

# Just for you...

## BIONEER's Custom Services

- Gene Synthesis Service
- Sequencing Service
- Protein Synthesis Service
- Custom *AccuPower*<sup>®</sup> PCR PreMix

### Gene Synthesis Service

Gene synthesis is the most cost effective way to enhance your research. In as little as 3 weeks, you can have your gene cloned in hand and 100% sequence guaranteed.

#### Applications

Antibody Construction / Organism Production Optimization / Gene Construction / Protein Modification

#### Features and Benefits

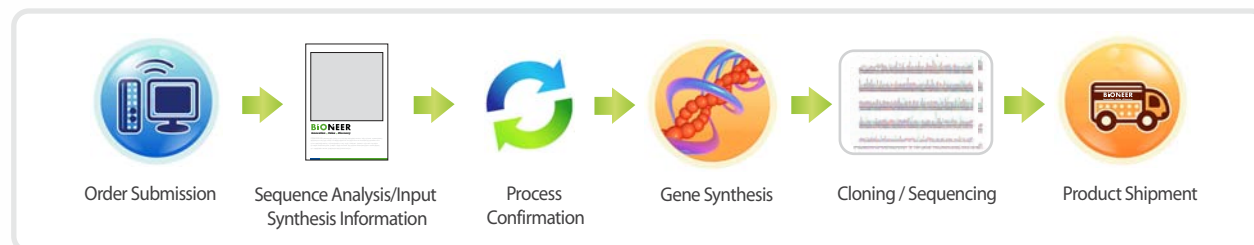
**Save Time and Money:** Bioneer's great pricing means that it can cost less to order a synthetic gene from us than to buy all the kits and reagents necessary to PCR.

**Designer Genes:** Genes optimized increase protein expression rates and enhance protein function. In addition our optimization can make previously un-clonable sections of DNA work easily.

**Quality Results – Guaranteed Sequence:** Each gene is cloned with the vector of your choice and then sequenced to give you the confidence that you want when working with your genes.

**Other Services:** Bioneer also offers Mutagenesis as well as Gene cloning and Gene to Protein services. Bioneer strives to provide the highest quality synthetic genes at a great price. Our goal is to always provide you with the best value for your research dollar.

#### Schematic of Synthesis



## Ordering Information

Gene Synthesis Service Ordering Information		
Price	\$ 0.39/bp (Normal sequence/<3 kb)	
Minimum Synthesis Price	\$180.00	
Synthesis Period	1 ~ 1500 bp	Average 7~12 working days
	1501 ~ 3000 bp	Average 14~21 working days
	3001 bp ~	Inquire
Delivery Form	2 ~ 5 µg of lyophilized plasmid	
Cloning Vector	pUC type	
Subcloning Price	\$100.00 (Gene cloning service)	
Additional Service	Produce high yield of plasmid DNA (\$100.00/100 µg)	

\* Additional charges will apply for gene segments containing complexities such as high or low GC content, repeat sequences or homopolymeric runs. If any of your sequence is found to contain the above listed complexities, you will be contacted by our Gene Synthesis Specialist.

\* When choosing the subcloning service with a commercial vector, a vector purchase cost will be billed separately.

\* Cloned genes will be sequenced. Only 100% sequence identity products will be shipped.

AccuGeneBlock Service		
Price for Synthesis	< 500 bp	\$ 95.00 (sequencing excluded)
	501~1000 bp	\$ 95.00 ( + \$ 29.00/100 bp) (sequencing excluded)
Period of Synthesis	< 500 bp	3~5 working days
	501~1000 bp	4~6 working days
Delivery Form	200~500 ng of lyophilized PCR product	
Additional Service	Sequencing	< 500 bp (\$ 20.00) 501~1000 bp (\$ 40.00)
	Increased Quantity	1 µg / \$ 50.00
	Codon optimization	Free-of-Charge (via Email ordering only)

\* AccuGeneBlock Service may not be available if the gene sequence contains high or low GC content, repetitive sequence, homo- polymeric runs, etc. In these instances please use Bioneer's Gene Synthesis Service.

\* Available for gene of <1 kb in size.

\* Double-Stranded DNA with a single 3' A overhang is provided as a default. Blunt-ended DNA is available upon request.

\* Ordering through email is required for a gene with codon optimization. Other genes may be ordered Online.

Mutagenesis Service Ordering Information		
Accepted Materials	Plasmid, Cultured <i>E. coli</i> cell	
Price	\$200.00/point mutation (Stand-alone order/ ~ 1 kb insert)	
Additional Costs	With cultured cells	\$ 50.00
	\$50.00/500 bp (Orders of inserts of over 1 kb)	
Service Period	~1 kb	10~15 working days
	1kb~3 kb	15~25 working days
	3 kb~5 kb	25~40 working days
	5 kb~	inquire
Additional Service	Produce high yield of plasmid DNA (\$100.00/100 µg)	
	Proceed with Gene synthesis (\$100.00 discount)	

Gene Cloning Service Ordering Information		
Accepted Materials	Plasmid, PCR product, Cultured <i>E. coli</i> cell	
Price	\$200.00/cloning ( ~ 1 kb insert, ~6 kb vector)	
Additional Costs	With cultured cells	\$ 50.00
	Insert	\$ 50.00 / 500 bp(>1 kb insert)
	Vector	6~8 Kb: \$ 50.00
		8~10 Kb: \$ 150.00
10 kb~: inquire		
Service Period	1~6 kb(vector+insert)	~10 working days
	6~8 kb(vector+insert)	10~15 working days
	8~10 kb(vector+insert)	15~30 working days
	10 kb~(vector+insert)	inquire
Additional Service	Produce high yield of plasmid DNA (\$100.00/100 µg)	
	Proceed with Gene synthesis (\$100.00 discount)	

### • How to send your template DNA

When sending us the template DNA, or plasmid DNA, the concentration must be 150~200 ng/µl (at least 10 µl volume); for purified PCR product, the concentration must be 50 ng/µl (at least 10µl volume).

## Sequencing Service

Bioneer provides a fast and highly reliable Sequencing Service with competitive price. Bioneer has an infrastructure of automatic genetic analysis machine ABI 3730 XL, which can do sequencing of various template DNA including plasmid DNA, PCR products etc.



### Features and Benefits

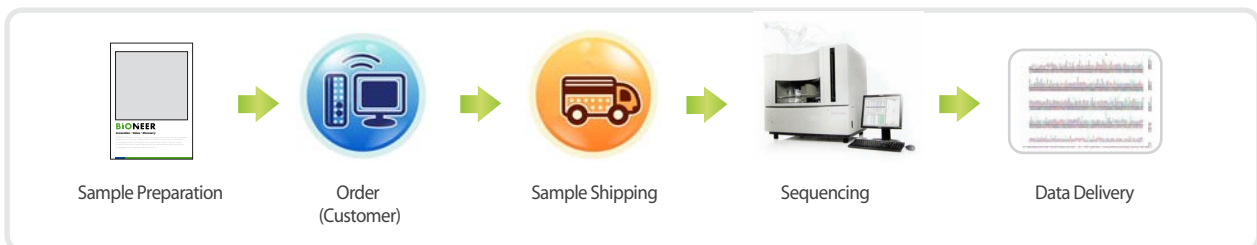
**Highly Quality Data:** Phred Score (QV):  $\geq 20$ , guaranteed read lengths: up to 700 bp.

**Fast Turnaround Time:** 24 hours upon sample receipt in most cases

**Complimentary Universal Primer:** Over 40 universal primers are provided free-of-charge, otherwise Bioneer's oligo synthesis service is also available.

**Competitive Pricing**

### Schematic of Synthesis



### Service Type

#### 1. Standard sequencing service

The standard sequencing service provides customers with a fast sequencing results of read length up to 700 bp using plasmid DNA or PCR product. Discounted price could be available for orders with more than 2,000 reactions per order or 20,000 reactions per year. Please contact us for details.

#### 2. Full-length sequencing (primer walking) service

This service is for sequence analysis of plasmid longer than 2 kb including a long insert or PCR product. Its turnaround time is approximately one week for a 3 kb plasmid and can vary depending on the template length. Assembled analysis data will be delivered to a customer along with an aligned file, single config file as well as custom primers.

#### 3. Difficult Sequencing service

Difficult sequencing service is applied to hard analysis template structure for standard sequencing due to GC/AT rich, repeat sequence, secondary structure, etc. Different reagent types and conditions are used for standard sequencing, and obtaining sequencing results may be difficult depending on specificity of sample.

#### 4. Additional service

**Plasmid DNA Extraction Service:** To free up researchers' valuable time, a plasmid prep service is available at additional cost.

**PCR Product Clean-up Service:** Template purity is critical in direct sequencing of PCR product. Additional purification of PCR product using gel extraction or spin column PCR clean up kit can also be provided at additional cost to improve the sequencing quality.

**PCR & Purification Service:** Simply send a template and primers with information about PCR conditions and expected amplicon size to Bioneer. Then we will perform PCR, validate and purify the PCR product, and run sequencing.

## Ordering Information and Quote Request

Cat. no.	Service Description
<b>Sequencing Service</b>	
S-3010-1	Standard Sequencing Service (< 96 rxns)
S-3010-2	Standard Sequencing Service (≥ 96 rxns)
S-3010-6	Full Length Sequencing Service (primer walking)
S-3010-13	Difficult Sequencing service
<b>Additional service</b>	
S-3010-0	Plasmid DNA extraction
S-3010-3	PCR purification
S-3010-4	Agarose Gel Extraction
S-3010-5	PCR & Purification
S-3010-7	Custom Sequencing Primer Synthesis Service (25 nmole scale)

## Sample Submission Guidelines

### 1. Sample preparation

#### • Template

Type	Concentration	Concentration
Plasmid DNA	100 ng/μl	≥ 10μl
Purified PCR product	50 ng/μl	≥ 10μl
Non-purified PCR product	50 ng/μl	≥ 20 μl
gDNA	30 ng/μl	≥ 30 μl


#### • Primer


Type	Concentration	Volume/rxn
Custom primer	5 pmole/μl	5 μl
Universal primer	Over 40 free primers available	

### 2. Shipping guidelines

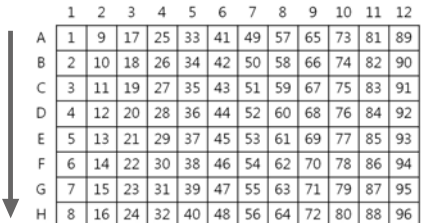
Please submit your samples and primers in 1.5 ml centrifuge tubes or 96-well V-bottom PCR plates. If you use 96-well PCR plates, please arrange the samples vertically (A01 H01).

Label on the top of tube





V-type bottom



Seal the tubes and plates to prevent leakage, sample evaporation and cross-well contamination.

Please label your sample names clearly on the top of tube. Labeled names should match the ones listed on your order sheet. To ensure efficient processing of samples, Bioneer recommend to use simple name for your sample. If the sample name is too long, please mark the tubes and leave a note on the order sheet.

Please place samples and primers in separate bags and write down your name on each bag.

You can send your samples to us via FedEx (preferred), DHL or TNT. When your order is confirmed, you will receive an account number of a carrier service that you chose to create a shipping label.

## Standard Protein Synthesis Service



Protein Synthesis Service from Bioneer uses the *ExiProgen*<sup>™</sup>, the world's first protein synthesis and nucleic acid extraction system.

Bioneer's protein synthesis service uses *E. coli* cell-free protein synthesis followed by affinity purification of your protein using Histidine tag. In addition, Bioneer provides the protein in the storage buffer of your choice via dialysis, which is customer-oriented service. As this service uses cell-free protein synthesis, customer gets the protein synthesis faster than with cell-based protein synthesis services.

This service is only for genes cloned into *E. coli* expression vectors, such as pET vectors, that have a T7 promoter, ribosome binding site and T7 terminator.

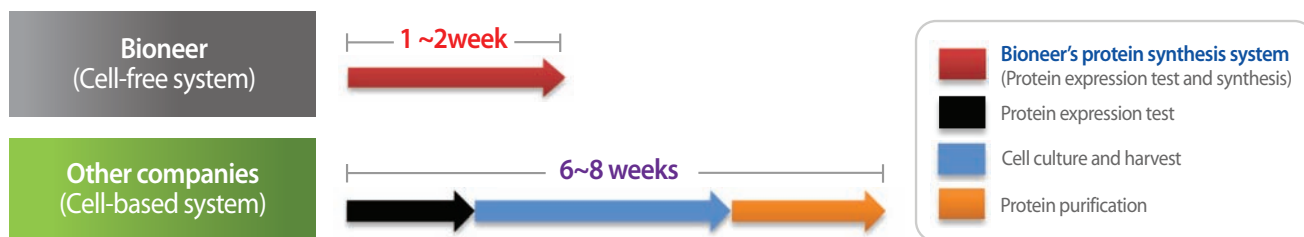
### Features and Benefits

**Fast Process:** You can receive proteins in as little as 1 week.

**High performance:** This service enables synthesis of various proteins enzyme, growth factor, hormone, antigen protein, antibody, and toxic to in vivo expression systems.

**Compatibility:** If necessary, you can synthesize target protein yourself because this service is using Bioneer's protein synthesis kits.

### Saving time with Bioneer's protein synthesis service



Note 1) If customer has their gene of interest in an expression vector such as a pET *E. coli* expression vector, they can get faster results.

Note 2) If customer has optimized their gene's codon for *E. coli* expression, they can get significantly better results.

### Service fee

Cost of synthesis	\$600
	Note) If protein synthesis fails, you will pay only set-up charge (\$100).
Delivery form <sup>3)</sup>	1. Data report – E-mail 2. Protein - 100 µg (0.1~1.0 mg/ml of solution form)
Composition of storage buffer	50 mM Tris-Cl (pH7.6), 100 mM NaCl, 1mM DTT, 0.1mM EDTA, 0.05% NaN <sub>3</sub> , 50% Glycerol
Period of synthesis <sup>4)</sup>	7 ~ 14 working days
Increase in quantity <sup>5)</sup>	\$100~300/100 µg

## One-day Protein Synthesis Service

Bioneer's One-day Protein Synthesis Service provides recombinant proteins in a day.

The service is the special service using the automatic cell-free protein expression and affinity protein purification system (*ExiProgen*<sup>™</sup> Protein Synthesis System). And the service enables synthesis of various proteins such as enzyme, growth factor, hormone, antigen protein and antibody.

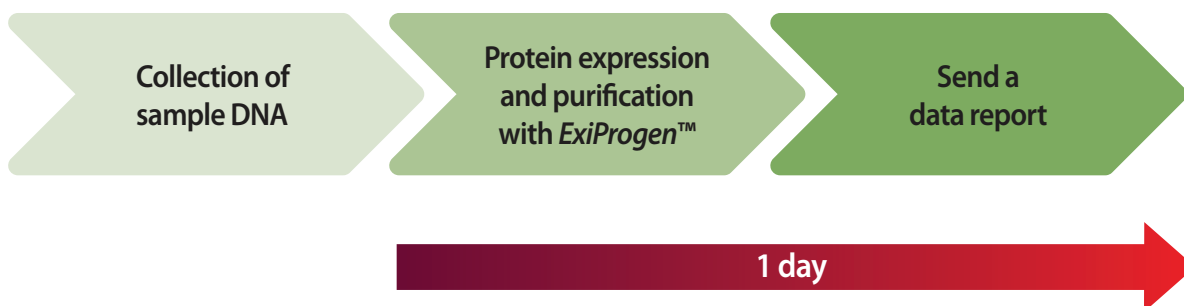
### Features and Benefits

**Fast Process:** You can receive a data report to protein synthesis in a day.

**High performance:** This service enables synthesis of various proteins enzyme, growth factor, hormone, antigen protein, antibody, and toxic to *in vivo* expression systems.

**Compatibility:** If necessary, you can synthesize target protein yourself because this service is using Bioneer's protein synthesis kits.

### Saving time with Bioneer's protein synthesis service

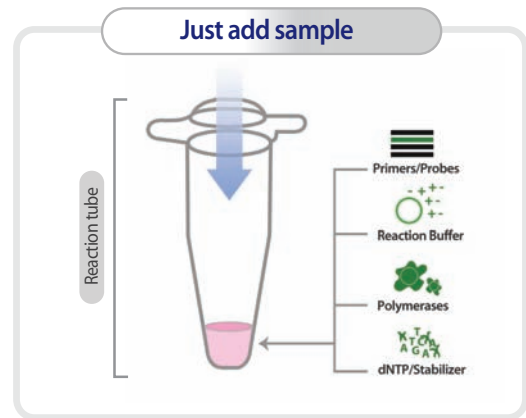


### Service fee

Cost of synthesis	\$300
	Note) If protein synthesis fails, you will pay only set-up charge (\$100).
Delivery form <sup>2)</sup>	1. Data report – E-mail 2. Protein - 0.1~1.0 mg/ml of solution
Composition of storage buffer	50 mM Tris-Cl(pH7.6), 100 mM NaCl, 1 mM DTT, 0.1 mM EDTA, 0.05% NaN <sub>3</sub> , 50% Glycerol
Period of synthesis <sup>3)</sup>	1 day

## Custom AccuPower® PCR PreMix Service

Bioneer's Custom AccuPower® PCR PreMix provides high reproducibility and convenience in use. Bioneer's AccuPower® PreMix technology has been developed over the last 20 years. Bioneer's Custom AccuPower® PCR PreMix provides thermostable DNA polymerase, dNTPs, reaction buffer, stabilizer thermostable PPase for HotStart PCR and customer requested primer to form as a lyophilized "PreMix" in each tube. The user only needs to add template DNA/RNA and water to perform PCR.

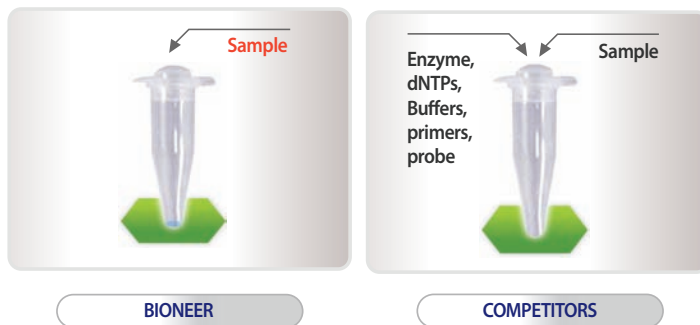


### Features and Benefits

**Outstanding reproducibility:** Large-scale batch production through automated processes and minimize user's errors through the one-step pipetting provides constant results run after run.

**Signature convenience:** All components for the assay are contained within the tube. Just Add Sample!

**Industry leading stability:** Lyophilization suspends reagent deterioration, leading to longest-in-class 2 year shelf-life.



Company	BIONEER	R Company
Convenience	+++ (Lyophilized)	++ (Frozen liquid type; requires mixing)
Stability	+++ (Over 1 year in freezer)	++ (Less than 6 months in freezer)
Cross-contamination resistance	+++	++
Automation	+++ (Simple process and instrumentation)	+

### Ordering Information

Minimum Quantity	1920 tests (480 x 4 plates)	
Production Period	Single Custom PreMix	~10 business days
	2~3-Multiplex Custom PreMix	~12 business days
	4-Multiplex Custom PreMix	~16 business days
	5-Multiplex Custom PreMix	Inquire

\*When the template is not provided, the production period will be shortened by 4 business days

\*The oligo synthesis and sample validation periods are not included in the production period estimations.

\*The fee for oligo synthesis will be separately added to the quoted price.

### Service fee

Order spec	Price (\$/ test)	Notes
~ 1920 tests (480 tests * 4)	\$ 1.5	Oligo price will be added.
2400 tests (480 tests * 5) ~ 4800 tests (480 tests *10)	\$ 1.3	
4800 tests ~	Upon agreement (Contract order)	

\*The service fees above are for conventional PCR tests.

## Custom Service

### How to order

1. Download the ordering form(s)\* from the link on Bioneer website.
2. Fill out and email the form to: [export1@bioneer.com](mailto:export1@bioneer.com)
3. We will review the order immediately, and then send you our quote with the service period via email.
4. If you decide to proceed, please confirm the quotation by mail.
5. The service will be initiated when we send out the service start alert email to you.

\* Please fill in the personal information columns (contact information) to fine-tune the service and expedite the order.

### Cancellation policy

There will be a cancellation charge unless you cancel service within a certain period of time depending service. Contact your local sales representative for detailed information.

### Address

Bioneer Corp.  
8-11 Munpyeongseo-ro, Daedeok-gu, Daejeon 306-220, Republic of Korea.

### Technical Inquires and Support

Please send your email or contract your distributor.

- Gene synthesis  
[genesynthesis-support@bioneer.co.kr](mailto:genesynthesis-support@bioneer.co.kr)
- Sequencing  
[sequencing@bioneer.co.kr](mailto:sequencing@bioneer.co.kr)
- *In vitro* Protein Expression & Synthesis Service  
[proteinorder@bioneer.co.kr](mailto:proteinorder@bioneer.co.kr)
- Custom *AccuPower*® PCR PreMix Service  
[accupower-support@bioneer.co.kr](mailto:accupower-support@bioneer.co.kr)

### Contact Us

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