20200226 | Ver.0 (EN)

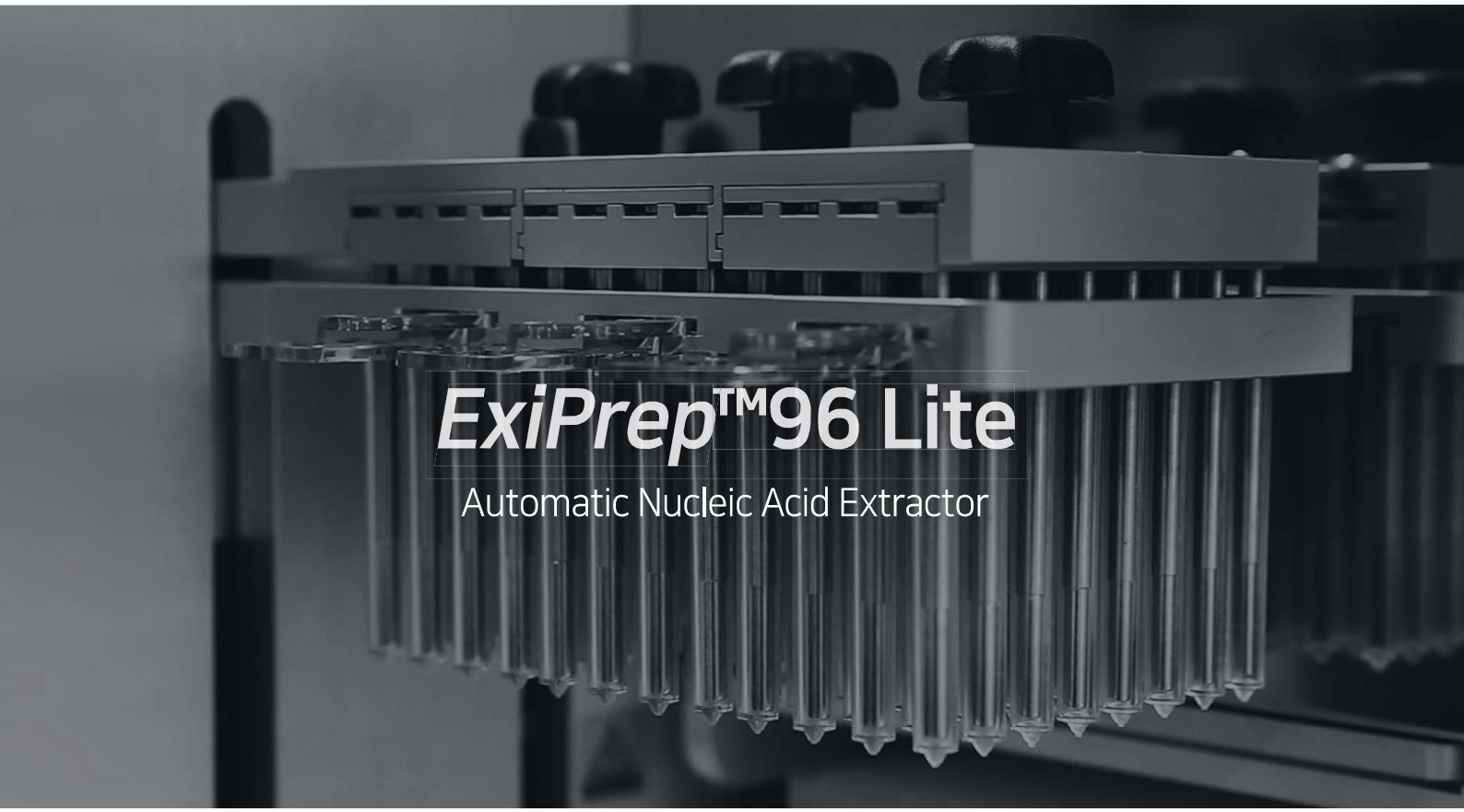


ExiPrep™96 Lite

Automated sample preparation for DNA, RNA and Protein

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.

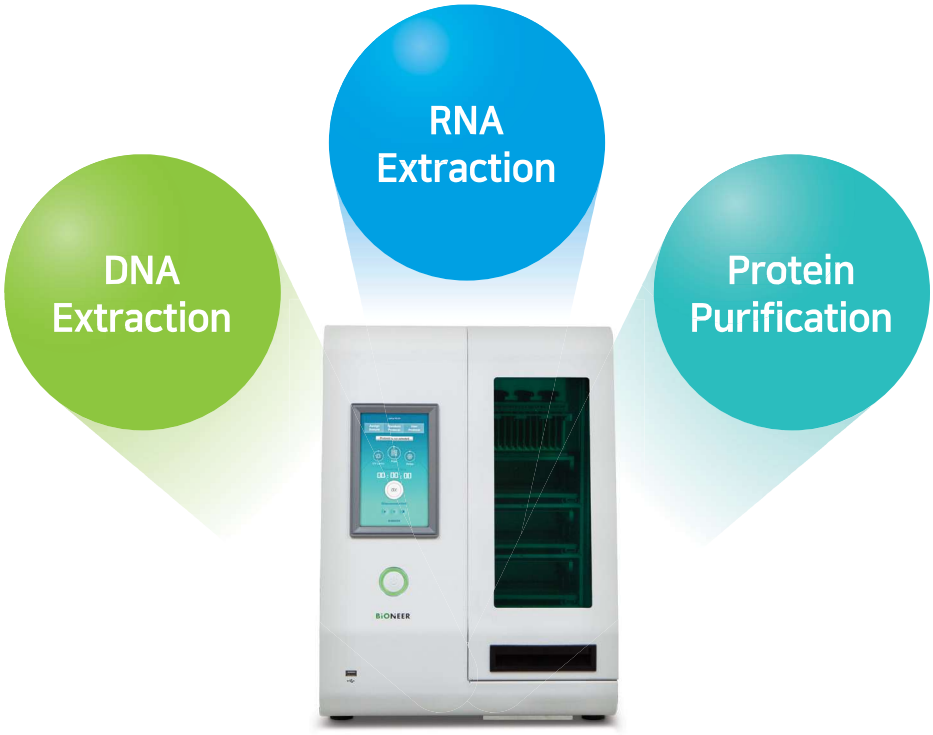


ExiPrep™96 Lite

Automatic Nucleic Acid Extractor

- Fast Extraction Time
- Comprehensive Use
- Compact Size
- Contamination Protection
- Easy Operation

Compatible Samples





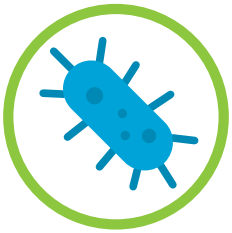
Animal / Human

- Blood
- Tissue
- Stool
- Urine
- Saliva
- Serum



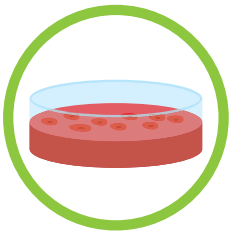
Plant

- Leaf
- Root
- Seed

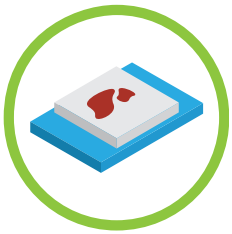


Bacteria

- Gram Positive
- Gram Negative

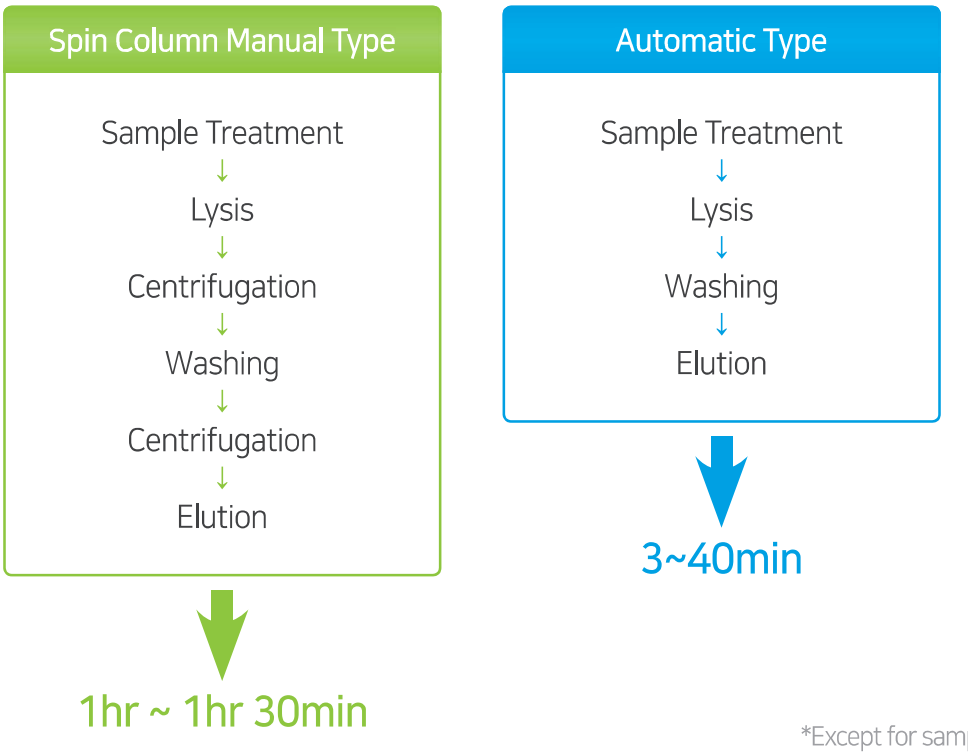


Cultured Cell



FFPE Sample

Fast Extraction Time



Fully automated nucleic acid extraction **reduces human error** rates during experiments.

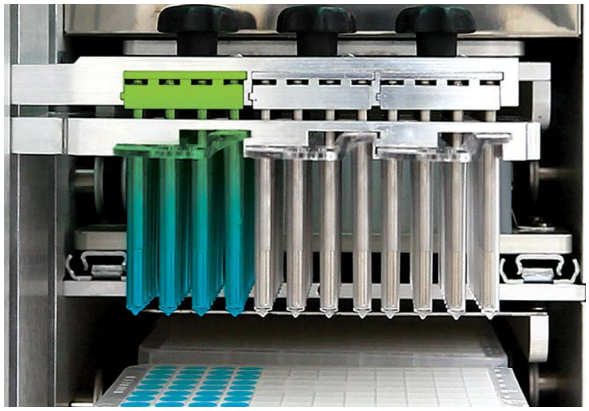
Competitor Comparison (Automated Nucleic Acid Extractor)

	Bioneer	Company Q	Company R	Company R
Protocol Time	DNA: 30 min RNA, cfDNA: 40 min Protein: 60 min	24 samples: 34-90 min 96 samples: 73-140 min	200 µl sample vol.: 50 min 500 µl sample vol.: 80-90 min	8 samples: 60 min 32 samples: 100 min

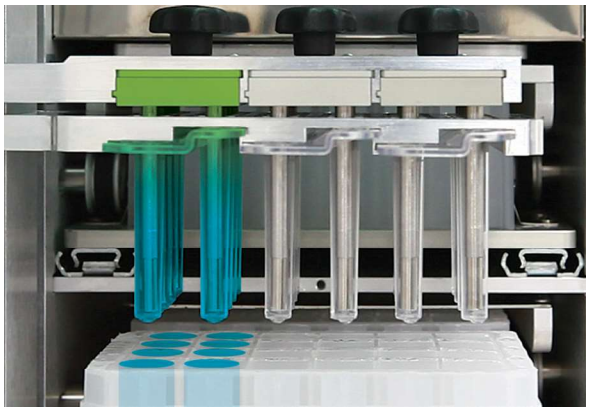
*Except for sample treatment

Comprehensive Use

Sample count and test volume options for single run



32-96 extractions in mini scale from samples of up to 0.4 ml*

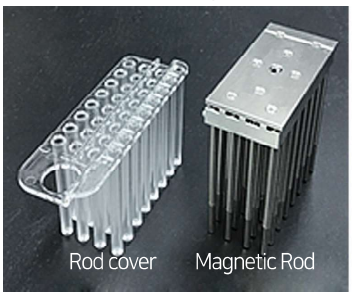


8-24 extractions in midi scale from samples of up to 4 ml*

* The recommended dose varies on the samples and kit used.

Mini-scale

For 96-well plate



96-well plate



Midi-scale

For 24-well plate



24-well plate

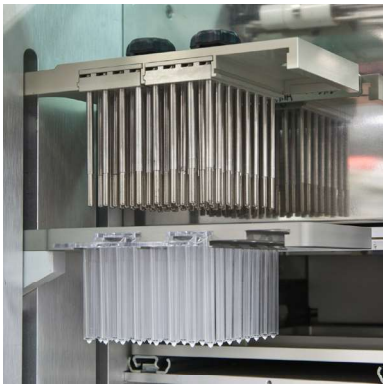


① Mini-scale Nucleic Acid Extraction

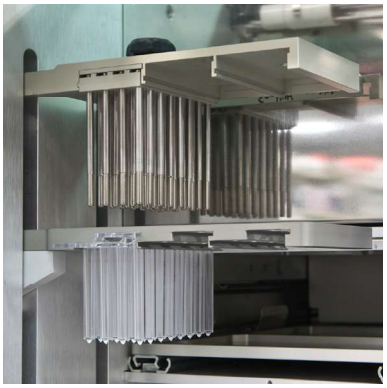
- Choose 32, 64, 96 Samples



Three sets of rods and covers
for 96 samples



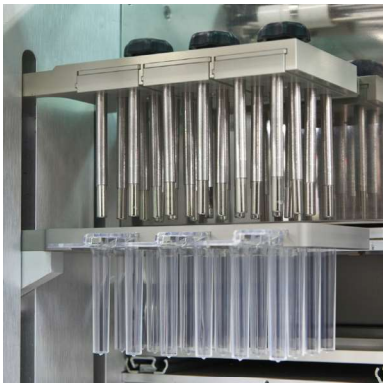
Two sets of rods and covers
for 64 samples



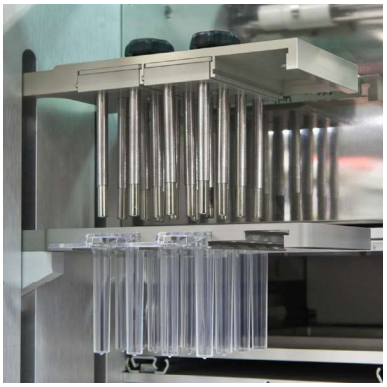
One set of rods and a cover
for 32 samples

② Midi-scale Nucleic Acid Extraction

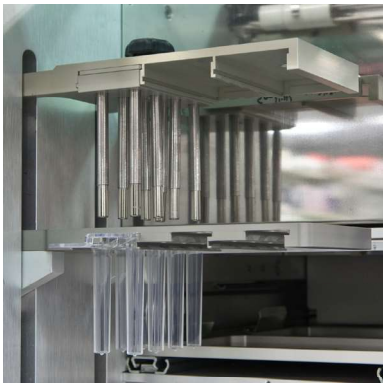
- Choose 8, 16, 24 Samples
- Useful for extracting cell-free DNA



Three sets of rods and covers
for 24 samples



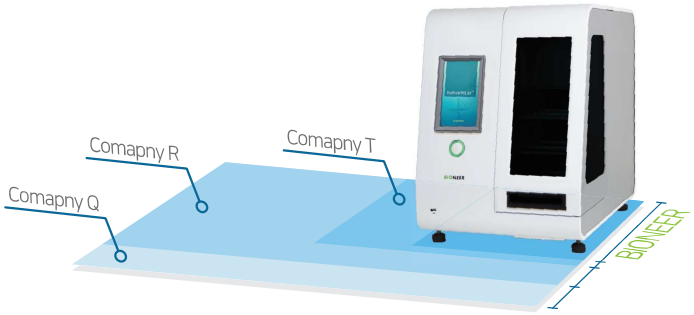
Two sets of rods and covers
for 16 samples



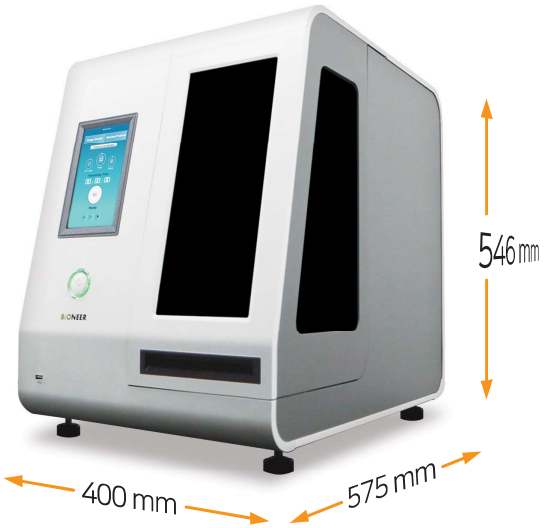
One set of rods and a cover
for 8 samples

Compact Size

Enhanced spatial efficiency



Smallest footprint of all instruments
for nucleic acid extraction

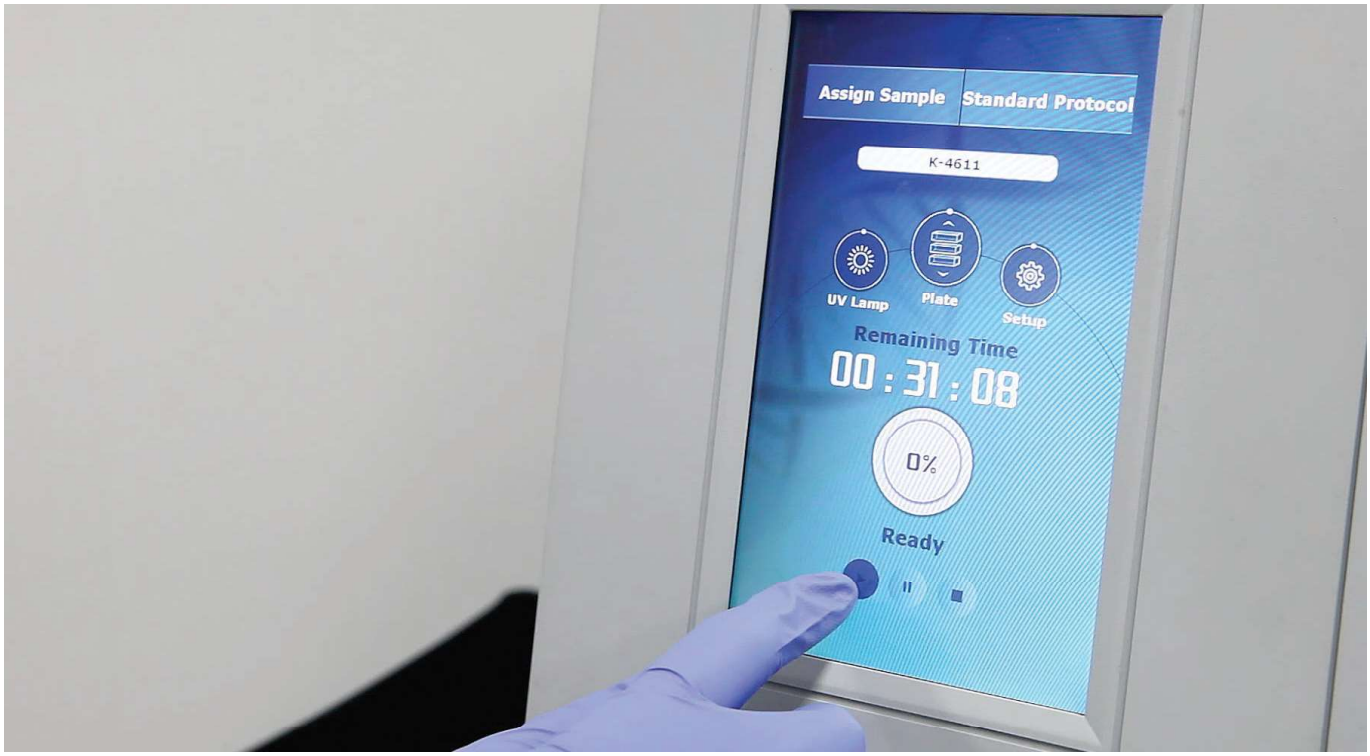


Contamination Protection

Parts such as UV lamp, contamination shield, etc. help to prevent contamination



Easy Operation



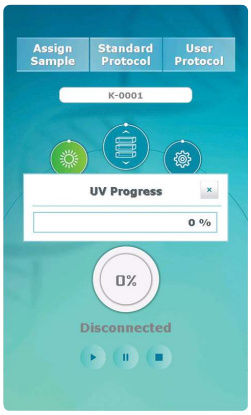
UI of *ExiPrep*™96 Lite



Protocol setting



Device operation



UV progress

- Built-in optimized protocols
- Customizable options available
- Touch-screen system

ExiPrep™96 Lite Kits

Cat. No.	List of Kits
K-3601	*MagListo*™ 5M Plasmid Extraction Kit
K-3603	*MagListo*™ 5M Genomic DNA Extraction Kit
K-3619	*MagListo*™ cfDNA Extraction Kit
K-4611	*ExiPrep*™ 96 Genomic DNA Kit
K-3613	*MagListo*™ 5M Universal RNA Extraction Kit
K-7200	*MagListo*™ His-tagged Protein Purification Kit
K-7710	*MagListo*™ Protein G Kit
K-7720	*MagListo*™ Protein A Kit
K-7730	*MagListo*™ Protein L Kit

Selection Guide

Type		DNA				RNA	Protein			
		K-3601	K-3603	K-3619	K-4611	K-3613	K-7200	K-7710	K-7720	K-7730
DNA	Cell		V		V					
	Tissue		V							
	Bacteria	V	V		V					
	Blood		V							
	Stool		V							
	Cell-Free DNA			V						
	FFPE*		V							
RNA	Cell					V				
	Tissue					V				
	Plant					V				
	Bacteria					V				
His-tagged Protein							V			
Antibody								V	V	V

* FFPE DNA requires a pretreatment buffer.

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
Application	▪ Gene cloning ▪ PCR ▪ Real-time PCR ▪ Sequencing ▪ Transformation ▪ Transfection ▪ *In-vitro* transcription / translation

Experimental Data

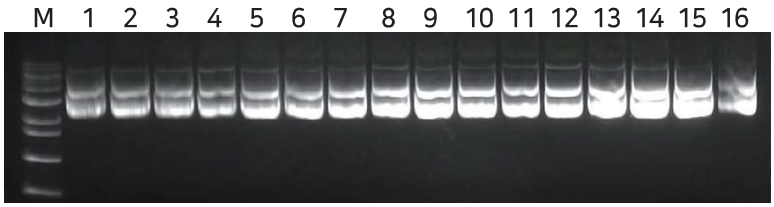
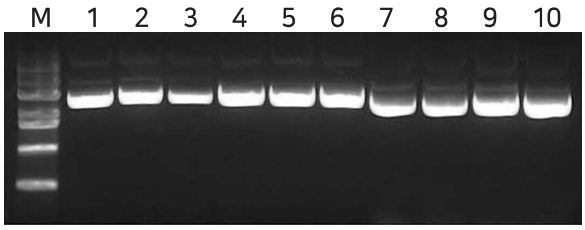


Figure 1. Plasmid DNA extraction using *ExiPrep*™96 Lite.

Lane 1-12: *MagListo*™ 5M Plasmid DNA Extraction Kit with *ExiPrep*™96 Lite
Lane 13-14: *AccuPrep*® Plasmid Extraction Kit
Lane 15-16: Competitor's kit
Average yield: 8 μg of pBlueScript plasmid in DH5α (OD_{600}=2.7) using *ExiPrep*™96 Lite



	No.	Conc.(ng/μl)	$A_{260/280}$	$A_{260/230}$
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	121.0	1.93	1.98
	6	124.1	1.84	1.80
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 2. Comparison of plasmid purified with *ExiPrep*™96 Lite, *MagListo*™ and *AccuPrep*®.

The plasmid DNA concentration is equal when extracted with an automatic *ExiPrep*™96 Lite, *MagListo*™ 5M Plasmid Extraction Kit (Magnetic Bead type) and *AccuPrep*® Plasmid Mini Extraction Kit (Spin Column type). *ExiPrep*™96 Lite allows rapid extraction of plasmid with high purity and yield.

Specifications

	Mini-Scale	Midi-Scale
Expected DNA Yield	Up to 20 μg	Up to 200 μg
Expected Purity	$A_{260/280}$ > 1.8	
Elution Volume	≥ 100 μl	
Protocol Time	About 30 min	
Pretreatment	Alkaline lysis of bacterial cell	

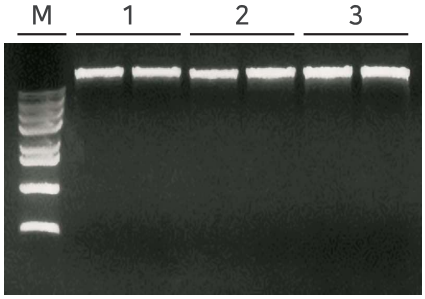
MagListo™ 5M Genomic DNA Extraction Kit

MagListo™ 5M Genomic DNA Extraction Kit allows fast extraction of genomic DNA using Magnetic Nanobeads 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 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
Application	▪ Gene cloning ▪ PCR ▪ Real-time PCR ▪ Southern blotting ▪ SNP genotyping

Experimental Data

Genomic DNA Extraction from Human Whole Blood

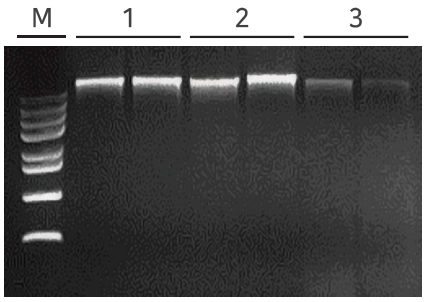


	Conc.(ng/μl)	$A_{260/280}$	$A_{260/230}$
1	22.49	1.77	0.97
	22.17	1.83	0.96
2	23.03	1.78	0.67
	29.95	1.71	0.52
3	30.34	1.84	1.60
	32.34	1.71	0.93

* Elution Volume: 100 μl

Figure 1. Blood genomic DNA extraction using *MagListo*™ Genomic DNA Extraction Kit.
DNA extraction from 200 μl of human whole blood.
* Company Q Kit does not use RNase.
Lane 1: *MagListo*™ (Manual type, Bioneer)
Lane 2: *ExiPrep*™96 Lite (Bioneer)
Lane 3: Company Q (Manual type)
M: Bioneer 1 kb Ladder

Genomic DNA Extraction from Animal Tissue (Beef)

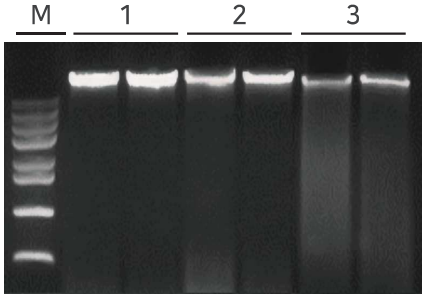


	Conc.(ng/μl)	$A_{260/280}$	$A_{260/230}$
1	30.28	1.78	1.18
	29.41	1.71	1.14
2	36.88	1.83	1.06
	34.96	1.82	1.07
3	26.70	1.97	1.16
	21.66	1.98	1.77

* Elution Volume: 100 μl

Figure 2. Animal tissue genomic DNA extraction using *MagListo*™ Genomic DNA Extraction Kit.
DNA extraction from 30 mg of Beef.
Lane 1: *MagListo*™ (Manual type, Bioneer)
Lane 2: *ExiPrep*™96 Lite (Bioneer)
Lane 3: Company Q (Manual type)
M: Bioneer 1 kb Ladder

Genomic DNA Extraction from Cultured Cell (HeLa)



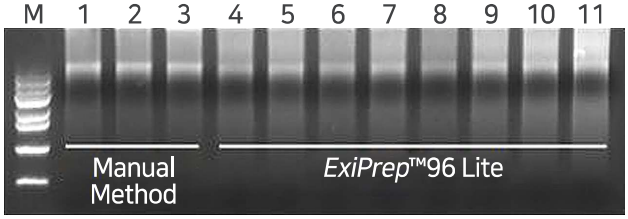
	Conc.(ng/μl)	$A_{260/280}$	$A_{260/230}$
1	119.34	1.95	2.16
	113.04	1.96	2.17
2	149.77	1.99	2.01
	121.03	1.98	1.95
3	194.18	2.07	2.20
	179.81	2.03	2.04

* Elution Volume: 100 μl

Figure 3. Cultured cell genomic DNA extraction using *MagListo*™ Genomic DNA Extraction Kit.
DNA extraction from 1×10^6 of HeLa cell.
* Company Q Kit does not use RNase.
Lane 1: *MagListo*™ (Manual type, Bioneer)
Lane 2: *ExiPrep*™96 Lite (Bioneer)
Lane 3: Company Q (Manual type)
M: Bioneer 1 kb Ladder

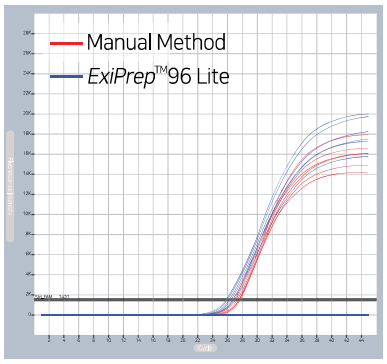
Application on FFPE DNA Extraction

A



Sample	Conc. (ng/μl)	$A_{260/280}$	$A_{260/230}$
1	38.9	1.84	1.83
2	38.9	1.82	1.84
3	38.1	1.84	1.82
4	31.1	1.94	1.63
5	35.7	1.82	1.77
6	36.3	1.86	1.53
7	39.0	1.81	1.63
8	36.9	1.88	1.73
9	39.9	1.83	1.66
10	47.2	1.83	1.72
11	53.3	1.84	1.83

B



	Sample #		Sample #2		Sample #3	
	M	96	M	96	M	96
Ct	28.33	27.11	27.61	25.77	27.82	27.51
	27.91	26.76	28.07	26.38	26.46	26.74
	27.77	25.87	27.87	27.09	26.37	26.95
Average	28.00	26.58	27.85	26.41	26.88	27.07
CV (%)	1.04	2.41	0.83	2.5	3.02	1.47

*M: Manual Method (*MagListo*™) *96: *ExiPrep*™96 Lite

Figure 4. FFPE DNA extracted by using Manual method and *ExiPrep*™96 Lite.

(A) Gel electrophoresis and NanoDrop measurement of FFPE DNA. FFPE DNA was isolated with *MagListo*™ genomic DNA Extraction kit by manual method (lane 1-3) and *ExiPrep*™96 Lite (lane 4-11).

(B) qPCR quantification of FFPE DNA extracted by manual method and *ExiPrep*™96 Lite. Mouse housekeeping gene *Cox6* primers and probe were used for qPCR.

Specifications

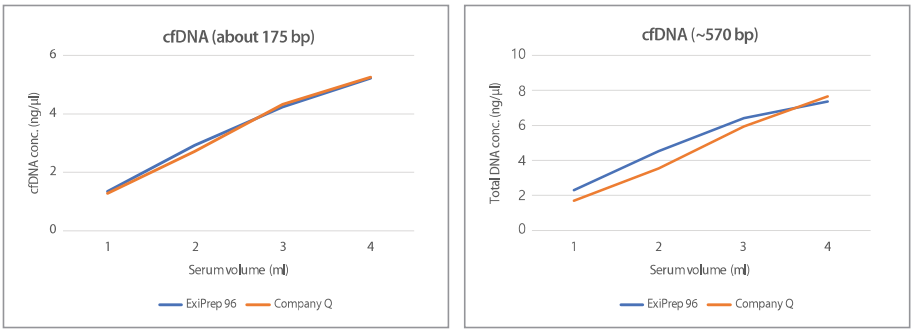
		Mini-Scale	Midi-Scale
Expected DNA Yield	Whole blood	200 μl (< 10 μg)	2 ml (< 80 μg)
	Cultured cell	Up to 1 x 10^6 (< 12 μg)	Up to 5 x 10^6 (< 60 μg)
	Animal tissue	Up to 25 mg (< 10 μg)	Up to 100 mg (< 40 μg)
	Bacteria (Gram (-),(+))	Up to 1 x 10^9 (< 15 μg)	Up to 5 x 10^9 (< 80 μg)
Expected Purity		$A_{260/280}$ > 1.8	
Elution Volume		≥ 100 μl	
Protocol Time		About 30 min	
Pretreatment	Cultured Cell, Body Fluid	No pretreatment required	
	Tissue, FFPE Sample	Homogenization or deparaffinization is required.	

MagListo™ cfDNA Extraction Kit

MagListo™ cfDNA Extraction Kit allows rapid extraction of cell-free DNA using Magnetic Nanobeads 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.
Application	▪ Gene cloning ▪ Real-time PCR ▪ Digital PCR ▪ Next-generation sequencing (NGS)

Experimental Data



	Serum volume	Elution	~170 bp Conc. (ng/µl)	~360 bp Conc. (ng/µl)	~560 bp Conc. (ng/µl)	Total Conc.(ng/µl)
ExiPrep™96 Lite	1 ml	100 µl	1.34	0.57	0.28	2.20
	2 ml	100 µl	2.97	0.98	0.50	4.45
	3 ml	100 µl	4.20	1.40	0.72	6.31
	4 ml	100 µl	5.27	1.41	0.76	7.44
Company Q	1 ml	100 µl	1.28	0.26	0.13	1.66
	2 ml	100 µl	2.74	0.55	0.27	3.57
	3 ml	100 µl	4.36	1.04	0.55	5.95
	4 ml	100 µl	5.25	1.49	0.91	7.65

Figure 1. Comparison of cfDNA concentration purified with *ExiPrep*™96 Lite and competitive kit.
Cell-free DNA was isolated from normal human serum using *ExiPrep*™96 Lite and Company Q kit with vacuum manifold.DNA was quantified using Agilent 5200 Fragment Analyzer System.

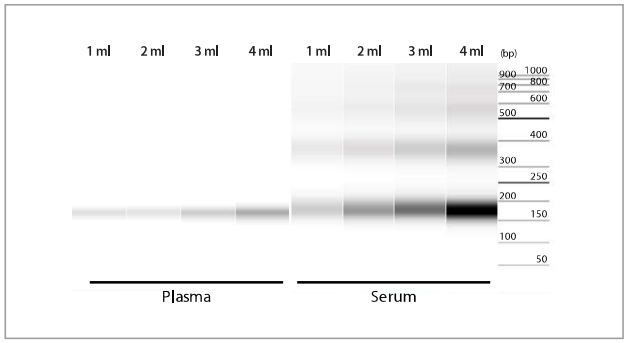


Figure 2. Cell-free DNA extracted using *MagListo*™ cfDNA Extraction kit and *ExiPrep*™96 Lite.
Cell-free DNA was isolated from various volume of plasma and serum using *ExiPrep*™96 Lite DNA was visualized using Agilent 5200 Fragment Analyzer System.

Specifications

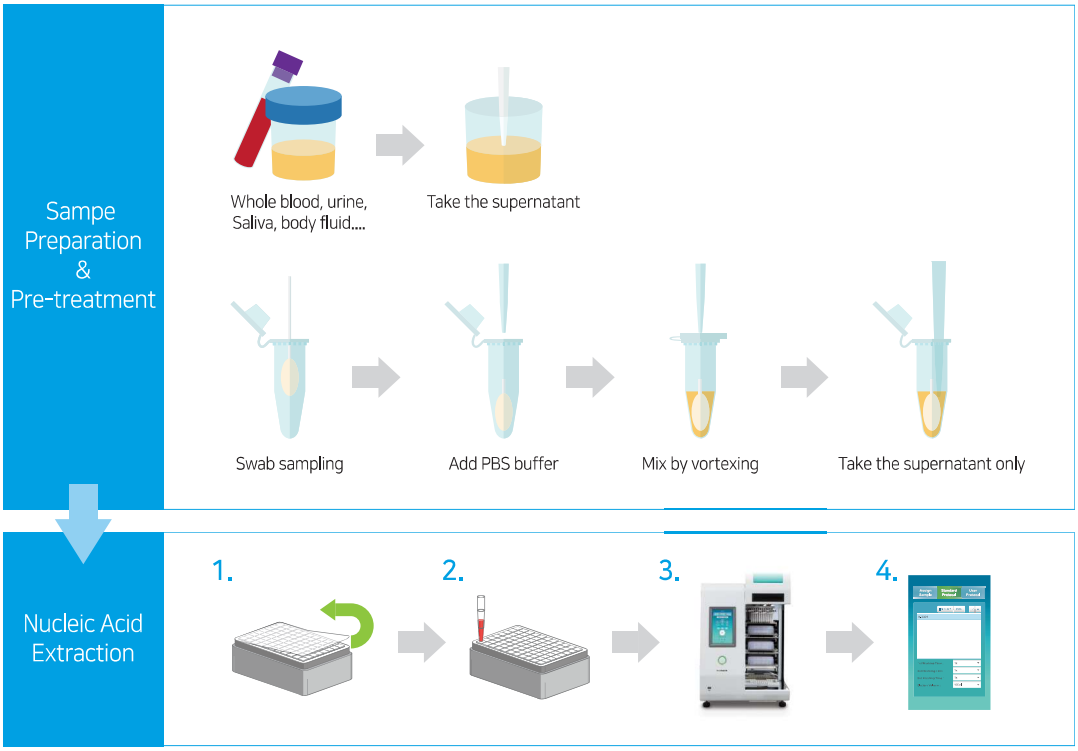
	Midi-Scale
Expected DNA Yield	~ 15 ng
Elution Volume	≥ 100 µl
Protocol Time	About 40 min
Pretreatment	Proteinase K Treatment is required.

Pre-filled buffer cartridge system

ExiPrep™ 96 Genomic DNA Kit (Diagnostics)



ExiPrep™ 96 Genomic DNA Kit is a gene extraction reagent that can extract Genomic DNA from human-derived samples using *ExiPrep*™96 Lite. This product provides the total solution that contains the reagents needed for extraction in the Buffer Cartridge and also contains the pretreatment reagents.



Specifications

Sample	Urine, Swab	
Elution Volume	100 µl	
Protocol Time	About 37 min (Urine) About 47 min (Swab)	
Pretreatment	Urine	Centrifugation
	Swab	No pretreatment required

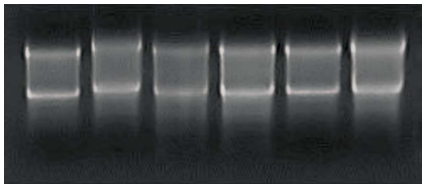
MagListo™ 5M Universal RNA Extraction Kit

MagListo™ 5M Universal RNA Extraction Kit allows rapid extraction of total RNA using 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
Application	▪ RT-PCR and real-time RT-PCR ▪ cDNA synthesis ▪ Northern blot analysis ▪ Primer extension ▪ Microarray

Experimental Data

RNA Extraction from Animal Tissue (Mouse kidney)

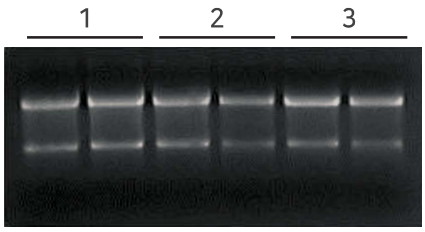


	Conc.(ng/μl)	$A_{260/280}$	$A_{260/230}$
1	511.0	2.08	2.26
	510.9	2.05	2.24
2	690.2	2.03	2.41
	694.4	2.07	1.91
3	461.7	2.12	1.89
	490.1	2.10	2.01

* Elution Volume: 100 μl

Figure 1. Animal tissue RNA extraction using *MagListo*™ 5M Universal RNA Extraction Kit. RNA extraction from 20 mg of *Mus musculus* liver. DNase was not treated.
Lane 1: *MagListo*™ (Manual type, Bioneer)
Lane 2: *ExiPrep*™96 Lite (Bioneer)
Lane 3: Company Q (Manual type)

RNA Extraction from Cultured Cell (HeLa)

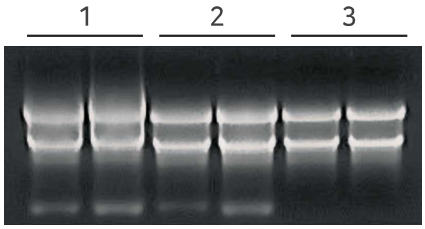


	Conc.(ng/μl)	$A_{260/280}$	$A_{260/230}$
1	249.9	2.08	2.19
	282.8	2.05	2.24
2	188.2	2.04	1.86
	250.8	2.03	1.98
3	228.6	2.07	2.17
	205.2	2.08	1.54

* Elution Volume: 100 μl

Figure 2. Cultured cell RNA extraction using *MagListo*™ 5M Universal RNA Extraction Kit. RNA extraction from 1×10^6 of HeLa cell. DNase was not treated.
Lane 1: *MagListo*™ (Manual type, Bioneer)
Lane 2: *ExiPrep*™96 Lite (Bioneer)
Lane 3: Company Q (Manual type)

RNA Extraction from Plant Tissue (*Brassica oleracea*)



	Conc.(ng/μl)	$A_{260/280}$	$A_{260/230}$
1	753.8	2.20	2.23
	703.8	2.15	1.76
2	704.2	2.16	2.40
	823.1	2.17	2.43
3	635.4	2.19	2.00
	642.8	2.18	1.01

* Elution Volume: 100 μl

Figure 3. Plant RNA extraction using *MagListo*™ 5M Universal RNA Extraction Kit. RNA extraction from 100 mg of *Brassica oleracea var. italica*. DNase was not treated.
Lane 1: *MagListo*™ (Manual type, Bioneer)
Lane 2: *ExiPrep*™96 Lite (Bioneer)
Lane 3: Company Q (Manual type)

Specifications

	Mini-Scale	Midi-Scale
Expected DNA Yield	Up to 100 μg	Up to 500 μg
Expected Purity	$A_{260/280} > 2.0$ $A_{260/230} > 1.7$	
Elution Volume	≥ 100 μl	
Protocol Time	About 40 min	
Pretreatment	**Tissue (Plant, Animal):** Homogenization, **Bacteria:** Proteinase K, Bead beating **Cultured Cell:** No treatment required	

MagListo™ His-tagged Protein Purification

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.

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

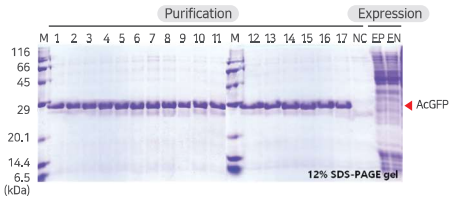
MagListo™ Protein G, A, L Kit

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

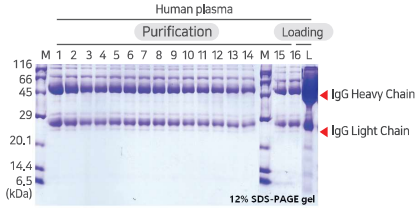
Experimental Data

A Purification of AcGFP using Ni-NTA magnetic beads



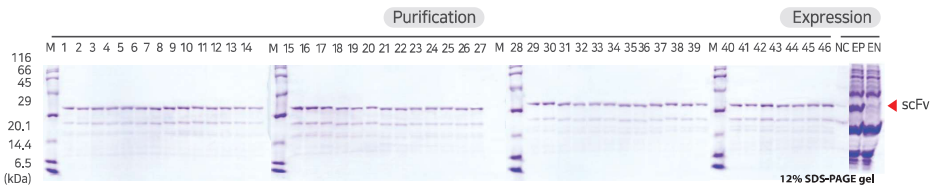
M: Protein Size Marker (Cat. No. D-2010, Bioneer)
Lane 1-17: Purification samples with DNA
Lane NC: Purification sample without DNA
Lane EP: Expression sample with DNA
Lane EN: Expression sample without DNA

B Purification of IgG using Protein G magnetic beads



M: Protein Size Marker (Cat. No. D-2010, Bioneer)
Lane 1-16: Purification samples
Lane L: Loading sample

C Purification of scFv using Protein L magnetic beads



M: Protein Size Marker
(Cat. No. D-2010, Bioneer)
Lane 1-46: Purification samples with DNA
Lane NC: Purification sample without DNA
Lane EP: Expression sample with DNA
Lane EN: Expression sample without DNA

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) IgG**: 62 ug/rxn., **(C) scFv**: 15 ug/rxn.

Specification

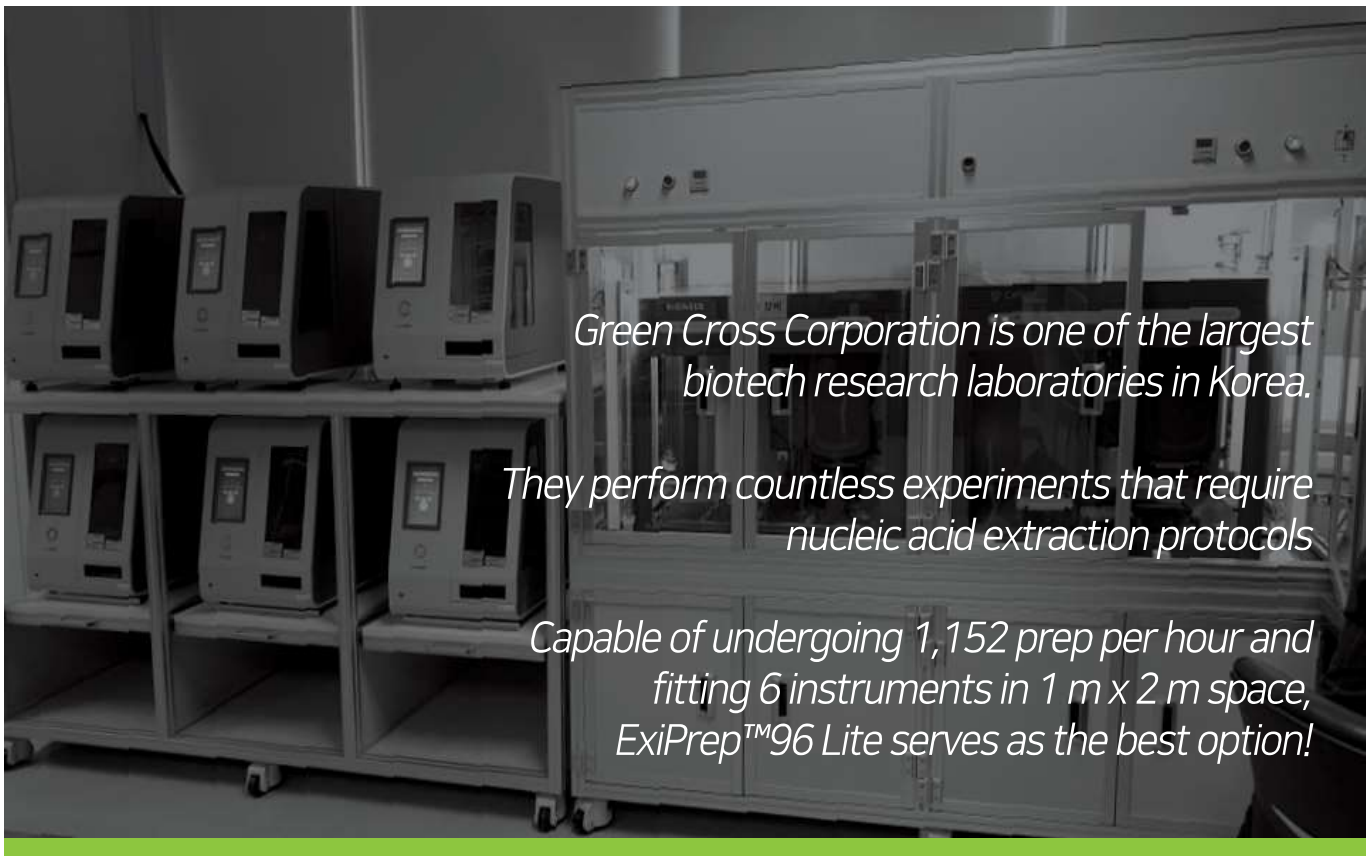


A-5250		*ExiPrep*™96 Lite	
Dimension(cm)	40(W)x57.5(D)x54.6(H)	Weight	46 kg
Voltage / Frequency	100-240V~, 50/60Hz	Power Consumption	500VA Max (Fuse: 250V, F6:3AL, 2ea)
Heating Block	30~90℃	Temperature Controlled Block	4~90℃
Operating Temperature	15~35℃	Operating Humidity	20~80%, no condensation
Operating System	Built-in	Communication	TCP/IP
User Interface Display	7 inch Touch Screen	Data Storage	USB 2.0 (x2)

Plastic Consumable List

Cat.No.	Produt Description	Amount
90061	96 Well Deep Plate-Dome	10 ea/pk
90062		50 ea/pk
90063		100 ea/pk
90068	24 Well Deep Plate	10 ea/pk
90069		50 ea/pk
90070		100 ea/pk
90201	Magnetic Rod Cover (32 well) for *ExiPrep*™96 Lite	12 ea/pk, 4 pk/Box
90202	Magnetic Rod Cover (8 well) for *ExiPrep*™96 Lite	12 ea/pk, 4 pk/Box
3111-4110	Adhesive Optical Sealing Film	100 sheets

GC Pharma


Green Cross Corporation is one of the largest biotech research laboratories in Korea.
They perform countless experiments that require nucleic acid extraction protocols
Capable of undergoing 1,152 prep per hour and fitting 6 instruments in 1 m x 2 m space, ExiPrep™96 Lite serves as the best option!

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