

Selection Chart

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

Туре			Automatic type	Manual type		
		<i>ExiPrep</i> ™ 16 Plus	<i>ExiPrep</i> ™ 96 Lite	ExiProgen™	<i>MagListo</i> ™ (magnetic bead)	AccuPrep® (spin-column)
	Cell	$\sqrt{}$	$\sqrt{}$	$\sqrt{}$	$\sqrt{}$	$\sqrt{}$
RNA	Tissue	$\sqrt{}$	$\sqrt{}$	$\sqrt{}$	$\sqrt{}$	√
	Plant	V	√		V	V
	Cell	V	√	$\sqrt{}$	V	V
	Tissue	V	√	V	V	V
Genomic	Plant	V		$\sqrt{}$	√	
DNA	Bacteria	V	√	$\sqrt{}$	V	
	Forensic sample		√		√	
	Blood	V	√	$\sqrt{}$	√	
	Stool					
Fragment DNA	PCR/Gel				V	√
Cell	Free DNA		√		$\sqrt{}$	
Plasmid					√	
Viral DNA/RNA		V	√	$\sqrt{}$	V	V
His-tag	gged protein				V	
Antibody				$\sqrt{}$	√	

Contents

01 Technology

- 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
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 - 5. MagListo™ 5M Forensic Sample DNA Extraction Kit
 - 6. *MagListo*™ 5M PCR/Gel Purification Kit
 - 7. MagListo™ 5M cfDNA Extraction Kit
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- **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
- B Automation of Nucleic acid extraction using ExiPrep™ 96 Lite

MagListo™

Magnetic Bead-based Prep and Purification Solution



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 $AccuNanoBeads^{TM}$ products are nano-sized, greatly increasing their binding capacity with their larger surface area.

Key Features	Applications
 Miniscule 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

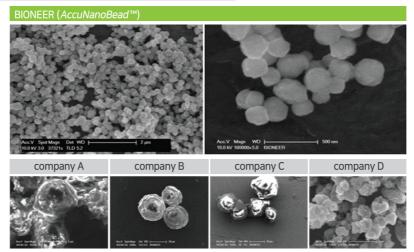


Figure 1. FE-SEM and TEM images of $AccuNanoBead^{TM}$ Magnetic Nanobead showing nano-sized spheres uniform in both size and shape while the ones from competitors show large, and irregular spheres.



Complete Recovery within a Second

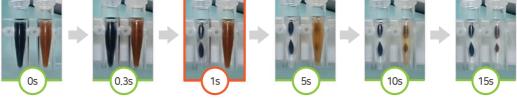


Figure 2. AccuNanoBead™ Magnetic Nanobeads (dark blue) have been recovered only within a second, being 15 times faster than the other production form competitor L (brown). This allows our customers to quickly finish the experiment, allowing time-efficient experiments.

Cat No.	Product Descriptions	Specification
TA-1010-1		0.5 g/25 ml
TA-1010-2	AccuNanoBead™ Silica Magnetic Nanobeads, size 400 nm	1.0 g/50 ml
TA-1010-3		10 g/500 ml
TA-1011-1	AccuNanoBead™ NH2 Magnetic Nanobeads, size 400 nm	0.5 g
TA-1012-1	AccuNanoBead™ COOH Magnetic Nanobeads, size 400	0.5 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		40 mg/1 ml, 1 ea
TA-1021-5	AccuNanoBead™ Protein G Magnetic Nanobeads, size 400 nm	40 mg/1 ml, 5 ea
TA-1021-10		40 mg/1 ml, 10 ea
TA-1022-1		40 mg/1 ml, 1 ea
TA-1022-5	AccuNanoBead™ Protein A Magnetic Nanobeads, size 400 nm	40 mg/1 ml, 5 ea
TA-1022-10		40 mg/1 ml, 10 ea
TF-1012-1		500 mg
TF-1012-2	AccuNanoBead™ COOH Magnetic Beads for NGS	1 g
TF-1012-3		4 g
TS-1000-1	Magnet Φ15x1.5 and Screw Tube 1.5 ml	1 set

^{*} It is shipped in ice packing.

^{**} For bulk orders, please inquire.

MagListo™ Magnetic Separation Rack

 $MagListo^{TM}$ 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: $MagListo^{TM}$ -8Ch (Use with 8 multichannel pipette), $MagListo^{TM}$ -2-12h (Use with 2 ml tube), $MagListo^{TM}$ -15 (Use with 15 ml tube) and $MagListo^{TM}$ -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 $MagListo^{TM}$ 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.



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-1011	MagListo™-2-12h Magnetic Separation Rack	2 ml tube x 12 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



•5M Nucleic Acid Extraction 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			
	MagListo™ 5M Genomic DNA Extraction Kit			
Genomic DNA	MagListo™ 5M Plant Genomic DNA Extraction Kit			
	MagListo™ 5M Forensic Sample DNA Extraction Kit			
Fragment DNA/RNA	MagListo™ 5M PCR/Gel Purification Kit			
Cell Free DNA	MagListo™ cfDNA Extraction Kit			
Viral DNA/RNA	MagListo™ 5M Viral DNA/RNA Extraction Kit			
His-tagged protein	MagListo™ His-tagged Protein Purification Kit			
	MagListo™ Protein G Kit			
Antibody	MagListo™ Protein A Kit			
	MagListo™ Protein L Kit			

MagListo™ 5M Universal RNA Extraction Kit

MagListo™ 5M Universal RNA Extraction Kit allows rapid extraction of RNA using MagListo™ Magnetic Separation Rack and Magnetic Nanobeads from cultured cells, mammalian tissue, and plant tissue. 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, cultured cells, and plant tissue Broad coverage of scales for Mini and Midi isolation protocols with just a single kit (Mini - 10 min, Midi - 15 min) No need of additional expensive instruments other than the kit and MagListo™ Magnetic Separation Rack Can be applied to ExiPrep™96 Lite to automate RNA extraction
Application	cDNA synthesis, RT-PCR, Quantitative real-time PCR, Northern blot analysis, RNA sequencing

Specifications

Scale	Mini	Midi
Expected RNA yield	Up to 100 μg	Up to 500 μg
Minimum elution volume	50 μl	500 μΙ
Preparation time	~ 10 min	~ 15 min

Sample type	Starting amount	RNA Yield	Expected purity*
Cultured cells	10 ⁴ – 10 ⁸ cells	15 - 20 µg	
Liver	25 – 50 mg	10 - 60 µg	$A_{260/280} > 2.0$
Spleen	100 mg	30 - 60 µg	A _{260/230} > 1.7
Plant/ Tissue	100 mg	70 – 80 μg	

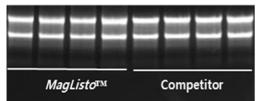
^{*}Differences in the quantified value may occur depending on the types of samples.

Components				
RD Buffer (RNA Binding)	30 ml x 2 ea			
RWMB1 Buffer (1st Washing)	50 ml x 1 ea			
RWA2 Buffer (2 nd Washing)	30 ml x 1 ea			
WE Buffer (3rd Washing)	120 ml x 1 ea			
ER Buffer (Elution)	20 ml x 1 ea			
Magnetic Nanobead	11 ml x 1 ea			

^{*}mini - 100 rxns, midi - 20 rxns

Experimental Data





Product	MagListo™			uct <i>MagListo</i> ™ 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
A260/280	2.09	2.06	2.08	2.09	2.04	2.05	2.03	2.05
A260/230	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)

Cat. No.	Product Description	Option
K-3613G	MagListo™ 5M Universal RNA Extraction Kit	100 rxns
K-3614G	MagListo™ 5M Universal RNA Extraction Kit	50 rxns

MagListo™ 5M Plasmid Extraction Kit

 $MagListo^{\mathsf{TM}}$ 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	1 - 10 ml	20 - 50 ml	100 - 200 ml
Preparation time	< 5 min	< 5 min	< 10 min	< 15 min
Elution volume	100 μΙ	100 μΙ	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			

^{*}Differences in the quantified value may occur depending on the types of plasmids

Components	K-3601*	K-3600**
PM1 Buffer (Resuspension)	25 ml x 1 ea	110 ml x 1 ea
P2 Buffer (Lysis)	25 ml x 1 ea	110 ml x 1 ea
PC Buffer (Neutralization)	25 ml x 1 ea	110 ml x 1 ea
PB Buffer (Binding)	75 ml x 1 ea	180 ml x 2 ea
WE Buffer (Washing)	120 ml x 1 ea	240 ml x 2 ea
EA Buffer (Elution)	15 ml x 1 ea	60 ml x 1 ea
RNase A Powder, lyophilized	3 mg x 1 ea	12 mg x 1 ea
Magnetic Nanobead	9 ml x 1 ea	40 ml x 1 ea

^{*}mini -100 rxns, midi - 10 rxns, maxi - 4 rxns, ** mini -500 rxns, midi - 50 rxns, maxi - 18 rxns

Experimental Data

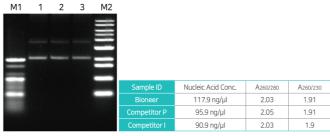


Figure 1. Compared purified plasmid DNA yields between MagListo[™] 5M Plasmid Extraction Kit and Competitor's products (magnetic bead Type).

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

Lane 1: 2 kb plasmid DNA purified with Bioneer *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)

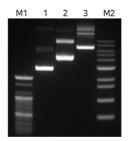


Figure 2. Electrophoresis data of 500 ng of plasmids of various sizes purified with *MagListo*™ 5M Plasmid Extraction Kit.

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)

Cat. No.	Product Description	Option
K-3600	MagListo™ 5M Plasmid Extraction Kit	500 rxns
K-3601	MagListo™ 5M Plasmid Extraction Kit	100 rxns

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, etc.

Key Feat	 Isolation of genomic DNA from samples such as blood, cultured cells, animal tissues, bacteria (Gram (-), (+)), etc. A wide range of possible sample sizes even with a cell count less than 1 x 10⁴ 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
Applicat	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° (< 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 (Lysis)	35 ml x 1 ea	
GB Buffer (Binding)	30 ml x 1 ea	
WM1 Buffer (1st Washing)	60 ml x 1 ea	
WB2 Buffer (2nd Washing)	16 ml x 1 ea	
WE Buffer (3rd Washing)	120 ml x 1 ea	
EA Buffer (Elution)	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 rxns, midi - 10 rxns, maxi - 5 rxns

Experimental Data

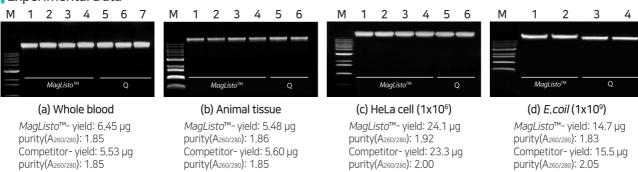


Figure 1. Comparison of genomic DNA extracted using MagListo™ and competitors' products (spin column type).

Cat. No.	Product Description	Option
K-3603G	MagListo™ 5M Genomic DNA Extraction Kit	100 rxns

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

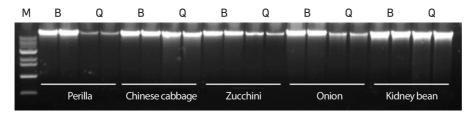
	Mini scale	Midi scale	Maxi scale
Plant tissue	Up to 100 mg	Up to 500 mg	Up to 1 g
Seed	Up to 50 mg	Up to 250 mg	Up to 500 mg
Elution volume	100 μΙ	500 μΙ	1 ml
Typical DNA yield*	5 - 15 µg	15 - 80 μg	30 - 150 μg
Expected purity		A _{260/280} > 1.7	

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

Components		
PL Buffer (Lysis)	35 ml x 1 ea	
PC Buffer (Precipitation)	30 ml x 1 ea	
PWM1 Buffer (1st Washing)	60 ml x 1 ea	
W2 Buffer (2 nd Washing)	80 ml x 1 ea	
WE Buffer (3rd Washing)	120 ml x 1 ea	
EA Buffer (Elution)	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 rxns, midi - 15 rxns, maxi - 8 rxns

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)

Sample MagL		Listo™	Compe	Competitor Q	
Sample	Yield (µg)	Purity	Yield (µg)	Purity	
Perilla	7.1	1.80	3.5	1.85	
Chinese cabbage	5.9	1.82	4.7	1.82	
Zucchini	3.6	1.77	3.0	1.79	
Onion	5.5	1.80	1.6	1.84	
Kidney bean	7.7	1.73	6.6	1.80	

Cat. No.	Product Description	Option
K-3605	MagListo™ 5M Plant Genomic DNA Extraction Kit	100 rxns

MagListo™ 5M Forensic Sample DNA Extraction Kit

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. 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 MaqListo™ Magnetic Separation Rack

Application

PCR, Real-time PCR, SNP genotyping, STR analysis

Specifications

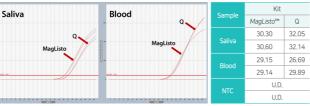
Feature	Specification
Sample type	Various kind of forensic sample
Technology	Magnetic nanobeads
Hands-on time	< 10 min
Expected Purity	A _{260/280} > 1.8

^{*}Differences in the quantified value may occur depending on the types of samples

Components	
TL Buffer (Lysis)	35 ml x 1 ea
GB Buffer (Binding)	30 ml x 1 ea
WM1 Buffer (1st Washing)	40 ml x 1 ea
W2 Buffer (2 nd Washing)	80 ml x 1 ea
WE Buffer (3rd Washing)	80 ml x 1 ea
EA Buffer (Elution)	15 ml x 1 ea
Poly (A), lyophilized	1 mg x 1 ea
Proteinase K, lyophilized	25 mg x 2 ea
Magnetic Nanobead - DNA	1.8 ml x 6 ea

Experimental Data

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





[Hair 1 strand (25 cm)]

Sample	Kit	
Sample	MagListo™	Q
W//	29.99	30.7
W/ root	30.04	30.4
W/o root	33.39	34.66
W/0 100t	33.08	34.22
NTC	U.D.	
NIC	U.D.	

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

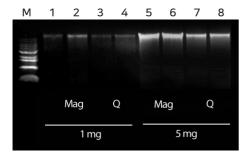


Figure 2. Comparison of total DNA from skeletal muscle tissue purified with MagListo™ and competitor's kit (spin column type).

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

MagListo[™]- yield: 1.35 μg, purity(A_{260/280}): 1.95 Competitor-yield: 0.57 µg, purity(A260/280): 1.86

MagListo[™]- yield: 5.22 μg, purity(A_{260/280}): 1.90 Competitor-yield: 2.81 µg, purity(A260/280): 1.88

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

MagListo™ 5M PCR/Gel Extraction Kit

 $MagListo^{TM}$ 5M PCR/Gel Purification Kit is designed to purify fragment DNAs of PCR products or other DNA products from different enzymatic reactions including restriction enzyme reaction, A-tailing reaction and labeling reaction and extract fragment DNA from a TAE or TBE agarose gel along with the use of $MagListo^{TM}$ Magnetic Separation Rack, which provides faster and easier way of purification through magnetic beads and magnets rather than the use of a centrifuge. The use of $MagListo^{TM}$ Magnetic Separation Rack enables easier and faster purification of fragment DNA in high purity rather than that of a centrifugation, by effective removal of various contaminants in the solution such as dimer, salts, dNTPs, enzymes, mineral oil, dye, detergent, etc.

Key Features	 Magnetic Nanobeads allow isolation only within 5 minutes from PCR products and various enzymatic reactants (restriction enzyme, A-tailing, Labeling reaction, etc.) Can be used on low-melting agarose gels, TAE, and TBE agarose gel PCR and Gel Purification using a one kind of kit 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

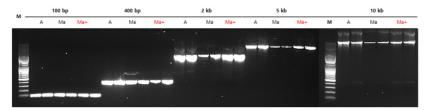
Specifications

Feature	PCR Purification	Gel Purification
Size range	100 bp	– 10 kb
Typical recovery	≥ 80%	≥ 50%
Expected purity	A260/280	0 > 1.8
Extraction time	< 5 min	< 15 min

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

Components	
PB Buffer (Binding)	50 ml x 1 ea
FB Buffer (Binding)	120 ml x 1 ea
FWMB1 Buffer (1st Washing)	32 ml x 1 ea
WB2 Buffer (2 nd Washing)	16 ml x 1 ea
EA Buffer (Elution)	25 ml x 1 ea
Magnetic Nanobead	11 ml x 1 ea

Experimental Data



 $\textbf{Figure 1.} \ \texttt{Comparison of Fragment DNA from TBE agarose gel purified with } \ \textit{MagListo}^{\text{TM}} \ \texttt{5M PCR/Gel Purification Kit and } \ \textit{AccuPrep} \ \texttt{@ PCR/Gel Purification Kit.} \\$

M: 1 kb Ladder (Cat. No. D-1032, Bioneer)

A: AccuPrep ®PCR/Gel Purification Kit (Cat. No. K-3037G, Bioneer)

Ma: MagListo™ 5M PCR Purification Kit (Before Renewal)

Ma+: MagListo™ 5M PCR/Gel Purification Kit (Renewal)

Cat. No.	Product Description	Option
K-3627G	MagListo™ 5M PCR/Gel Extraction Kit	100 rxns

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

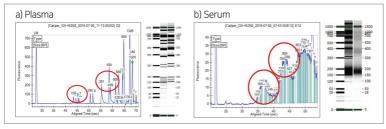
	Mini scale	Midi scale	Maxi scale
Sample volume	~ 1 ml	~ 3 ml	~ 5 ml
Elution volume	30 µl	50 µl	70 µl
Typical DNA yield	~ 5 ng	~ 15 ng	~ 25 ng

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

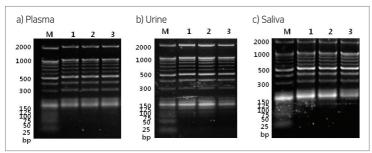
Components	
CL buffer (Lysis)	110 ml x 1 ea
CB buffer (1st washing)	110 ml x 1 ea
CW1 buffer (2 nd washing)	110 ml x 1 ea
W2 buffer (3 rd washing)	120 ml x 1 ea
EA buffer (Elution)	25 ml x 1 ea
Magnetic Nanobead	11 ml x 1 ea
Proteinase K	25 mg x 2 ea

^{*}mini - 50 rxns, midi - 16 rxns, maxi - 10 rxns

Experimental Data



- Figure 1. cfDNA from EDTA human plasma, human serum purified with *MagListo™* cfDNA Extraction Kit.
- M: 25/100 bp Mixed DNA 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: 25/100 bp Mixed DNA 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

Cat. No.	Product Description	Option
K-3619	MagListo™ cfDNA Extraction Kit	50 rxns

MagListo™ 5M Viral DNA/RNA Extraction Kit

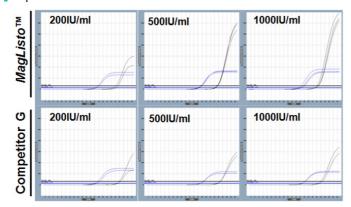
 $MagListo^{TM}$ 5M Viral DNA/RNA Extraction Kit is designed to extract viral DNA/RNA from cell free body fluid (serum, plasma, CSF, saliva, and etc.) and swab, using Magnetic Nanobeads. With $MagListo^{TM}$ Magnetic Separation Rack, $MagListo^{TM}$ 5M Viral DNA/RNA Extraction Kit enables easier and faster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

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

Specifications

- •	
Feature	Specification
Starting sample volume	Up to 200 µl
Minimum elution volume	50 µl
Preparation time	< 30 min
Components	K-3624G (100 rxns)
VB Buffer (Virus Binding)	50 ml x 1 ea
VWM1 Buffer (1st Washing)	50 ml x 2 ea
RWB2 Buffer (2 nd Washing)	30 ml x 1 ea
WE Buffer (3rd Washing)	120 ml x 1 ea
ER Buffer (Elution)	20 ml x 1 ea
Poly(A), lyophilized	2 mg x 1 ea
Proteinase K, lyophilized	25 mg x 1 ea
Magnetic Nanobead	22 ml x 1 ea

Experimental Data



	MagListo		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/	34.66	26.17	36.68	27.01
ml	34.61	26.54	36.03	26.94

Figure 1. Comparison of real-time PCR 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).

Cat. No.	Product Description	Option
K-3624G	MagListo™ 5M Viral DNA/RNA Extraction Kit	100 rxns



Protein Purification Kit

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 Featu	 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 <i>in vivo</i> (<i>E. coli</i> expression) or <i>in vitro</i> (cell-free expression)
Application	Protein expression screening

Specifications

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

Experimental Data

Protein purification using MagListo™ His-tagged Protein Purification Kit

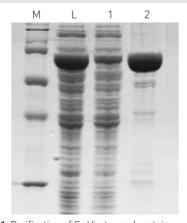


Figure 1. Purification of 6x His-tagged protein.

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

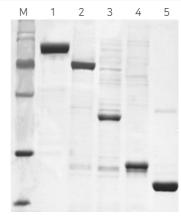


Figure 2. Protein size effect on purification.

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 4: Size 27 kDa his-tagged protein

Lane 5: Size 25 kDa his-tagged protein

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

MagListo™ Protein G/A/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 Fe₃O₄		
Concentration	40 mg/ml (4% suspension)		
May Dinding conscitu	> 30 µg	> 20 µg	> 20 µg
Max. Binding capacity	Human IgG/mg beads	Human IgG/mg beads	Human IgG/mg beads

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

Experimental Data

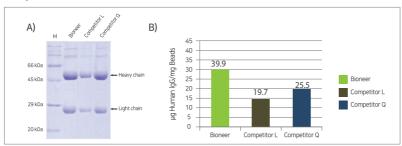


Figure 1. Comparison of protein binding efficiency of MagListo™ protein G Kit with competitor's kits.

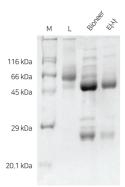


Figure 2. Purification of Human IgG With MagListo™ Protein L Kit. Elution fraction contains human IgG purified with protein L magnetic bead from Bioneer (MagListo™).

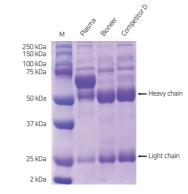


Figure 3. IgG purification from plasma with *AccuNanoBead*™ Protein A Magnetic NanoBead and Competitor D.

Cat. No.	Product Description	Option
K-7710	<i>MagListo</i> ™ Protein G Kit	20 rxns
K-7720	<i>MagListo</i> ™ Protein A Kit	20 rxns
K-7730	<i>MagListo™</i> Protein L Kit	20 rxns

Automatic type



MagListo™



ExiPrep™96 Lite

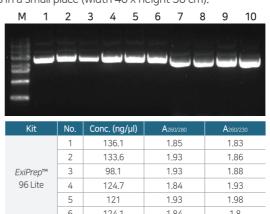
•Nucleic Acid Extraction Kits for *ExiPrep*™96 Lite •Automation of Nucleic acid extraction using *ExiPrep*™96 Lite

Nucleic Acid Extraction Kits for *ExiPrep*™96 Lite

ExiPrep™96 Lite is an instrument that can automatically extract 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).



Figure 1. ExiPrep™96 Lite



ExiPrep™	3	98.1	1.93	1.88
96 Lite	4	124.7	1.84	1.93
	5	121	1.93	1.98
	6	124.1	1.84	1.8
A 4==1 :=+=TM	7	112.3	1.84	1.79
MagListo™	8	134.7	1.85	1.39
4 · D · ®	9	152.9	1.84	1.49
AccuPrep®	10	145.4	1.85	1.83
Figure 2 Comparison of Nuclair Acid Extraction Kits (Discould) f				

Figure 2, Comparison of Nucleic Acid Extraction Kits (Plasmid) for ExiPrep[™]96 Lite. Lane 1-6: Plasmid Extraction by using ExiPrep™96 Lite

Lane 7-8: *MagListo™* Plasmid Extraction Kit (manual, magnetic bead type) Lane 9-10: AccuPrep Plasmid DNA Extraction Kit (manual, spin column type)

Key Features

Simultaneous sample extraction

Nucleic acid extraction from at least 32 to 96 samples by magnetic rods composed of 32 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

Cat. No.	Product Description	
A-5250	ExiPrep™96 Lite	
Cat. No.	Nucleic Acid Extraction Kits for <i>ExiPrep</i> ™96 Lite	
K-3603G	MagListo™ 5M Genomic DNA Extraction Kit	
K-3615	MagListo™ 5M Forensic sample DNA Extraction Kit	
K-3619	MagListo™ cfDNA Extraction Kit	
K-3613~4G	MagListo™ 5M Universal RNA Extraction Kit	
K-3624G	MagListo™ 5M Viral DNA/RNA Extraction Kit	

Automation of Nucleic acid extraction using *ExiPrep*™96 Lite

- To apply *MagListo*™ series to *ExiPrep*™96 Lite (A-5250), please refer to the guide below.
- For more information, please visit www.bioneer.com and refer to User Guide of the product.

Workflow

Cat. No.	lmage	Description
Prepare buffer cartridge	96-Well dome plate	Dispense adequate volume of buffers and samples to 96-well dome plate (Cat. No. 90060, 90061, 90062, 90063).
Cotup	Magnetic Rods Buffer Cartridges Layer 3 Buffer Cartridges Layer 2 Buffer Cartridges Layer 1	 1 Touch "Plate icon" to open "Buffer Cartridges Layer". 2 Set up the buffer cartridge on "Buffer Cartridges Layer" of ExiPrep™96 Lite.
Set up	Rod Cover Plate Magnetic Rod Cover	 1 Touch "Plate icon" to open "Rod Cover Plate". 2 Set the magnetic rod cover to "Magnetic Rod Cover Plate" of ExiPrep™96 Lite.
Select protocol	Assign Standard User Protocol (K-4611 (Genomic DNA Kit) UV Lamp Plate Setup Remaining Time	 1 Touch "Standard Protocol". Standard Protocol". 2 Select adequate protocol for your sample. 3 Touch "select icon".
Run protocol	00:28:00 Ready	 Touch "Run icon". Nucleic acid extraction will proceed automatically and it takes about 30-50 min depending on the protocol.
Purified nucleic acid	Elution buffer cartridge	① Purified nucleic acid will be in elution buffer cartridge (on the bottom of ExiPrep™96 Lite).





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