Product Description
K-3615	*MagListo*™ 5M Forensic Sample DNA Extraction Kit, 100 rxns

MagListo™ 5M Gel Extraction Kit

MagListo™ 5M Gel Extraction Kit allows rapid extraction of DNA fragments from TAE or TBE agarose gels using Magnetic Nanobeads and *MagListo*™ Magnetic Separation Rack. The isolated DNA fragments can be used for various experiments such as sub-cloning, sequencing, labeling, etc.

Key Features	▪ Magnetic Nanobeads allow purification of DNA fragments from TAE or TBE agarose gels only within 15 minutes ▪ No need of additional expensive instruments other than the kit and *MagListo*™ Magnetic Separation Rack
Application	Subcloning, Sequencing, Labeling, DNA concentration, Other molecular biological applications

Specifications

Feature	Specification
Sample range	100 bp – 10 kb
Typical recovery	80% - 100 %
Expected purity	$A_{260/280}$ > 1.8
Extraction time	< 15 min

Components	
Gel Solubilization Buffer	120 ml x 1 ea
1st Washing Buffer	80 ml x 1 ea
2nd Washing Buffer	80 ml x 1 ea
3rd Washing Buffer	80 ml x 1 ea
Elution Buffer	15 ml x 1 ea
Magnetic Nanobead - DNA	1.8 ml x 6 ea

Experimental Data

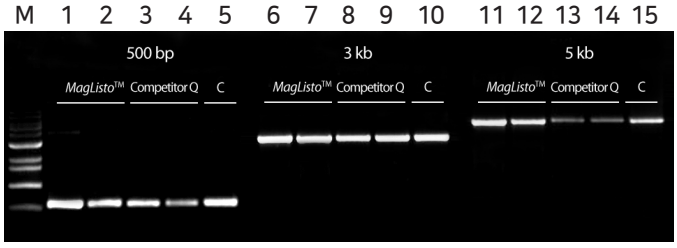


Figure 1. Comparison of fragment DNA from TBE agarose gel extracted with *MagListo*™ 5M Gel Extraction Kit and competitor's kit (spin column type).

M: 1 Kb ladder (Cat. No. D-1040, Bioneer)
Lane 1-2: 500 bp DNA purified with Bioneer *MagListo*™
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*™
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*™
Lane 13-14: 5 kb DNA purified with competitor Q kit
Lane 15: Control 5 kb DNA

Ordering Information

Cat. No.	Product Description
K-3607	*MagListo*™ 5M Gel Purification Kit, 100 rxns

MagListo™ 5M PCR Purification Kit

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. The isolated DNA fragments can be used in a wide range of experiments such as sub-cloning, sequencing, and labeling.

Key Features	▪Magnetic Nanobeads 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
Application	Subcloning, Sequencing, Labeling, DNA concentration, Other molecular biological applications

Specifications

Feature	Specification
Sample range	100 bp – 10 kb
Typical recovery	90% - 100 %
Expected purity	$A_{260/280}$ > 1.8
Extraction time	< 5 min

Components	
PCR Binding Buffer	30 ml x 1 ea
1st Washing Buffer	80 ml x 1 ea
2nd Washing Buffer	80 ml x 1 ea
Elution Buffer	15 ml x 1 ea
Magnetic Nanobead - DNA	1.8 ml x 6 ea

Experimental Data

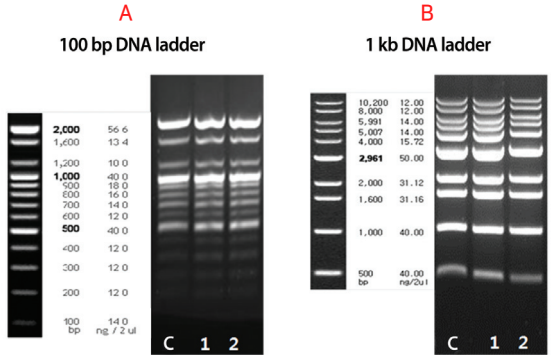


Figure 1. Comparison of fragment DNA purified with *MagListo*™ PCR Purification Kit and Control.

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

Ordering Information

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

MagListo™ cfDNA Extraction Kit

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.

Key Features	▪ A broad range of cell-free DNA extraction 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
Application	PCR, Real-time PCR, Digital PCR, Next-generation sequencing (NGS)

Specifications

	Mini scale	Midi scale	Maxi scale
Sample volume	~ 1 ml	~ 3 ml	~ 5 ml
Elution volume	30 µl	50 µl	70 µl
Typical DNA yield	~ 5 ng	~ 15 ng	~ 25 ng

* Minor differences in the size may be found in the actual product.

Components	
CL buffer	110 ml x 1 ea
CB buffer	55 ml x 1 ea
CW1 buffer	55 ml x 1 ea
W2 buffer	80 ml x 1 ea
EA buffer	25 ml x 1 ea
Magnetic Nanobead	1.8 ml x 6 ea
Proteinase K, lyophilized	25 mg x 2 ea

*mini - 50 rxn, midi - 16 rxn, maxi - 10 rxn

Experimental Data

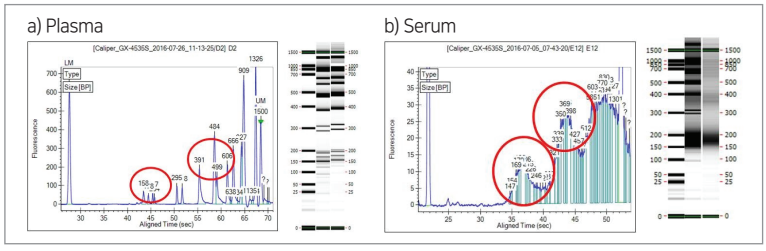


Figure 1. cfDNA from EDTA human plasma, human serum purified with *MagListo*™ cfDNA Extraction Kit.

M: 25/100bp mixed ladder (Cat. No. D-1020, Bioneer)
a) cfDNA of plasma mixed Bioneer ladder purified with Bioneer *MagListo*™ Kit
b) cfDNA of serum purified with Bioneer *MagListo*™ Kit

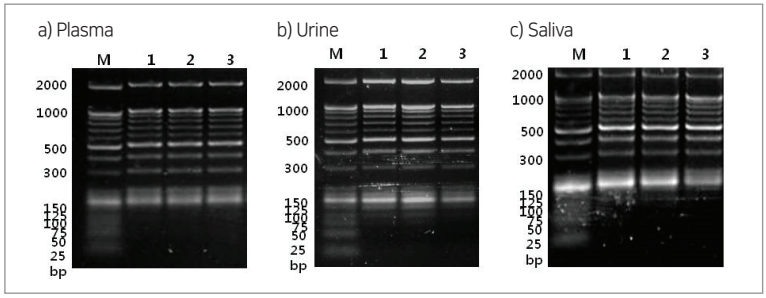


Figure 2. Size of cfDNA from EDTA human plasma, human urine and human saliva mixed Bioneer ladder purifies with *MagListo*™ cfDNA Extraction Kit.

M: 25/100bp mixed ladder (Cat. No. D-1020, Bioneer)
a) cfDNA of plasma mixed Bioneer ladder purified with Bioneer *MagListo*™ Kit
b) cfDNA of urine mixed Bioneer ladder purified with Bioneer *MagListo*™ Kit
c) cfDNA of saliva mixed Bioneer ladder purified with Bioneer *MagListo*™ Kit

Ordering Information

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

MagListo™ His-tagged Protein Purification Kit

MagListo™ His-tagged Protein Purification Kit easily purify His-tagged proteins from Ni-NTA Magnetic Nanobeads and buffers using magnetic forces. With an average diameter of 400 nm, the beads have large surface areas with excellent binding capacity, allowing to quickly recover without any loss thanks to their strong magnetic forces. These characteristics can quickly reduce the time and increase the yield. About 3~4 mg of 6x His-tagged proteins can be bound on to about 1 ml of Magnetic Nanobeads.

Key Features	▪ His-tagged proteins can be purified quickly and easily ▪ Spherical shape magnetic beads with good binding ability allow high-purity isolation of target proteins ▪ Use of crude cell lysate for efficient screening ▪ Broad compatibility with all recombinant His-tagged protein purification with His-tag expressed *in vivo* (*E. coli* expression) or *in vitro* (cell-free expression).
Application	Protein expression screening

Specifications

	Mini scale	Midi scale	Maxi scale
Preparation time	< 5 min	< 17 min	< 26 min
Elution volume	0.2 ml	2 ml	5 ml
Binding capacity	30 ~ 40 mg his-tagged protein / 1 g Ni-NTA beads		

Components		Storage Temperature
Ni-NTA magnetic silica resin	5 x 1 ml (10% slurry, v/v)	4 ℃
Binding/Washing Buffer	100 ml	
Elution Buffer	15 ml	
Neodymium magnet	3 ea	

Experimental Data

Protein purification using *MagListo*™ His-tagged Protein Purification Kit

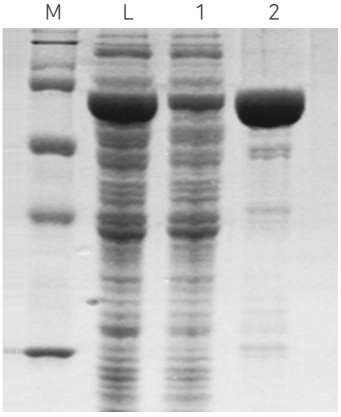


Figure 1. Purification of 6x His-tagged protein.
M: Protein broad marker (Cat. No. D-2010, Bioneer)
L: Loading sample
Lane 1: Unbound sample
Lane 2: Eluted sample

Protein purification of various sizes from 25 kDa to 94 kDa using *MagListo*™ His-tagged Protein Purification Kit

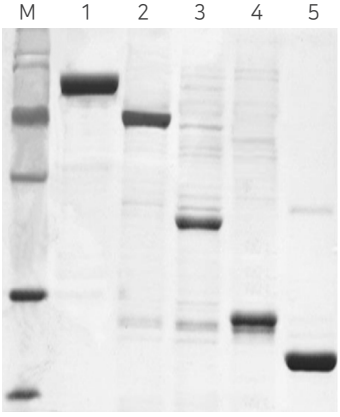


Figure 2. Protein size effect on purification.
M: Protein broad marker (Cat. No. D-2010, Bioneer)
Lane 1: Size 94 kDa his-tagged protein **Lane 2:** Size 67 kDa his-tagged protein
Lane 3: Size 38 kDa his-tagged protein **Lane 4:** Size 27 kDa his-tagged protein
Lane 5: Size 25 kDa his-tagged protein

Ordering Information

Cat. No.	Product Description
K-7200	*MagListo*™ His-tagged Protein Purification Kit, 1 x 5 ml

MagListo™ Protein G, Protein A, Protein L Kit

MagListo™ Protein G/A/L Kit allows quick and easy purification of antibodies using magnetic separation method. Magnetic Nanobeads use silica beads containing magnetic particles and are coated on the beads with high purity (>95%).

Key Features	▪Quick with minimized loss through powerful magnetism of Magnetic Nanobeads ▪Large surface area of Magnetic Nanobeads with average diameter of 400 nm ▪Reduced non-specific binding through the use of homogeneous spherical nanobeads
Application	Antibody purification, Immunoprecipitation, Antigen-Antibody interaction studies, Protein complex studies, cell separation

Specifications

	Protein G Magnetic Nanobeads	Protein A Magnetic Nanobeads	Protein L Magnetic Nanobeads
Matrix	Silica-coated Fe_3O_4		
Concentration	40 mg/ml (4% suspension)		
Max. Binding capacity	> 30 μg Human IgG/mg beads	> 20 μg Human IgG/mg beads	> 20 μg Human IgG/mg beads

Components		Storage Temperature
AccuNanoBead™ Protein G/A/L Magnetic NanoBeads	1 ml x 1 ea (4%)	Beads can be stored at 2 - 8°C until the expiration date. Do not freeze and vortex vigorously.
Binding & Washing Buffer	20 ml x 2 ea	
Elution Buffer	1 ml x 2 ea	
Neutralization Buffer	1 ml	

Experimental Data

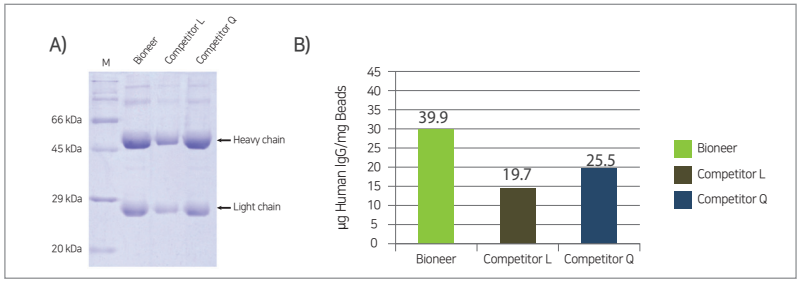


Figure 1. Comparison of protein binding efficiency of *MagListo*™ protein G Kit with competitor's kits.

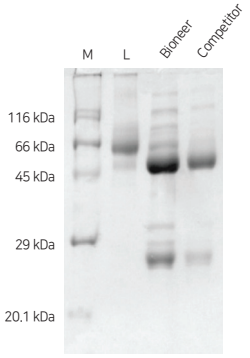


Figure 2. Purification of Human IgG With *MagListo*™ Protein L Kit. Elution fraction contains human IgG purified with protein L magnetic bead from Bioneer (*MagListo*™).

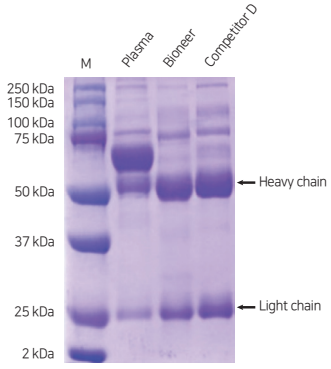


Figure 3. IgG purification from plasma with *AccuNanoBead*™ Protein A Magnetic NanoBead and Competitor D.

Ordering Information

Cat. No.	Product Description
K-7710	*MagListo*™ Protein G Kit
K-7720	*MagListo*™ Protein A Kit
K-7730	*MagListo*™ Protein L Kit

MagListo™

X

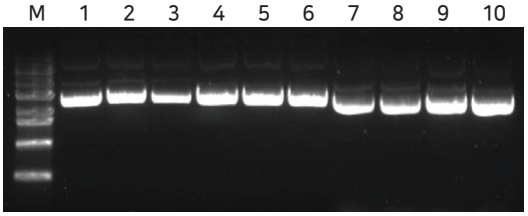
ExiPrep™96 Lite

Automatic type

- Nucleic Acid Extraction Kits for *ExiPrep*™96 Lite
- Protein Purification Kits for *ExiPrep*™96 Lite

Nucleic Acid Extraction Kits for *ExiPrep*™96 Lite

ExiPrep™96 Lite is an instrument that can automatically extracts nucleic acids from up to 96 samples using magnetic rods. Nucleic acid extraction is possible within less than 30 minutes in a small place (width 40 x height 58 cm).



Kit	No.	Conc. (ng/μl)	260/280	260/230
ExiPrep™ 96 Lite	1	136.1	1.85	1.83
	2	133.6	1.93	1.86
	3	98.1	1.93	1.88
	4	124.7	1.84	1.93
	5	121	1.93	1.98
	6	124.1	1.84	1.8
MagListo™	7	112.3	1.84	1.79
	8	134.7	1.85	1.39
AccuPrep®	9	152.9	1.84	1.49
	10	145.4	1.85	1.83

Figure 1. Comparison of Nucleic Acid Extraction Kits(Plasmid) for *ExiPrep*™96 Lite

Key Features

- **Simultaneous sample extraction**
  Nucleic acid extraction from at least 8 to 96 samples by magnetic rods composed of 8 units, allowing usage without reagent waste.
- **Built-in optimized nucleic acid extraction protocol**
  Built-in optimized nucleic acid extraction protocol for optimized kits and various samples, with a function for users to easily create their own protocol for special samples.
- **Minimize nucleic acid extraction time**
  Quick nucleic acid extraction time only within 30 minutes.
- **Wide compatibility**
  Nucleic acid extraction possible from various types of sample such as blood, bacteria, tissues, cells, plants, etc.
- **Prevention of contamination**
  Various parts such as UV lamp, contamination shield, etc. equipped to prevent contamination.
- **Minimum workspace**
  Minimized equipment size and increased lab space efficiency.

Ordering Information

Cat. No.	Product Description
A-5250	*ExiPrep*™96 Lite
Cat. No.	**Nucleic Acid Extraction Kits for *ExiPrep*™96 Lite**
K-4611	*ExiPrep*™ 96 Genomic DNA Kit
K-3601	*MagListo*™ 5M Plasmid Extraction Kit, 100 rxn in mini
K-3603	*MagListo*™ 5M Genomic DNA Extraction Kit, 100 rxn in mini
K-3609	*MagListo*™ 5M PCR Purification Kit, 100 rxn in mini
K-3613	*MagListo*™ 5M Universal RNA Extraction Kit, 100 rxn in mini

Protein Purification Kits for *ExiPrep*™96 Lite

ExiPrep™96 Lite is an instrument that can automatically purify proteins from up to 96 samples using magnetic rods.
Protein purification is possible within less than 60 minutes in a small place (width 40 x height 58 cm).

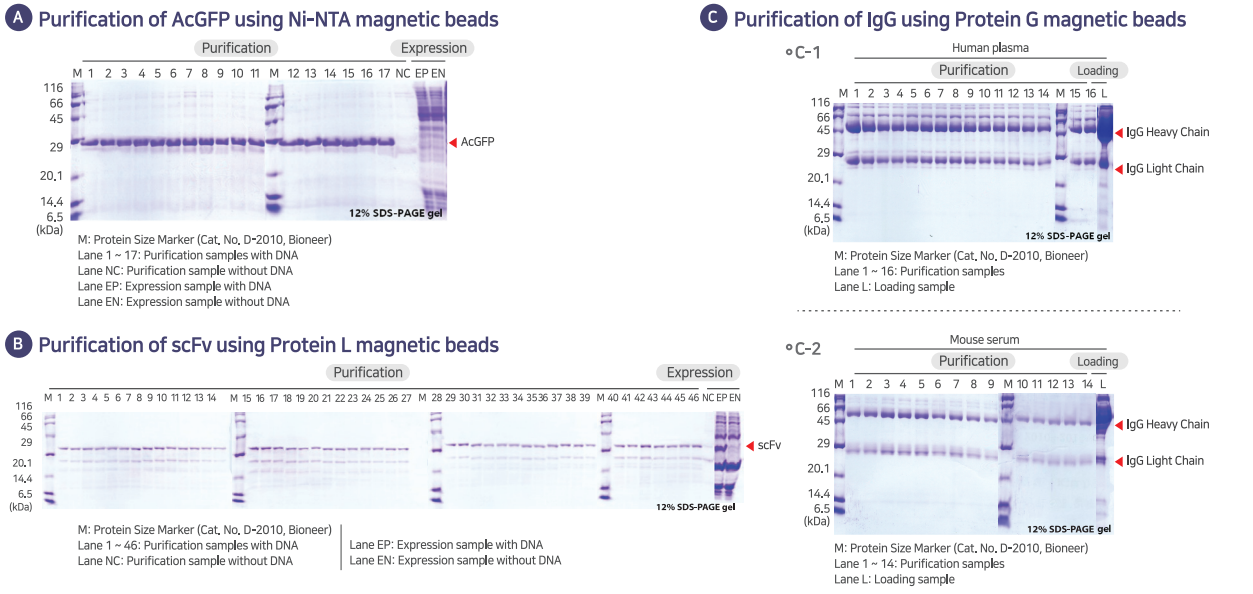


Figure 1. SDS-PAGE analysis of purified protein. After purification, various proteins were loaded onto a 12% SDS-PAGE and stained with coomassie Brilliant Blue. Average concentration of purified proteins; **(a) AcGFP:** 18 ug/rxn., **(B) scFv:** 15 ug/rxn., **(C-1)** IgG: 62 ug/rxn., **(C-2)** IgG: 30 ug/rxn.

Key Features

- **Simultaneous sample extraction**
  Protein purification from at least 32 to 96 samples by magnetic rods composed of 32 units, allowing usage without reagent waste.
- **Built-in optimized protein purification protocol**
  Built-in optimized protein purification protocol for optimized kits and various samples, with a function for users to easily create their own protocol for special samples.
- **Minimize protein purification time**
  Quick Protein purification time only within 60 minutes.
- **Wide compatibility**
  Broad compatibility with all recombinant His-tagged protein purification with His-tag expressed *in vivo* (*E. coli* expression) or *in vitro* (cell-free expression).
- **Prevention of contamination**
  Various parts such as UV lamp, contamination shield, etc. equipped to prevent contamination.
- **Minimum workspace**
  Minimized equipment size and increased lab space efficiency.

Ordering Information

Cat. No.	Product Description
A-5250	*ExiPrep*™96 Lite
Cat. No.	**Protein Purification Kits for *ExiPrep*™96 Lite**
K-7200	*MagListo*™ His-tagged Protein Purification Kit, 1 x 5 ml
K-7710	*MagListo*™ Protein G Kit
K-7720	*MagListo*™ Protein A Kit
K-7730	*MagListo*™ Protein L Kit

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