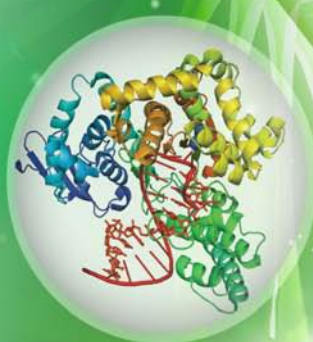


Bioneer

Healthier Future for
Humanity with
Genomic Technology

ExiProgen™

Fully Automated Protein Synthesis and Nucleic Acid Extraction System



World's First, Fully Automated System for Protein Synthesis and Nucleic Acid Extraction

- ExiProgen™ System
- Function I : Automatic Protein Synthesis
- Function II : Automatic Protein Purification
- Function III : Automatic Nucleic Acid Extraction
- Ordering Information

ExiProgen™ System



**ExiProgen™ handles all the jobs
from DNA extraction to
protein synthesis/purification!**

Automatic
Nucleic Acid
Extractor

Automatic
Protein
Purifier

Automatic
Protein
Synthesizer



Features and Benefits

- World's First, Fully Automated System for Protein Synthesis and Nucleic Acid Extraction
- 16 simultaneous reactions of protein synthesis and nucleic acid extraction
- Optimized protocols for each experiment provide reproducible results
- Temperature Controlled Block allows 4 to 90°C temperature change
- Magnet Block enables high-purity, high-efficiency protein purification and nucleic acid extraction
- Contamination Shield prevents well-to-well cross contamination caused by pipetting
- Touch screen maximizes user convenience through easy operation as well as real-time confirmation of experiment progress
- Automatic UV lamp sterilizes the inside of the instrument both before and after the experiment

Specification

Dimensions (W x H x D)	320 mm x 500 mm x 535 mm
Weight	27 kg
Usage environment	temperature 15-30°C / humidity 20-80%, no condensation
User interface	320 x 240 touch screen graphic LCD, 18bit color
Voltage	100 – 240 VAC, 50 / 60 Hz
Network	TCP/IP protocol
Magnet & Heating Block	30-90°C
Temperature Controlled Block	4-90°C

Function I : Automatic Protein Synthesis

ExiProgen™ protein synthesis kits perform cell-free protein synthesis in a reaction tube from template DNA such as T7 expression vector inserted with target gene and 6X His-tag sequences.

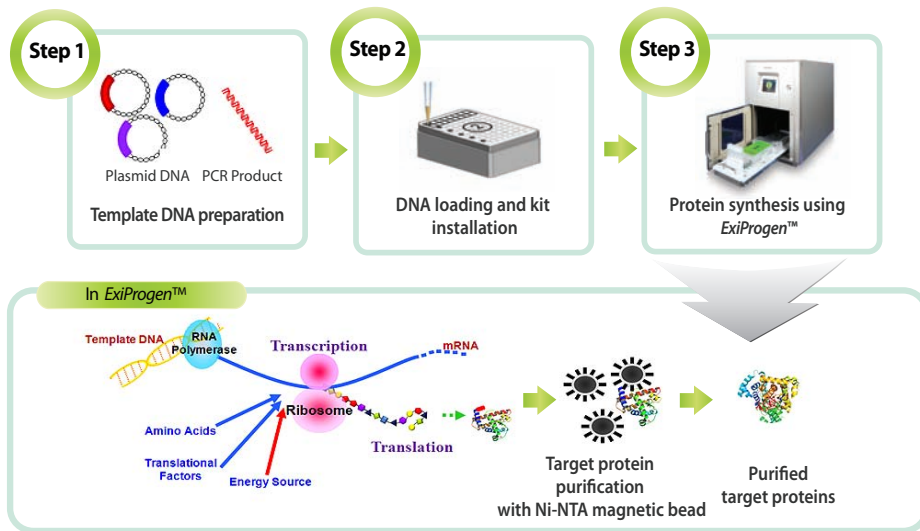
ExiProgen™ kits for protein synthesis

Target	Available kit
His-tagged protein	ExiProgen™ EC Protein Synthesis Kit
Small scale	ExiProgen™ EC-Maxi Protein Synthesis Kit
Large scale	ExiProgen™ EC-Tagfree Protein Synthesis Kit
Natural protein	ExiProgen™ EC-Disulfide Protein Synthesis Kit
Disulfide bonded protein	

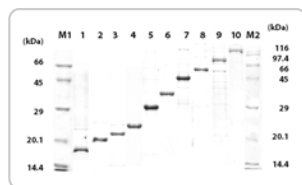
Features and Benefits

- Just add template DNA and load the kit into ExiProgen™ for high-purity proteins
(You can obtain 10-120 kDa proteins from plasmid DNA and 10-60 kDa proteins from PCR product)
- Synthesize up to 16 different proteins such as enzymes, growth hormones, antibodies, and even toxic proteins simultaneously within 6 hours
- Synthesize up to 500 µg of target protein with over 90% of purity
- Reduce variation between reactions and provide reproducible results by minimizing human intervention

Procedure



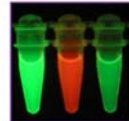
Experimental Data



SDS-PAGE data of various proteins synthesized from plasmid DNA.
M1: AccuLadder™ Protein Size Marker (Low),
1: CalmL3 (17.5 kDa), 2: RNase H (20 kDa),
3: DUSP 3 (22 kDa), 4: CAT (24 kDa), 5: AcGFP (29 kDa),
6: EF-Ts (34 kDa), 7: VF (45 kDa), 8: Poly A polymerase (50 kDa),
9: MMLV RTase (75 kDa), 10: BM3 (117 kDa),
M2: AccuLadder™ Protein Size Marker (Broad)

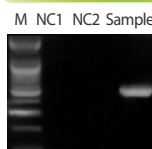
Fluorescent Proteins

SfGFP RFP AcGFP



Detection of fluorescence emitted from fluorescent proteins.
Fluorescence from protein elution samples detected with UV illuminator.

MMLV Reverse Transcriptase



Amplification of GAPDH(500 bp) of Human total RNA with MMLV RTase was synthesized with ExiProgen™.
M: 100 bp DNA Ladder,
NC1: Negative Control 1 (No-RNA),
NC2: Negative Control 2 (No-enzyme),
Sample: 10 ng Human total RNA from HeLa cell.

Function II : Automatic Protein Purification

ExiProgen™ Protein Purification Kits contains patented Ni-NTA-, protein A-, or protein G-coated silica magnetic beads, which purify target proteins containing his-tag or antibody.

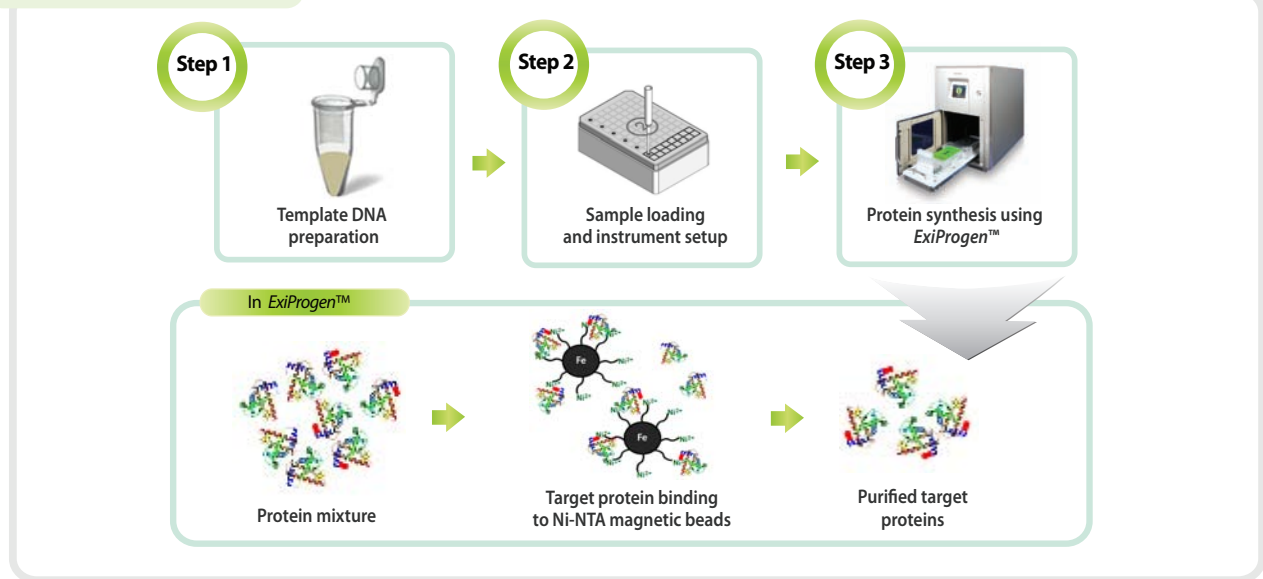
kits for protein purification

Target	Available kit
His-tagged Protein	ExiProgen™ His-tagged Protein Purification Kit
Antibody	MagListo™ Protein A Kit with ExiProgen™ Consumable Set MagListo™ Protein G Kit with ExiProgen™ Consumable Set

Features and Benefits

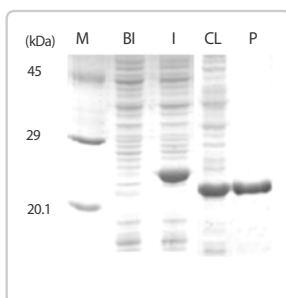
- Purify recombinant proteins or antibodies expressed *in vivo* or *in vitro*
- Purify up to 16 different proteins at one time with over 90% of purity
- Pre-filled cartridge containing all reagents required for protein purification simplifies the process and reduces variation between reactions
(For antibody purification, use MagListo™ aliquot into ExiProgen™ Consumable Set)

Procedure



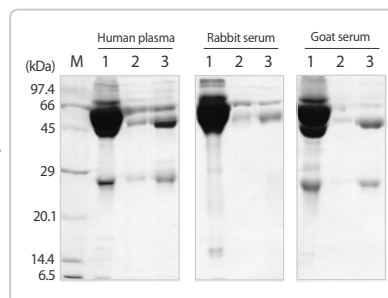
Experimental Data

Purification of His-tagged Protein



Recombinant *E. coli* cell with expressed of DUSP3 and purification of DUSP3 with ExiProgen™
M: AccuLadder™ Protein Size Marker (Low)
BI: Pre-induction sample
I: Post-Induction sample.
CL: Sample of recombinant cell lysate
P: Sample of purification.

Purification of Antibody



Antibody purification with MagListo™ Protein A, Protein G Kit and ExiProgen™ Consumable Set
M: Protein Size Marker
1: Loading sample
2: MagListo™ Protein A Kit
3: MagListo™ Protein G Kit

Function III : Automatic Nucleic Acid Extraction

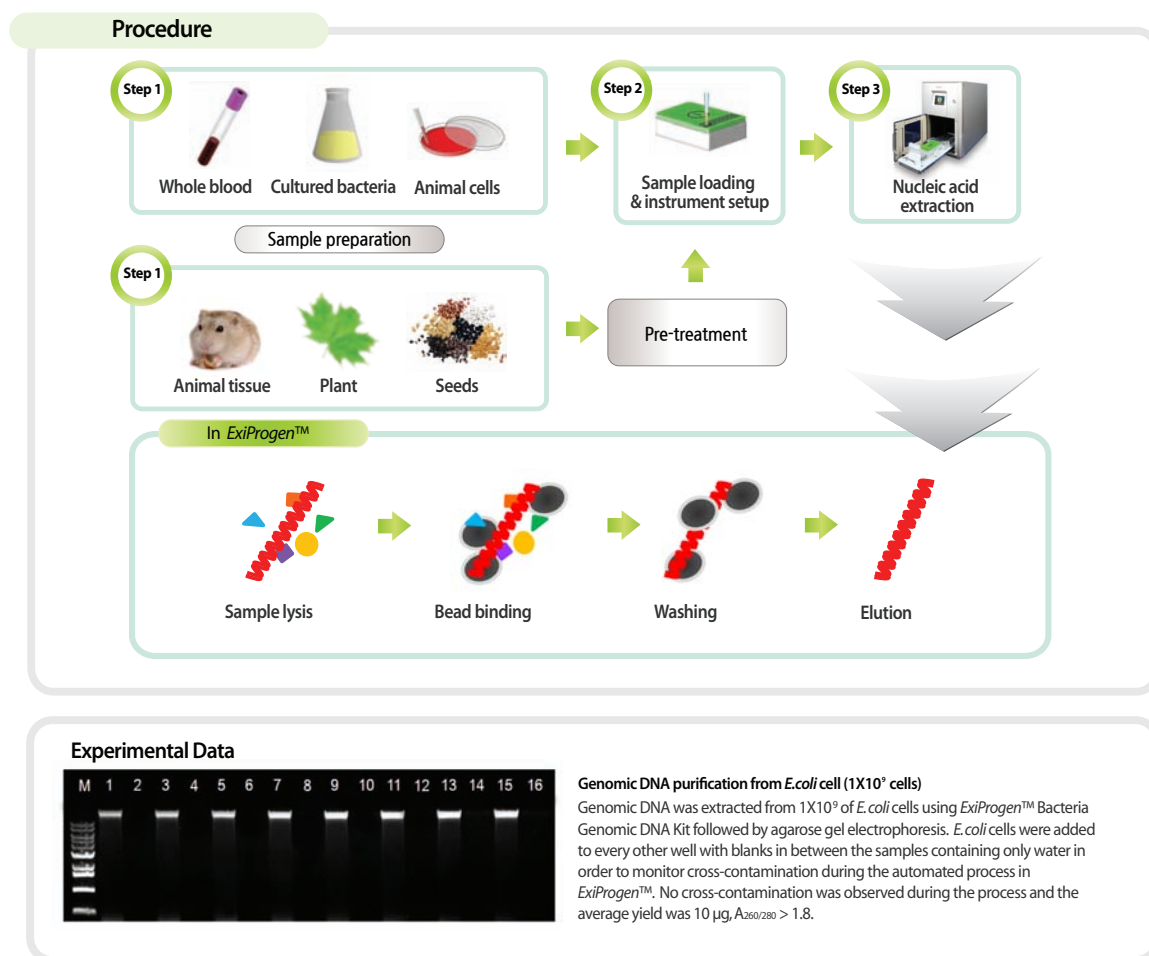
ExiPrep™ Plus nucleic acid extraction kits extract nucleic acids using patented silica magnetic beads only by three steps: sample preparation, sample injection and instrument setup, and nucleic acid extraction.

kits for nucleic acid extraction

Target	Sample type	Available kit
Genomic DNA	Whole blood, Tissue, Bacteria, Beef, Rice	ExiPrep™ Plus Blood/Tissue/Bacteria/Plant/Genomic DNA Kit ExiPrep™ Beef/Rice Genomic DNA Kit
Total RNA	Plant tissue, Seed	ExiPrep™ Plus Plant total RNA Kit
Virus DNA/RNA	Serum, Plasma, Cell-free body fluid	ExiPrep™ Plus Viral DNA/RNA Kit ExiPrep™ Plus Viral DNA Kit ExiPrep™ Plus Viral RNA Kit

Features and Benefits

- Extract nucleic acids from up to 16 different samples simultaneously
- Bioneer's patented magnetic silica beads ensure high yield and purity of extracted nucleic acid
- Pre-filled cartridge containing all reagents required for nucleic acid extraction simplifies the process and reduces variation between reactions



Ordering information

Instrument	Cat. no.	Size
ExiProgen™	A-5041	
Protein Synthesis & Purification Kits	Cat. no.	Size
ExiProgen™ EC Protein Synthesis Kit	K-7300,7301,7302	16,32,96 reactions
ExiProgen™ EC-Maxi Protein Synthesis Kit	K-7310	8 reactions
ExiProgen™ EC-Tagfree Protein Synthesis Kit	K-7320	8 reactions
ExiProgen™ EC-Disulfide Protein Synthesis Kit	K-7330	8 reactions
ExiProgen™ His-tagged Protein Purification Kit	K-7220, K-7221	16,32 reactions
ExiProgen™ Consumable Set	KA-3001	96 reactions
MagListo™ Protein A Kit	K-7711	4 x 1 ml
MagListo™ Protein G Kit	K-7721	4 x 1 ml
Nucleic acid Extraction Kits	Cat. no.	Size
ExiPrep™ Plus Blood Genomic DNA Kit	K-4211	96 reactions
ExiPrep™ Plus Tissue Genomic DNA Kit	K-4212	96 reactions
ExiPrep™ Plus Bacteria Genomic DNA Kit	K-4214	96 reactions
ExiPrep™ Plus Plant Genomic DNA Kit	K-4215	96 reactions
ExiPrep™ Beef Genomic DNA Kit	K-3200-CB	96 reactions
ExiPrep™ Rice Genomic DNA Kit	K-3200-CR	96 reactions
ExiPrep™ Plus Plant total RNA Kit	K-4244	96 reactions
ExiPrep™ Plus Viral DNA/RNA Kit	K-4271	96 reactions
ExiPrep™ Plus Viral DNA Kit	K-4272	96 reactions
ExiPrep™ Plus Viral RNA Kit	K-4273	96 reactions
Related Products & Services	Cat. no.	Size
ExiProgen™ ProXpress PCR Template Kit	K-7400,7401	16,32 reactions
pBVT vector set-1	K-7350	Each 5 µg
AccuRapid™ Cell-Free Protein Expression Kit	K-7250	45ul x 24 reactions
AccuRapid™ Midi Protein Expression Kit	K-7260	1 ml x 5 reactions
AccuRapid™ Maxi Protein Expression Kit	K-7270	10 ml x 1 reaction
AccuRapid™ Protein Synthesis Kit	K-7280	5 reactions
AccuPrep® PCR Purification Kit	K-3034-1,3034	50,200 reactions
AccuPrep® Gel Purification Kit	K-3035-1,3035	50,200 reactions
AccuPrep® Nano-Plus Plasmid Mini Extraction Kit	K-3112,3111	50,200 reactions
AccuPrep® Plasmid Mini Extraction Kit	K-3030-1,3030	50,200 reactions
AccuLadder™ Protein Size Marker (Low)	D-2020	500 µl
AccuLadder™ Protein Size Marker (Broad)	S-2010	500 µl
Gene Synthesis Service	S-2041	–
Protein Expression & Synthesis Service	–	–
Gene to Protein Service	–	–

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