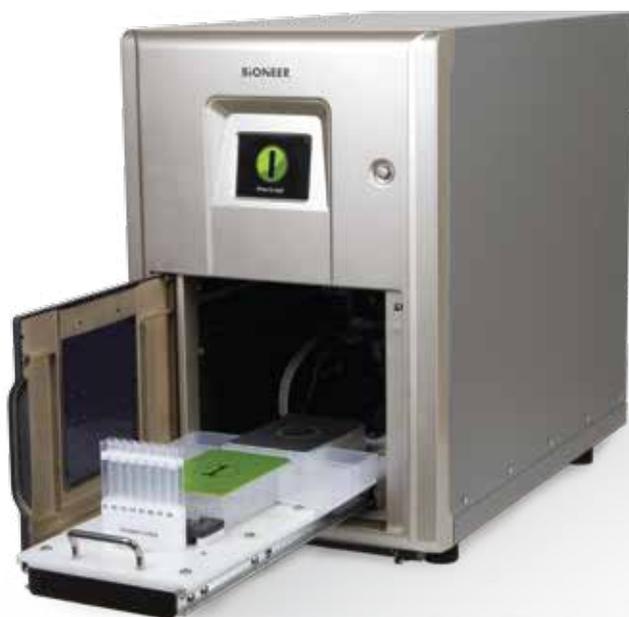


The World's First
Fully Automated
Protein Synthesis/Purification And
Nucleic Acid Extraction System

ExiProgen™



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

Automatic Protein Synthesizer

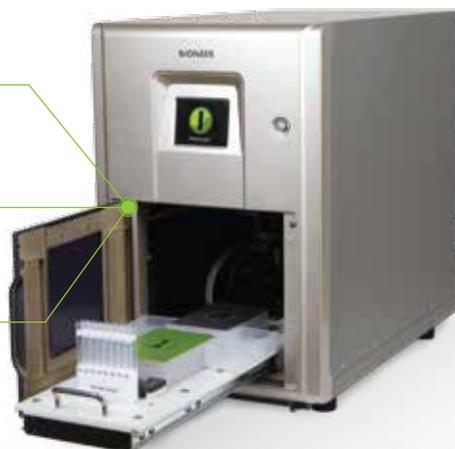
Takes only 6 hours from genes to proteins

Automatic Protein Purifier

Automatically purify proteins through affinity tagging

Automatic Nucleic Acid Extractor

Automatically isolate genomic DNA from various biological samples



✓ **16 simultaneous reactions** undergoing protein synthesis and nucleic acid extraction

✓ **Optimized protocols** providing reproducible results

✓ **Temperature Controlled Block** allowing 4 to 90°C temperature change

✓ **Magnetic Block** allowing high-purity, high-efficiency protein purification and nucleic acid extraction

✓ **Contamination Shield** preventing well-to-well cross contamination caused by pipetting

✓ **Touch screen** maximizing user convenience through easy operation along with real-time confirmation of experiment progress

✓ **Automatic UV lamp** sterilizing the inside of the instrument both before and after the protocols

✓ **Minimized error range** by integrating an adjustable syringe motor up to 0.1 mm capable of stably distribution of solution

Specifications

Dimension(cm)	32 (W) x 53.5 (D) x 50 (H)
Weight	27 kg
Temperature range	15~35 °C
Humidity range	20~80%, no condensation
Operating system	Standalone
User interface	320 x 240 touch screen graphic LCD
Input voltage	100~240 VAC
Frequency	50/60 Hz
UV sterilization	15 minute cycle
Communications	TCP/IP
Heat block	40~90 °C



Automatic Protein Synthesizer

ExiProgen™ Protein Synthesis Kit allows to synthesize proteins using *in vitro* systems. By utilizing T7 expression system, proteins can be synthesized with template DNA with exon sequences and 6x histidine tags.

- ✓ Synthesis is possible for complicated proteins that are difficult to be done in traditional *in vivo* expression systems such as toxic proteins, membrane proteins, etc.
- ✓ Wide variety of samples are possible from plasmid DNA to PCR products ranging from 10 kDa to 150 kDa
- ✓ Human Intervention is minimized by reducing the variation between reactions, providing reproducible results by minimizing human intervention

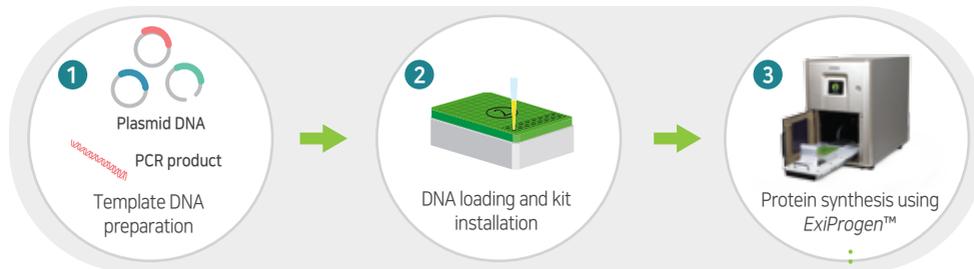
His-tagged Protein



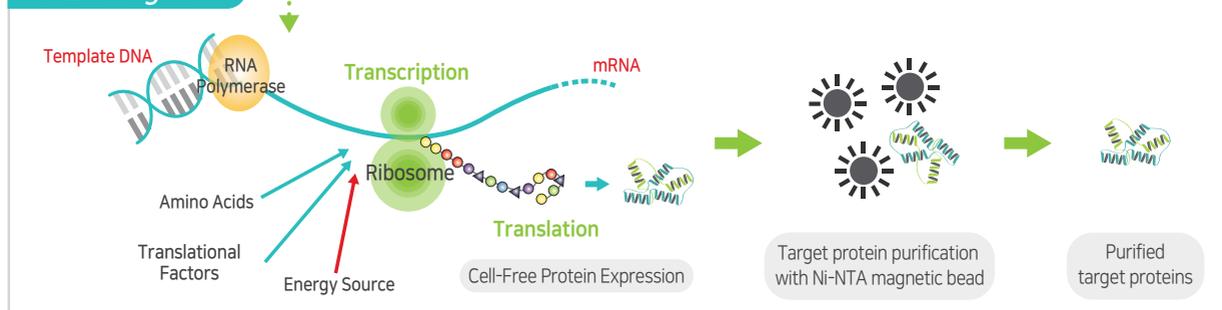
His-Tag Free Protein



Procedure



In ExiProgen™



Experimental Data

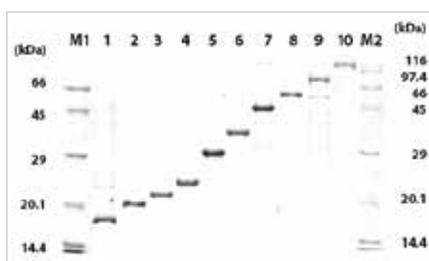


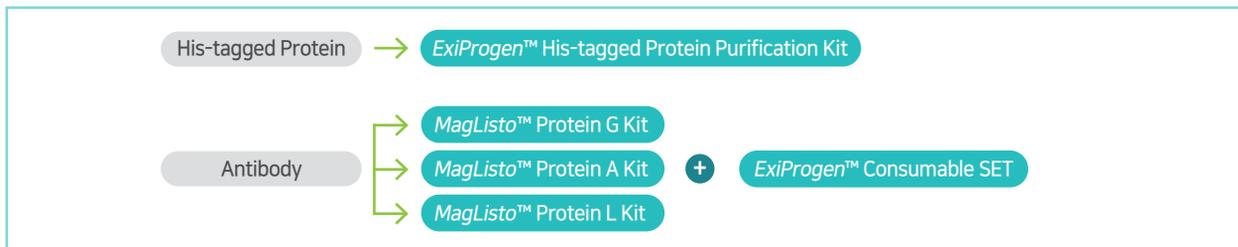
Figure 1. SDS-PAGE data of various proteins synthesized from plasmid DNA.

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: *M-MLV* RTase (75 kDa), 10: BM3 (117 kDa),
 M2: *AccuLadder™* Protein Size Marker (Broad)

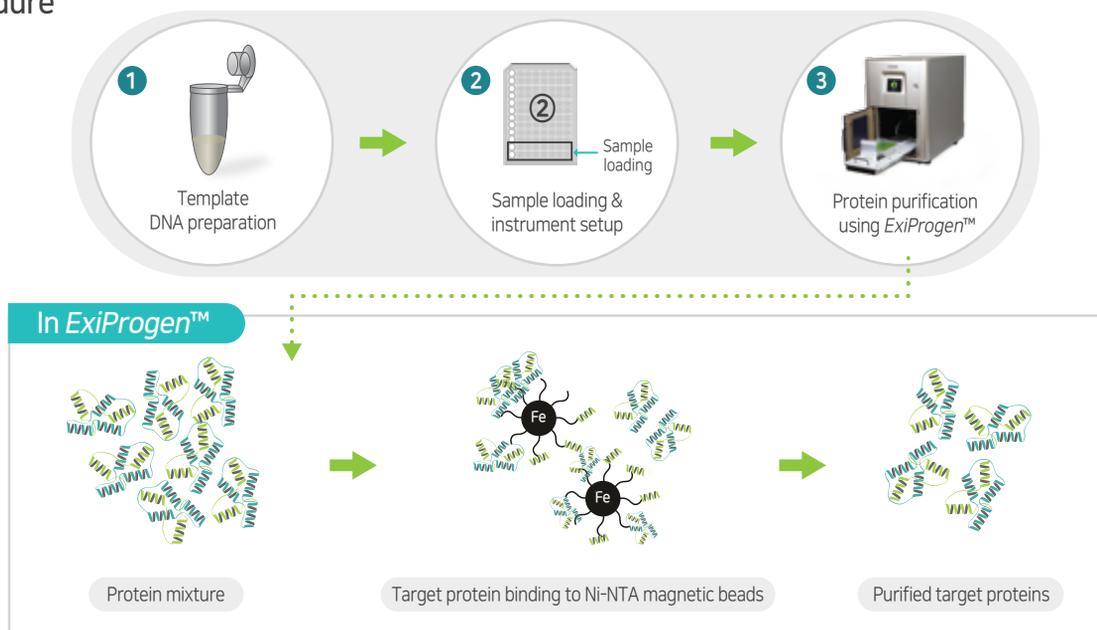
Automatic Protein Purifier

ExiProgen™ Protein Purification Kit contains patented Ni-NTA, which is Protein G-A-L- coated silica magnetic bead that can purify targets containing His-tags or antibodies.

- ✓ A wide range of purification is possible for all recombinant proteins with His-tag expressed in *in vivo* or *in vitro* system
- ✓ Purify up to 16 different proteins at one time with over 90% purity
- ✓ Easily transfer isolated proteins into a desired buffer using ExiProgen™ Dialysis Kit
- ✓ Pre-filled cartridge contains all reagents required for protein purification which simplifies the process and reduces the variation between reactions



Procedure



Experimental Data

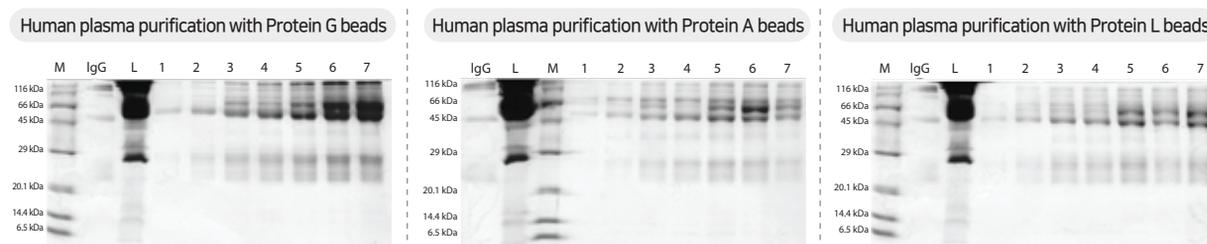


Figure 2. Human plasma purification using MagListo™ Protein G, Protein A, Protein L Kit and ExiProgen™ Consumable SET.

The volume of protein samples loaded into each well is 7.5 µl/400 µl total elution samples.

- M: AccuLadder™ Protein Size Marker (Broad), IgG: purified human IgG 3 µg

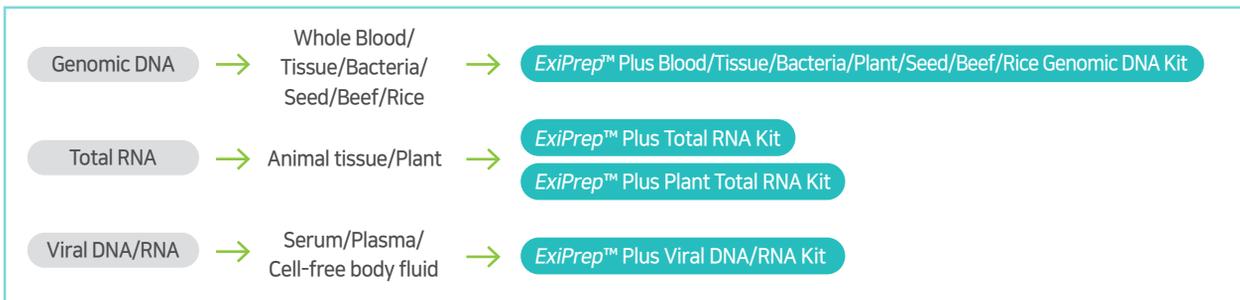
- L: loading sample (human plasma 500 µl)

- 1~7: amount of beads, 1, 2.5, 5, 7.5, 10, 15, 20 mg

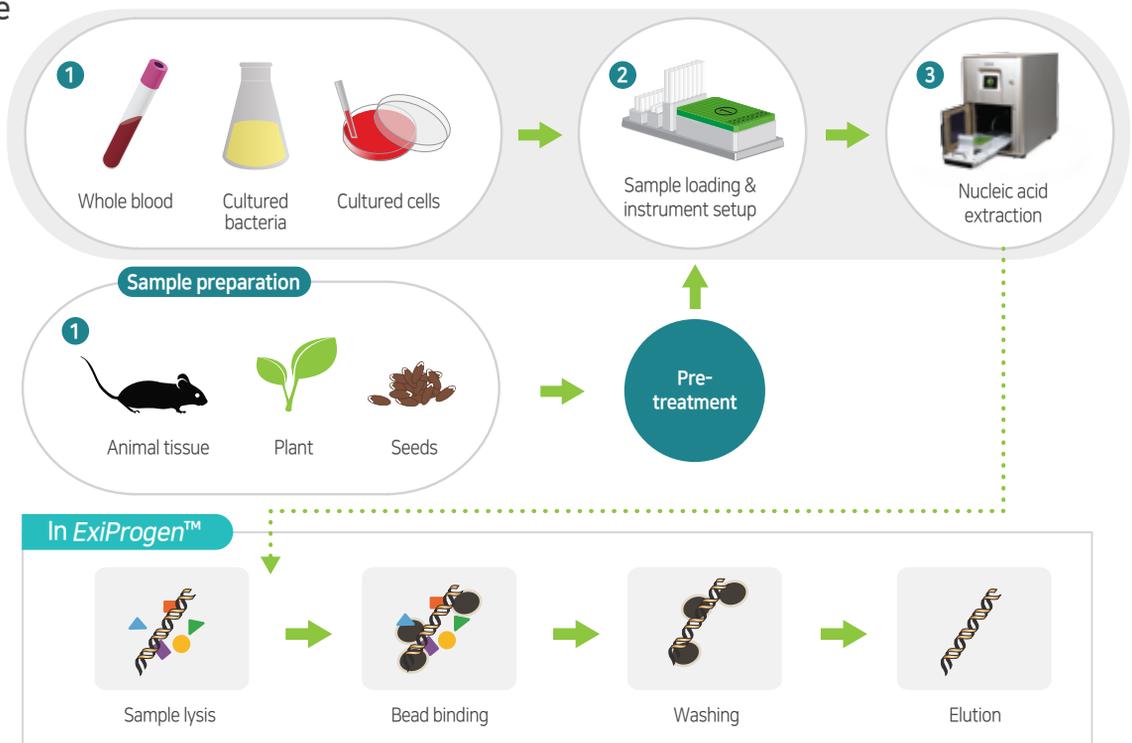
Automatic Nucleic Acid Extractor

ExiPrep™ Nucleic Acid Extraction Kit extracts nucleic acids using patented silica magnetic beads in just three steps: sample preparation, sample injection & instrument setup, and nucleic acid extraction.

- ✓ All reagents are pre-dispensed into a buffer cartridge system
- ✓ Ensures high yield and purity with Bioneer's patented magnetic silica beads
- ✓ Extract nucleic acids from up to 16 different samples simultaneously
- ✓ Guarantees reproducible results with automated protocols



Procedure



Experimental Data

Genomic DNA from cultured mammalian cell(HeLa)

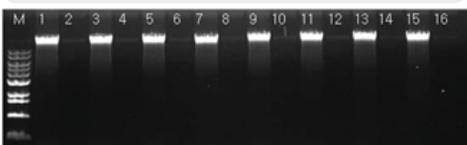


Figure 3. Lanes 1, 3, 5, 7, 9, 11, 13, 15 were extracted with 1×10^6 cells of cultured HeLa cell and lanes 2, 4, 6, 8, 10, 12, 14, 16 were extracted with ddH₂O as a negative control in DNA extraction. Note all samples have similar yields. Purity was also tested and was consistently between 1.8 and 2.0 (not shown).

Genomic DNA from bacteria(*E.coli*)

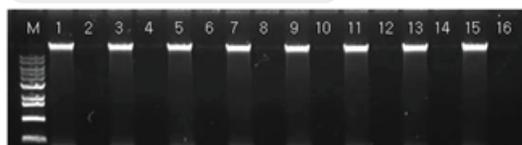


Figure 4. Lanes 1, 3, 5, 7, 9, 11, 13, 15 were extracted with 1×10^9 cells of *E.coli* cells and lanes 2, 4, 6, 8, 10, 12, 14, 16 were extracted with ddH₂O as a negative control in DNA extraction. Note all samples have similar yields. Purity was also tested and was consistently between 1.9 and 2.0 (not shown).

Ordering Information

Cat. No	Product Description
A-5041	<i>ExiProgen</i> [™]
Cat. No	Related Product Description
Protein Synthesis kit for <i>ExiProgen</i>[™]	
K-7300~2	<i>ExiProgen</i> [™] EC Protein Synthesis Kit (16/32/96 reactions)
K-7310	<i>ExiProgen</i> [™] EC-Maxi Protein Synthesis Kit, 8 reactions
K-7320	<i>ExiProgen</i> [™] EC-Tagfree Protein Synthesis Kit, 8 reactions
K-7330	<i>ExiProgen</i> [™] EC-Disulfide Protein Synthesis Kit, 8 reactions
Protein Purification kit for <i>ExiProgen</i>[™]	
K-7220~1	<i>ExiProgen</i> [™] His-tagged Protein Purification Kit (16/32 reactions)
K-7710	<i>MagListo</i> [™] Protein G Kit
K-7720	<i>MagListo</i> [™] Protein A Kit
K-7730	<i>MagListo</i> [™] Protein L Kit
KA-3001	<i>ExiProgen</i> [™] Consumable SET, 16 reactions
K-7240	<i>ExiProgen</i> [™] Dialysis kit, 8 reactions
Nucleic Acid Extraction Kit for <i>ExiProgen</i>[™]	
K-3225	<i>ExiPrep</i> [™] Tissue Genomic DNA Kit
K-3200-CB	<i>ExiPrep</i> [™] Beef Genomic DNA Kit
K-3200-CR	<i>ExiPrep</i> [™] Rice Genomic DNA Kit
K-4211	<i>ExiPrep</i> [™] Plus Blood Genomic DNA Kit
K-4214	<i>ExiPrep</i> [™] Plus Bacteria Genomic DNA Kit
K-4215	<i>ExiPrep</i> [™] Plus Plant Genomic DNA Kit
K-4217	<i>ExiPrep</i> [™] Plus Seed Genomic DNA Kit
K-4241	<i>ExiPrep</i> [™] Plus Total RNA Kit
K-4244	<i>ExiPrep</i> [™] Plus Plant total RNA Kit
K-4271	<i>ExiPrep</i> [™] Plus Viral DNA/RNA Kit
Accessories	
A-5041-A	Accessories Set for <i>ExiProgen</i> [™] (A2, 3, 4, 5, 6, 7, 10)
A-5041-A1	Multi Puncher (option)
A-5041-A2	Setup Tray
A-5041-A3	Disposable Tip Rack
A-5041-A4	Elution Tube Rack
A-5041-A5	Reaction Block (For protein synthesis)
A-5041-A6	Waste Tray
A-5041-A7	Hole Puncher (6-hole)
A-5041-A9	AC Adapter for <i>ExiProten</i> [™] , <i>ExiPrep</i> [™] 16 DX
A-5041-A10	Contamination Shield
A-5050-A12	Protection Cover Separation Tool

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