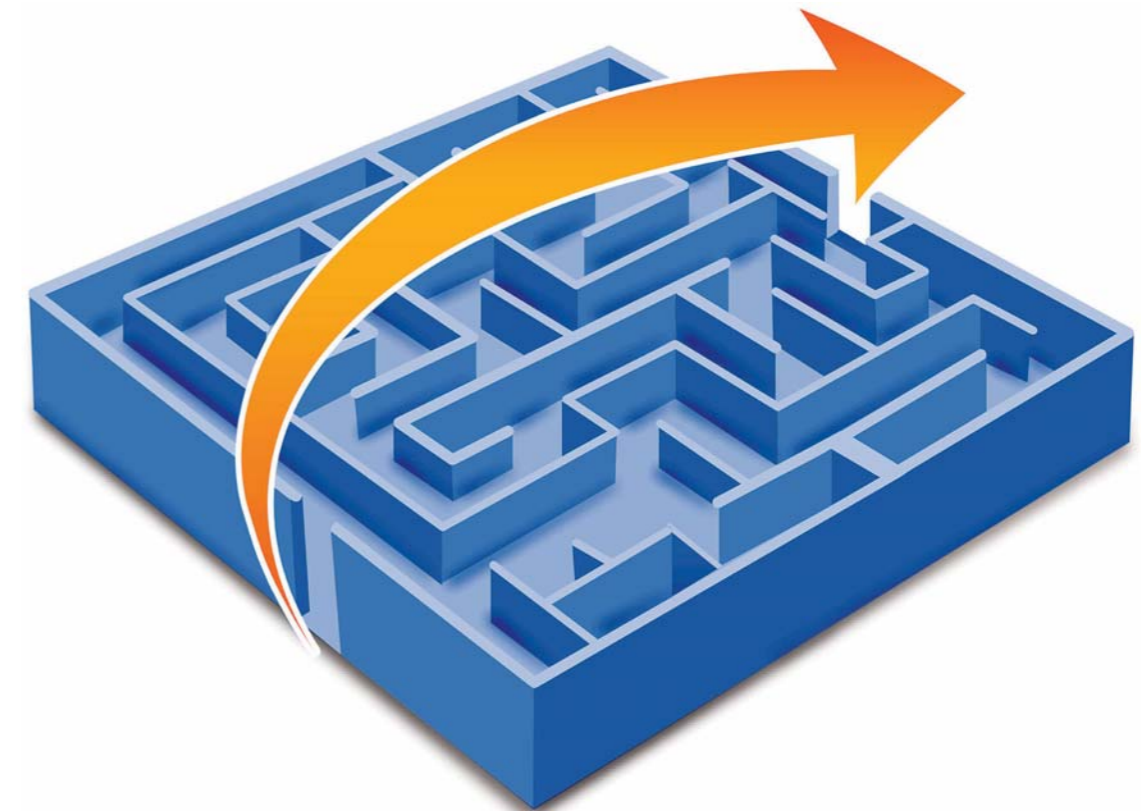







# GenScript Product Catalog

2013-2014  *Make Research Easy*



-  Nucleic Acid Purification and Analysis
-  PCR and Cloning
-  Protein Analysis
-  Antibodies
-  Peptides

[www.genscript.com](http://www.genscript.com)

GenScript USA Inc. 860 Centennial Ave.  
Piscataway, NJ 08854USA

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Toll-Free Tel: 1-877-436-7274  
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**Business Development**  
Tel: 1-732-317-5088  
Email: [bd@genscript.com](mailto:bd@genscript.com)



## Welcome to GenScript

GenScript USA Incorporation, founded in 2002, is a fast-growing biotechnology company and contract research organization (CRO) specialized in custom services and consumable products for academic and pharmaceutical research. Built on our assembly-line mode, one-stop solutions, continuous improvement, and stringent IP protection, GenScript provides a comprehensive portfolio of products and services at the most competitive prices in the industry to meet your research needs every day.

Over the years, GenScript's scientists have developed many innovative technologies that allow us to maintain our position at the cutting edge of biological and medical research while offering cost-effective solutions for customers to accelerate their research. Our advanced expertise includes proprietary technology for custom gene synthesis, OptimumGene™ codon optimization technology, CloneEZ® seamless cloning technology, FlexPeptide™ technology for custom peptide synthesis, BacPower™ technology for protein expression and purification, T-Max™ adjuvant and advanced nanotechnology for custom antibody production, as well as our ONE-HOUR Western™ detection system and eStain® protein staining system.

GenScript offers a broad range of reagents, optimized kits, and system solutions to help you unravel the mysteries of biology. We also provide a comprehensive portfolio of customized services that include Bio-Reagent, Bio-Assay, Lead Optimization, and Antibody Drug Development which can be effectively integrated into your value chain and your operations. All of these add up to maximum flexibility and convenience to meet your most demanding research needs.

Our dedication to innovation and quality has helped us to establish strong partnerships with customers in over 70 countries, including many of the top pharmaceutical companies in the world. GenScript is headquartered in Piscataway, the heart of New Jersey's pharmaceutical valley, with subsidiaries in Europe, Japan, and China.

### Navigating the Catalog

The 2013-2014 product catalog is organized by scientific application and divided into six chapters. Browse through the catalog for information on popular products in molecular biology and cell biology and to see our featured products. We are confident you will find the 2013-2014 product catalog full of relevant and to see timely products and services to support your discovery or development program. Please visit our website at [www.genscript.com](http://www.genscript.com) to find new product information, cutting-edge tools, and resources, as well as to view the complete portfolio of products and services. As our offerings are constantly updated to meet your needs, please refer to our website for the most up-to-date information.

# Ordering and Technical Support

For your convenience, you may place your order using any of the following methods: order online, by email, phone, mail, or fax. Our highly efficient customer service representatives will process your order quickly and accurately.

## Order Online

You have two options for placing orders electronically:

- Open a new account or login to your account and place your order online at <http://www.genscript.com>
- Email your order to [order@genscript.com](mailto:order@genscript.com)

## Order by Phone, Mail, or Fax

Please include the following information with your order:

- Name and phone number of the end user
- Name of the principal investigator
- Name and phone number of the purchasing agent
- Catalog number and description of product
- Quantity and size of product
- Shipping address
- Billing address

## Order by Phone

Call 1-732-885-9188 to place your order by speak directly with a helpful customer service representative. GenScript provides 24-hour service Monday through Friday.

You can also place your order by voicemail anytime, day or night. We accept Visa, MasterCard, American Express, and the American Express Corporate Purchasing Card.

## Order by Mail

If you would like to send us written confirmation of your order, please be sure it is clearly marked "Confirming Order—Do Not Duplicate".

GenScript USA Inc.  
860 Centennial Ave.  
Piscataway, NJ 08854 USA

## Order by Fax

Fax your order to: 1-732-210-0262 / 1-732-885-5878

## Technical Support

Our technical support lines are open 24-hour Monday through Friday. Customer service representatives are here to assist you with ordering. Contact us from anywhere in the US:

- Technical Support  
Email: [support@genscript.com](mailto:support@genscript.com)  
Online:  
[http://www.genscript.com/technical\\_support.html](http://www.genscript.com/technical_support.html)
- Customer Service  
Email: [order@genscript.com](mailto:order@genscript.com)  
Phone: 1-732-885-9188 / 1-732-885-9688  
Toll-free phone: 1-877-436-7274

## International Order

International customers should order directly from the nearest authorized distributor of GenScript products. For the location of the nearest distributor, refer to the distributor address list at <http://www.genscript.com/distributor.html>. International customers in most countries can also order directly from GenScript without the assistance of a local distributor. The estimated shipping price is based on FedEx international priority with 1 LB FedEx envelope and 3 LB box.

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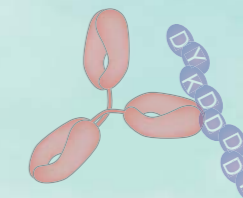
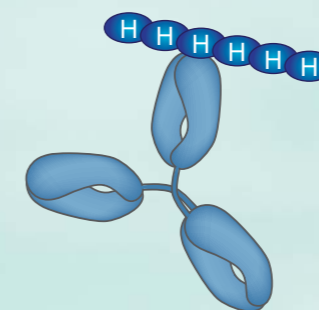
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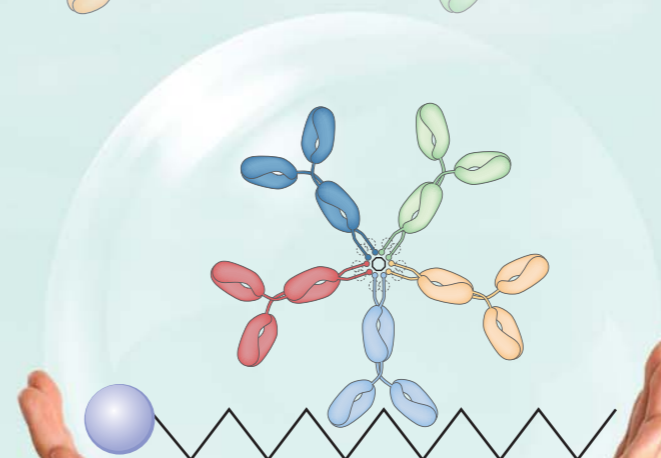
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# THE™ Elite Antibodies

THE unmistakable, THE irreplaceable, and  
THE best quality in the industry



THE™ Elite Antibody series are the most precise and effective antibodies that meet the most demanding research requirements.



- Ultra Sensitivity- More sensitive than most popular antibodies on the market
- Ultra Specificity- No non-specific binding
- Ultra Affinity- Ultra-low dissociation constant  $K_d$
- Ultra Reactivity- Recognizes target antigens in a wide range of species and expression systems
- Ultra Clear Background
- Ultra Convenience- Wide applications and comprehensive products can be used for a variety of research projects
- Ultra Stability- Stable lyophilized form for at least two years



# Featured Products

## QuickClean II Plasmid Miniprep Kit



Up to 20 µg plasmid DNA with 99% purity

- **Fast Process:** Complete 24 preps in 24 minutes
- **High Capacity:** Up to 20 µg DNA per prep
- **High Purity:** >90% removal of contaminants and inhibitors
- **High Recovery:** Up to 99% recovery of plasmid DNA
- **High Reproducibility:** Prep-to-prep consistency

As an upgrade of the QuickClean 5M Plasmid Miniprep Kit, QuickClean II Plasmid Miniprep Kit is an ideal tool for rapid mini-purification of molecular biology-grade plasmid DNA. Up to 20 µg of purified plasmid DNA can be obtained free of RNA, proteins, and other contaminants, from only 1-5 ml of overnight bacterial culture. Purified plasmids are ready for downstream applications, such as high-quality sequencing, PCR, restriction enzyme digestion, ligation, transformation, and in vitro translation.

For more information on plasmid DNA purification, see page 3 or visit [http://www.genscript.com/dna\\_purification.html](http://www.genscript.com/dna_purification.html)

## Green PCR Reagents

The environmentally friendly PCR reagents for your success

- **Stable at room temperature**
- **Enhanced yield with longer enzyme half-life**
- **Saves Energy, no refrigeration required**

GenScript's advanced high-stability technology has led to the invention of a new generation of PCR reagents—Green PCR Reagents. The Green series of reagents, including the proprietary **Taq, dNTP, and PCR mixtures**, are stable at room temperature for one month or at 4°C for over six months. A high-stability feature increases the half-life of the active enzymes at high temperatures, and therefore more amplification cycles are carried out and higher yields are generated. With no freeze-thaw cycles, Green PCR reagents provide you instant access to high-throughput PCR automation. In addition, GenScript's Green PCR Reagents can help to preserve energy in storage and shipping.

For more information on Green PCR Reagents, see page 13 or visit [http://www.genscript.com/green\\_pcr\\_reagents.html](http://www.genscript.com/green_pcr_reagents.html)



## CloneEZ® PCR Cloning Kit

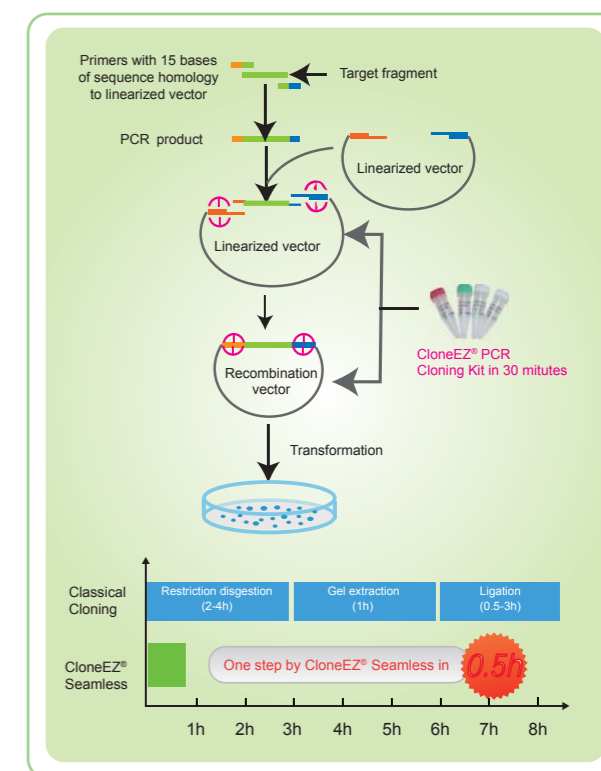
No more restriction site headaches

- **Universal**—Clone any insert, into any location within any vector you choose
- **Fast and Easy**—30 minutes, one-step incubation at room temperature
- **High Efficiency**—Success rate over 95%
- **Compatibility**—The kit is highly compatible with high-throughput PCR cloning

GenScript's proprietary CloneEZ® seamless cloning technology is a cutting-edge, recombination-based cloning technology that can accurately and efficiently assemble genes and gene fragments in any combination of sequences. The CloneEZ® PCR Cloning Kit is designed for the quick cloning of PCR products without any headaches of restriction sites. The universal CloneEZ® cloning method works with any insert and any vector at any restriction site. Using our proprietary CloneEZ® enzyme, this kit rapidly generates precise, directional constructs in 30-minute at room temperature.

CloneEZ® PCR Cloning Kit can reduce PCR cloning time down to 30 minutes from the traditional 3.5 hours, by using a one-step procedure instead of multiple steps. Order today!

For more information on CloneEZ® PCR Cloning Kit, see page 16 or visit [http://www.genscript.com/cloneez\\_pcr\\_cloning\\_kit.html](http://www.genscript.com/cloneez_pcr_cloning_kit.html)



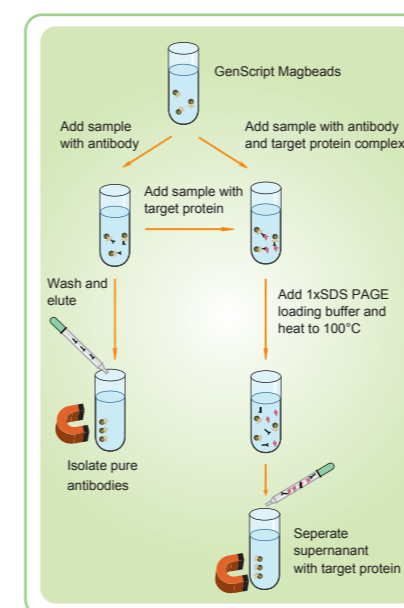
## Magnetic Beads for Protein Isolation

Magnetic separation of proteins and protein complexes

- **Quick and convenient separation**
- **High capacity**
- **Minimum nonspecific binding**
- **Reusable up to six times**

GenScript provides a series of magnetic beads that efficiently and reliably purify target recombinant proteins and antibodies from any type of cell lysates. Monosized, magnetic beads with Protein A, Protein G, or a specific antibody coupled to their surface provide a suspendable solid support for immunoprecipitation of target proteins. The captured complexes are easily removed from the supernatant by magnetic separation technology which allows for simple and efficient washing. The enriched proteins and complexes can then be eluted from the beads and analyzed by western blotting or mass spectrometry.

For more information on MagBeads for protein isolation, see page 27 or visit [http://www.genscript.com/Magnetic\\_bead\\_products.html](http://www.genscript.com/Magnetic_bead_products.html)



## eStain® 2.0 Protein Staining System

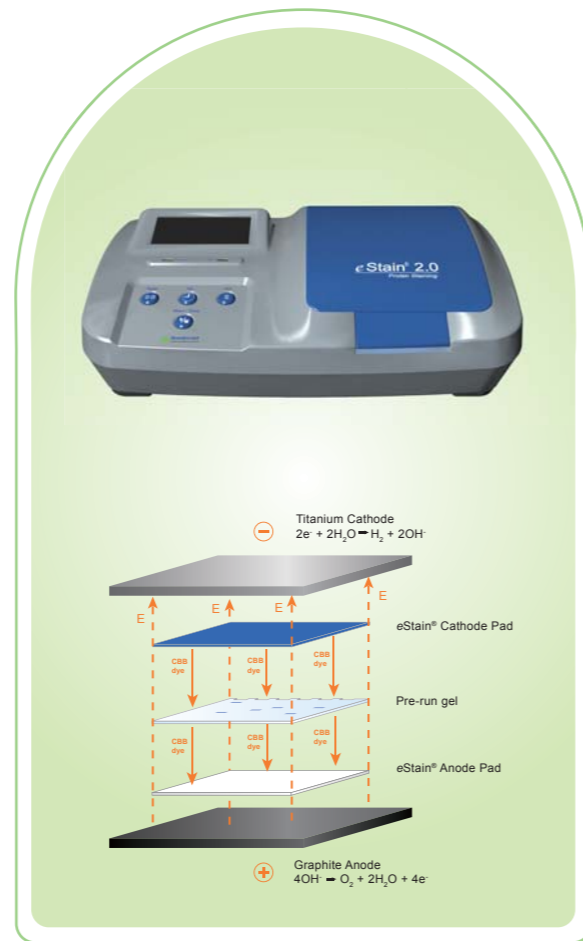
Automatic protein gel staining in 7 minutes

- **Faster**—Complete protein gel staining in 7 minutes or less
- **Easier**—Hit the run button and walk away
- **Cleaner**—No additional buffers required
- **Safer**—Unique formulation without methanol

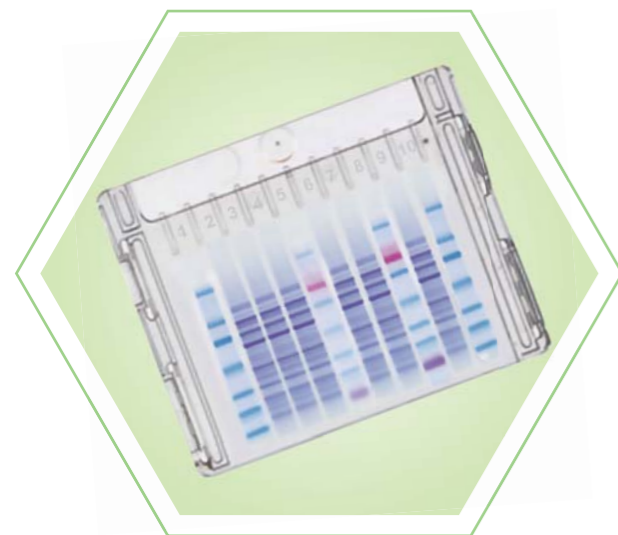
The eStain® 2.0 Protein Staining System is designed to quickly and reliably perform protein gel staining with Coomassie Blue dye reagents in 7 minutes or less. It consists of the eStain® 2.0 Protein Staining Device and eStain® 2.0 Protein Staining Pad. The eStain® 2.0 Protein Staining System integrates three steps of the conventional Coomassie Blue staining procedure into one step and significantly shortens the time required for protein gel staining analysis, thereby resulting in consistent performance.

The eStain® 2.0 Protein Staining System is compatible with a wide range of polyacrylamide gels, including Express™ PAGE, Bis-Tris, Tris-Acetate, Tris-Glycine, and Tris-Tricine gels. In addition to ease and convenience, the eStain® 2.0 Protein Staining System provides at least the same, if not better, detection sensitivity as conventional Coomassie Blue staining methods. At the conclusion of staining, you will see sharp protein bands with a clear background.

For more information on eStain® Protein Staining System, see page 33 or visit [http://www.genscript.com/eStain\\_protein\\_staining\\_system.html](http://www.genscript.com/eStain_protein_staining_system.html)



## Express™ PAGE Gel System



High-performance and high-quality precast protein gels

- **Superior protein band resolution**
- **Fast sample running time (45 min or less)**
- **High protein transfer efficiency**
- **Long shelf life (Up to 12 months at 4°C)**

The Express™ PAGE Gel System is a high-performance precast polyacrylamide gel system with a variety of acrylamide percentages available. With GenScript's proprietary technology, Express™ PAGE gels are designed as an easy-to-use tool. The unique gel formulations eliminate the "smiles" and poor resolution of other gel types. You'll produce reliable separation results every time. In addition, protein transfer from Express™ PAGE gels is more efficient, leading to more sample on your membrane for higher detection signals during western analysis.

For more information on the Express™ PAGE Gel system, see page 29 or visit [http://www.genscript.com/express\\_page\\_gels.html](http://www.genscript.com/express_page_gels.html)

## Endotoxin Detection and Removal System



Endotoxin-free world coming with GenScript

Endotoxin test is the most critical quality control test required by the FDA for all drugs in the final formulation. Because endotoxins are invariably associated with every gram-negative bacteria, they cause severe reactions in humans and animals and retain high toxic activity even at low concentration. In addition, endotoxins are suspected to play an important role in the occurrence and development of many different diseases.

GenScript is a leading company in providing innovative techniques for endotoxin detection and removal. The ToxinSensor™ Endotoxin Assay Kits are designed to detect *in vitro* endotoxin level in a broad range of 0.005–1 EU/ml for human and animal parenteral drugs and biological samples. The ToxinEraser™ Endotoxin Removal Kit provides higher removal efficiency which can drop endotoxin levels to below 0.1 EU/ml.

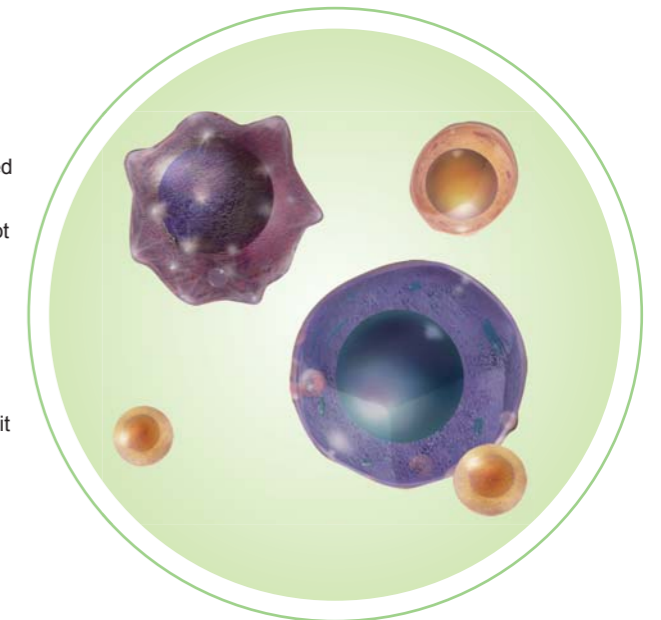
For more information on the Endotoxin Detection and Removal System, see page 31 or visit [http://www.genscript.com/endotoxin\\_detection\\_and\\_removal\\_system.html](http://www.genscript.com/endotoxin_detection_and_removal_system.html)

## Cytokines & Growth Factors

GLP-grade proteins with exceptionally low endotoxin levels

- Endotoxin levels are reduced to less than 0.2 EU/μg, a significant improvement over other suppliers (1 EU/μg)
- At least 95% purity in SDS-PAGE and HPLC analysis
- Extremely high biological activity and functionality as assessed and audited by a third party
- Rigorous quality control and reproducibility tests ensure maximum lot-to-lot consistency
- Bulk orders customized by formulation, size of vials, and more
- Multi-milligram quantities available

For more information on Cytokines & Growth Factors, see page 52-58 or visit [http://www.genscript.com/protein\\_list.html](http://www.genscript.com/protein_list.html)



## Human Hematopoietic Stem Cell Expansion Cytokine Bundle



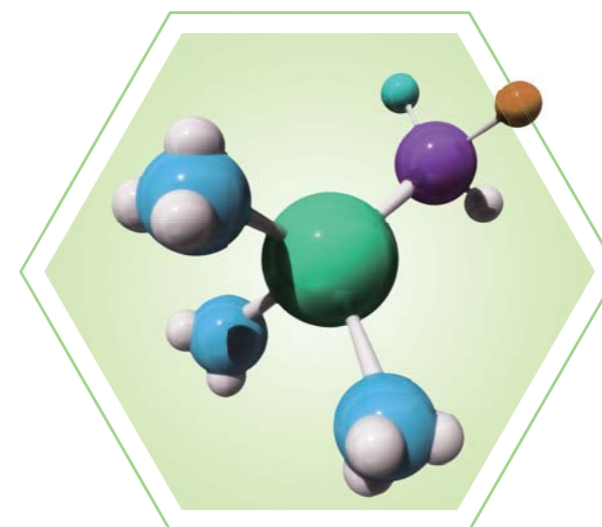
Specific for stem cell research & extremely low endotoxin levels

- The manufacturing process of cytokines is carried out according to GLP guidelines.
- Exceptionally low endotoxin level, even less than 0.2 EU/μg, much less than the most other suppliers' standard (1 EU/μg)
- High purity determined by SDS-PAGE and HPLC analysis
- High biological activity and functionality
- Excellent lot-to-lot consistency
- Economical package to prevent loss of materials and reduce experiment cost due to possible contamination.
- Competitive prices compared with other suppliers

Human Hematopoietic Stem Cell Expansion Cytokine Bundle contains the key components required for ex vivo human hematopoietic stem cell development. The cytokine bundles minimize time spent searching and waiting for several proteins from different suppliers and locations. These simple packages also save you money.

For more information on Human Hematopoietic Stem Cell Expansion Cytokine Bundles, see page 51 or visit [http://www.genscript.com/cytokine\\_bundles.html](http://www.genscript.com/cytokine_bundles.html)

## Catalog Peptides



Tired of small peptide pools? Come swim in our ocean!

GenScript has a comprehensive collection of pharmaceutical peptides including β-amyloid peptides, blocking peptides and cosmetic peptides, etc. We have a worldwide customer base in the cosmetic and pharmaceutical industries along with academic institutions.

All of GenScript's peptides come equipped with QC data, including HPLC and MS profiles. There are over 1,500 different peptides with several quantity scales available. All the peptides in our catalog are offered at over 95% purity. Let GenScript's state-of-the-art peptide synthesis technology and experienced peptide chemists be your partners toward your success.

If your peptide is not listed in our catalog, GenScript can synthesize any quantity of research grade peptides for you.

For more information on Catalog Peptides, see page 105 or visit [http://www.genscript.com/peptide\\_products.html](http://www.genscript.com/peptide_products.html)

## THE™ Elite Antibodies

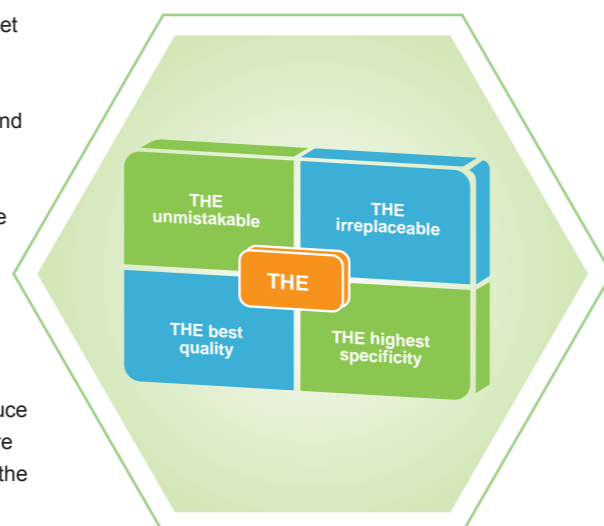
The most precise and effective antibodies

- **Ultra Sensitivity**—More sensitive than most popular antibodies on the market
- **Ultra Specificity**—No non-specific binding
- **Ultra Affinity**—Ultra-low dissociation constant Kd
- **Ultra Reactivity**—Recognizes target antigens in a wide range of species and expression systems
- **Ultra Clear Background**
- **Ultra Convenience**—Wide applications and comprehensive products can be used for a variety of research projects
- **Ultra Stability**—Stable lyophilized form for at least two years

THE™ Elite Antibody series are the most precise and effective antibodies that meet the most demanding research requirements. THE™ stands for THE unmistakable, THE irreplaceable, and THE best quality in the industry. To produce THE™ Elite Antibodies, the most productive and stable hybridoma cell clones are selected. THE™ Elite Antibodies are then isolated from the cell line that shows the highest specificity against the corresponding immunogens.

Are you concerned about valuable samples, partially exposed tags, fusion-protein denaturation, or any other obstacles? Order GenScript's THE™ Elite antibodies, and you are on your way to solving these and other problems you encounter in your research.

For more information on THE™ Elite Antibodies, see page 69 or visit [http://www.genscript.com/THE\\_antibody.html](http://www.genscript.com/THE_antibody.html)





## Chapter 1 Nucleic Acid Purification and Analysis

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# Plasmid DNA Purification

## QuickClean II Plasmid Miniprep Kit

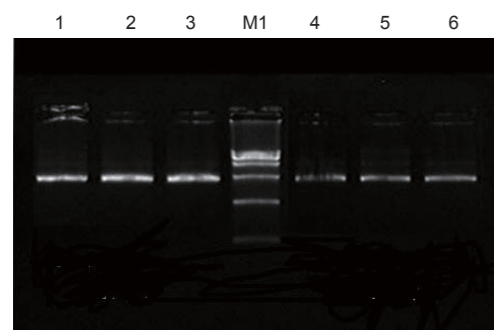
For rapid purification of up to 20 µg plasmid DNA

- **Fast Process**— Complete 24 preps within 24 minutes
- **High Purity**— >90% removal of contaminants and inhibitors
- **High Capacity**— Up to 20 µg DNA prep
- **High Recovery**— Up to 99 % recovery of plasmid DNA

As an upgrade of QuickClean 5M Plasmid Miniprep Kit, QuickClean II Plasmid Miniprep Kit is an ideal tool for rapid

mini-purification of molecular biology-grade plasmid DNA. From only 1-5 ml of overnight bacterial culture, yield of up to 20 µg of purified plasmid DNA, free of RNA, proteins, and other contaminants, can be obtained for routine applications, such as DNA sequencing, PCR, restriction enzyme digestion, ligation and transformation, and, *in vitro* translation, etc.

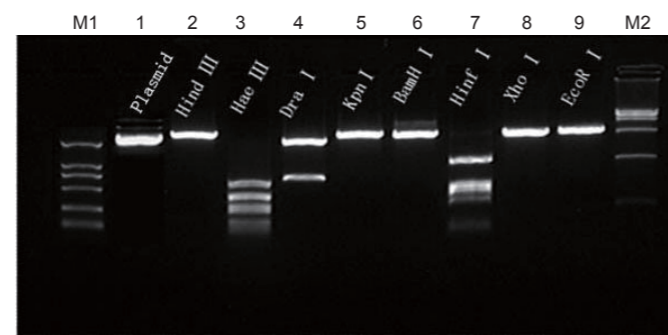
### Plasmid DNA preparation from *E. coli* bearing high copy number plasmid.



The QuickClean II Plasmid Miniprep Kit is compared to a commercially available kit (Competitor A) for rapid plasmid purification from *E. coli* bearing high copy number plasmids. Both kits were used in compliance with the protocols provided by the manufacturers. The results are shown in Figure 1.

M1: DL15,000 DNA Marker (Takara)  
Lanes 1-3: Plasmid purified by kit from GenScript  
Lanes 4-6: Plasmid purified by kit from Competitor A

### Restriction digestion analysis



M1: DL2,000 DNA Marker (Takara)  
M2: DL15,000 DNA Marker (Takara)  
Lane 1: Control  
Lanes 2 to 9: Hind III, Hae III, Dra I, Kpn I, BamH I, Hinf I, Xho I, EcoR I digests

### Product Overview:

Product	Quantity	Cat. No.
QuickClean II Plasmid Miniprep Kit	50 rxns	L00420-50
	100 rxns	L00420-100

## QuickClean 96-well Plasmid Miniprep Kit

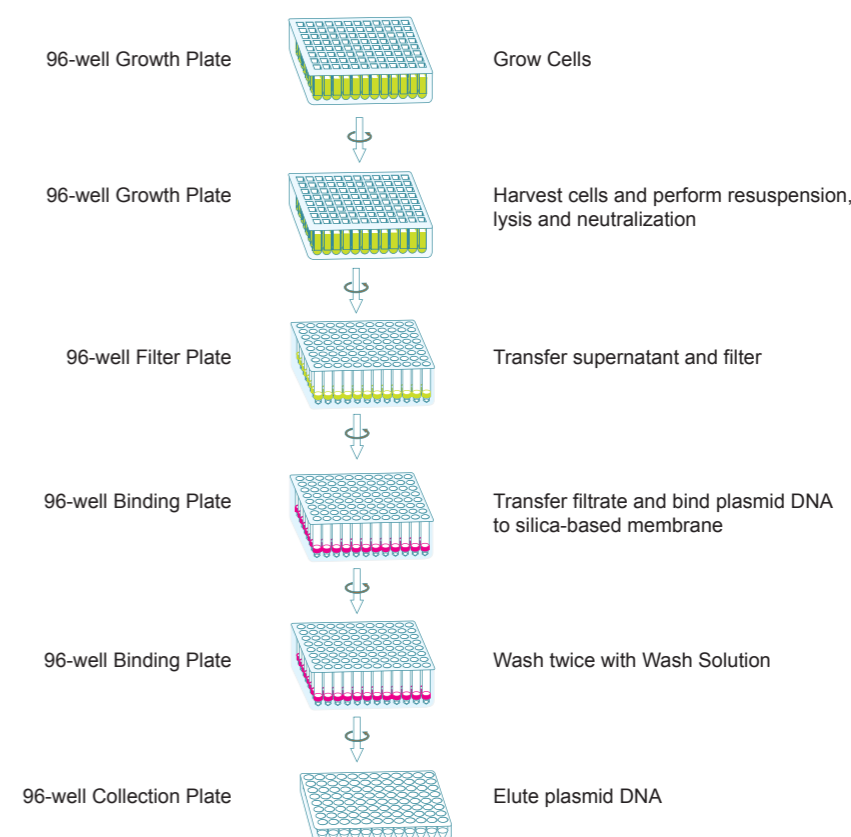
For purification of up to 20 µg plasmid DNA in a 96-well format

- High yields of high-purity plasmid DNA
- Processing flexibility with multi-format protocols
- Improved plate design and easy-to-use protocol

The QuickClean 96-well Plasmid Miniprep Kit combines advanced silica plate extraction chemistry with an optimized 96-well plate design for manual or automated processing of plasmid DNA from *E. coli* in as little as 60 minutes. The kit uses two 96-well plates, a filter plate, and a binding plate to purify

plasmid DNA. The bacterial lysate is then applied to the QuickClean Filter Plate and collected in the QuickClean Binding Plate where the plasmid DNA binds to the silica membrane. After washing steps to remove any contaminants, high-purity DNA is eluted and ready for use in downstream applications, including sequencing, restriction enzyme digestion, cloning and PCR.

### From *E. coli* culture to high-purity plasmid DNA in 60 minutes



### Product Overview:

Product	Quantity	Cat. No.
QuickClean 96-well Plasmid Miniprep Kit	384 Preps	L00237

For more information on plasmid DNA purification, visit [http://www.genscript.com/dna\\_purification.html](http://www.genscript.com/dna_purification.html)

# PCR Purification

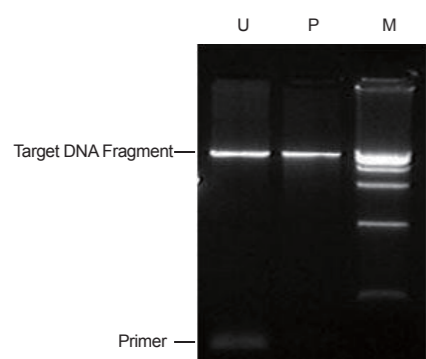
## QuickClean II PCR Extraction Kit

Get >95% recovery every time with high purity

- **Easy to Perform**— Simple and rapid procedure to purify DNA in six minutes
- **High Capacity**— Up to 20 µg DNA each column
- **High Purity**— Purified DNA fragments are free of non-nucleic acid contaminants and inhibitors, such as agarose, proteins, salts, and ethidium bromide
- **High Recovery**— Up to 97% recovery of 100 bp to 10 kb DNA fragments; Up to 95% recovery of 100 bp or shorter DNA fragments

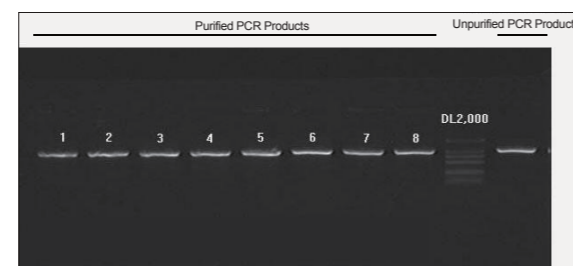
QuickClean II PCR Extraction Kit offers all of the necessary reagents and high-quality spin columns for the efficient and rapid removal of primers, enzymes, salts, and other contaminants from PCR reactions, with up to 20 µg of single- or double-stranded DNA recovered in six minutes. PCR fragments from 60 bp to 10 kb are bound onto the QuickClean column, while impurities such as proteins, nucleotides, short oligonucleotides, dyes and salts, are washed away. The purified PCR products are suitable for routine downstream molecular biological experiments such as cloning, sequencing, and restriction enzyme digestion.

### Purification of a 10 kb PCR product using QuickClean II PCR Extraction Kit

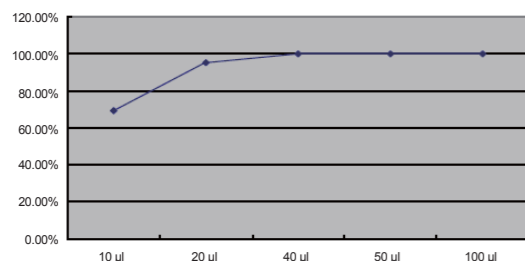


Lane U: Unpurified PCR products (10 kb)  
Lane P: Purified PCR products  
M: DL15,000 DNA Marker (Takara)

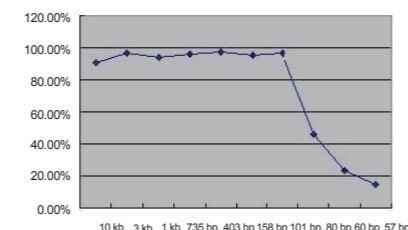
### Consistent high recovery of PCR DNA using GenScript QuickClean II PCR Extraction Kit: Comparing 8 purification results from the same PCR mixture.



### Elution volume versus DNA yield for the purification of a 10 kb target DNA fragment



### High recovery of PCR DNA. Purification recovery: Up to 97% 100 bp to 10 kb DNA fragment, and up to 95% 100 bp or shorter DNA fragments.



### Product Overview:

Product	Quantity	Cat. No.
QuickClean II PCR Purification Kit	50 rxns	L00419-50
	100 rxns	L00419-100
QuickClean 96-well PCR Purification Kit	384 Preps	L00238

For more information on PCR purification, visit [http://www.genscript.com/dna\\_purification.html](http://www.genscript.com/dna_purification.html)

# Gel Extraction

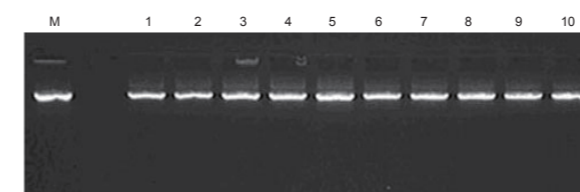
## QuickClean II Gel Extraction Kit

Recover up to 99% DNA

- **Easy to Perform**— Simple and rapid procedure for extracting DNA of up to 23 kb from standard or high/low-melt agarose gels in TAE or TBE buffers
- **High Binding Capacity**— Maximum 400 mg gel slice per spin column
- **High Recovery**— Up to 99% recovery of 0.1 to 10 kb double strand DNA
- **High Purity**— Purified PCR amplified DNA, free of amplification primers, primer dimers, and non-nucleic acid contaminants and inhibitors, such as agarose, proteins, salts, and ethidium bromide

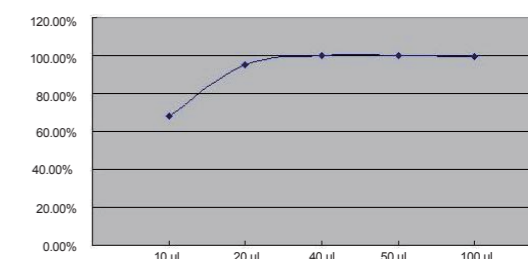
QuickClean II Gel Extraction Kit provides high-quality spin columns and improved buffers for a simple, rapid, and highly effective method for DNA extraction and purification from agarose gel in TAE or TBE buffers. The kit has an increasing recovery of DNA fragments from 60 bp to 23 kb. DNA fragments are purified from up to 3% standard or high/low-melt agarose gel using spin columns in only 8 minutes. The extracted DNA can be used directly for various downstream molecular biology applications, such as cloning, sequencing, restriction enzyme digestion, and DNA ligation.

### A 1007 bp PCR product extracted from agarose gel using QuickClean II Gel Extraction Kit. The recovery is about 95% by gel analysis.



M: PCR reaction of a 1007 bp DNA before gel extraction  
Lanes 1 to 10: Purified DNA after extraction by QuickClean II gel extraction kit

### A 1007 bp PCR product extracted from agarose gel using QuickClean II Gel Extraction Kit. The recovery is about 95% by gel analysis.



### Product Overview:

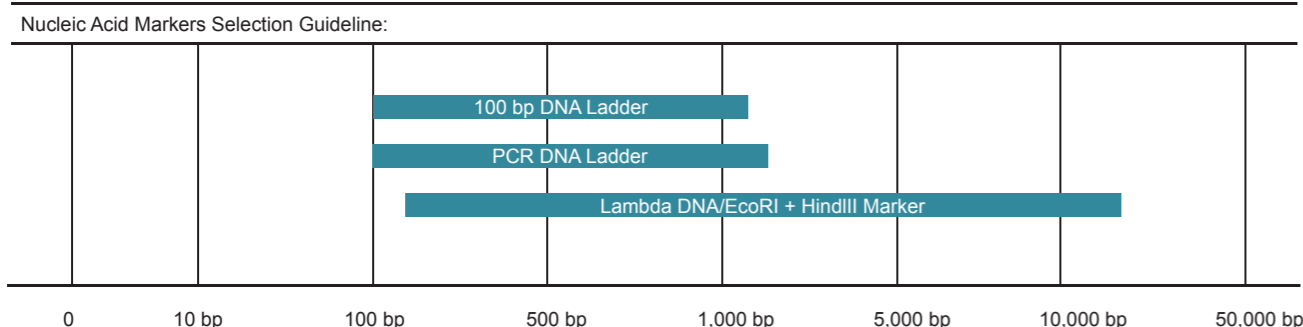
Product	Quantity	Cat. No.
QuickClean II Gel Purification Kit	50 rxns	L00418-50
	100 rxns	L00418-100

For more information on Gel purification, visit [http://www.genscript.com/gel\\_extraction.html](http://www.genscript.com/gel_extraction.html)

# Nucleic Acid Markers

GenScript provides a wide selection of nucleic acid markers ranging from 100 bp to 23 kb for accurately separating bands and estimating the size and quantity of DNA. A variety of these markers are also available in the ready-to-use format. There is no need to heat, mix, or dilute these markers prior to loading

them on your gel. GenScript offers 3 unique nucleic acid markers for a wide variety of size ranges, applications, and formats. The key to accurate band analysis is to use the correct markers for your particular application. Use the following table to help you choose the one you need.



## DNA Ladders

### Original formats

DNA Ladders are nucleic acid fragments of specific base pair length designed for sizing linear double-stranded or single-stranded DNA fragments. The 100 bp DNA ladder provides accurate sizing of small fragments of nucleic acid from

100 to 1,500 base pairs. The bands appear crisp and clear, making it easy to identify the proper size of your fragments.

### Product Overview:

Product	Quantity	Cat. No.
100 bp DNA Ladder	100 Lanes	M102O-100
	500 Lanes	M102O-500
PCR DNA Ladder	100 Lanes	M106O-100
	500 Lanes	M106O-500

## Ready-to-Use™ DNA Ladders

### Formats for ultimate convenience

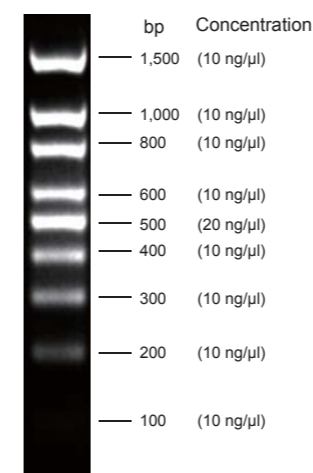
- **Convenience**— No need to heat, mix or dilute.
- **Room temperature storage**
- **Ready-to-use format**

GenScript's Ready-to-Use™ DNA Ladders minimize time spent in thawing, diluting, and adding sample buffer to your DNA ladders. Simply transfer your Ready-to-Use DNA Ladder from the vial to the gel. These ladders are stable at room temperature and can be stored on your bench top.

### Product Overview:

Product	Quantity	Cat. No.
Ready-to-Use™ 100 bp DNA Ladder	100 Lanes	M102R-100
	500 Lanes	M102R-500
Ready-to-Use™ PCR DNA Ladder	100 Lanes	M106R-100
	500 Lanes	M106R-500
Lambda DNA/HindIII Marker - ready-to-use™	100 Lanes	MM1212-100
	500 Lanes	MM1212-500

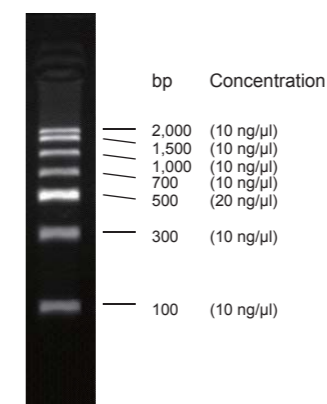
### 100 bp DNA Ladder



2.0% agarose gel

500 ng/5 μl in 10 mM Tris-HCl (pH 7.5), 1 mM EDTA. For Ready-to-Use™ format, 1X loading buffer has been added to the marker, and the marker is ready for loading to the gel.

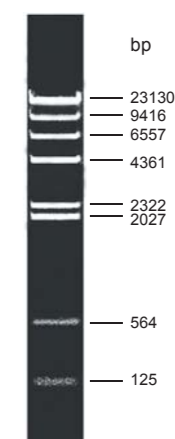
### PCR DNA Ladder



2.0% agarose gel

400 ng/5 μl in 10 mM Tris-HCl (pH 7.5), 1 mM EDTA. For Ready-to-Use™ format, 1X loading buffer has been added to the marker, and the marker is ready for loading to the gel.

### Lambda DNA/HindIII Marker



0.7% agarose gel

83 ng/μl in 10 mM Tris-HCl (pH 7.5), 1 mM EDTA and with 1X loading dye solution

## Custom Plasmid Preparation Services

GenScript's plasmid DNA preparation services cover individual constructs for research labs as well as large scale manufacturing for biotech suppliers and pharmaceutical companies. GenScript's high quality plasmids will help you achieve highly efficient cell transfection, DNA vaccination, antibody production, and other preclinical studies.

GenScript has upgraded its plasmid preparation platform. We are currently offering SC Grade and Advanced SC Grade (Supercoiled content  $\geq 95\%$ , with enzyme-free and animal-free process) plasmids along with routine Research Grade plasmid production to satisfy customers' variable needs.

- Flexible scale of up to gram level. Starting from \$50.00 for a MidiPrep (100  $\mu\text{g}$ )
- Completely enzyme-free and animal-free process for SC Grade and Advanced SC Grade plasmids' production
- Reproducible quality of plasmid DNA by archiving in CloneArch™ Clone Storage and Management Center
- Stringent and comprehensive quality control—at least seven items, including appearance, A260/280, supercoiled content, residual RNA, genomic DNA, concentrations, restriction analysis, and endotoxin level (upon request)
- Fast delivery time

### Services List

Quality Grades	Features	Typical Applications
Research Grade	Predominantly Supercoiled	Typical molecular biology research
SC Grade	$\geq 95\%$ Supercoiled $\leq 0.03$ EU/ $\mu\text{g}$ Endotoxin	<ul style="list-style-type: none"> <li>• Recommended for effective transfection and co-transfection</li> <li>• Antibody production</li> <li>• Protein manufacturing</li> <li>• Animal studies</li> <li>• Gene vaccine and gene therapy studies</li> </ul>
Advanced SC Grade	$\geq 95\%$ Supercoiled $\leq 0.005$ EU/ $\mu\text{g}$ Endotoxin	<ul style="list-style-type: none"> <li>• Highly effective transfection and co-transfection</li> <li>• Antibody production</li> <li>• Protein manufacturing</li> <li>• Animal studies</li> <li>• Gene vaccine and gene therapy studies</li> </ul>

### Sample Submission Requirements

- Plasmid DNA template of  $>1$   $\mu\text{g}$  with a concentration of  $>100$  ng/ $\mu\text{l}$ .
- Dissolved in water, TE buffer or dry in 1.5/0.5 ml centrifuge tube.
- Bacteria stock and plasmid DNA that is dry on paper are acceptable but not recommended.

### Quotations and Ordering

Quotations and orders may be placed by email, phone, or fax with either a formal PO (Purchase Order) or credit card. Please choose the most convenient ordering method.

 <b>Quotation Form:</b> <a href="https://www.genscript.com/ssl-bin/quote_gene_synthesis">https://www.genscript.com/ssl-bin/quote_gene_synthesis</a>
 <b>Email:</b> <a href="mailto:gene@genscript.com">gene@genscript.com</a>
 <b>Phone:</b> 1-877-436-7274 (Toll-Free); 1-732-885-9188
 <b>Fax:</b> 1-732-210-0262; 1-732-885-5878
 <b>Secured Web Server:</b> <a href="https://www.genscript.com/ssl-bin/secure_data">https://www.genscript.com/ssl-bin/secure_data</a>

 For more information on custom plasmid preparation services, visit [http://www.genscript.com/custom\\_plasmid\\_preparation.html](http://www.genscript.com/custom_plasmid_preparation.html)

## Product List

Product	Quantity	Cat. No.
QuickClean II Plasmid Miniprep Kit	50 rxns	L00420-50
	100 rxns	L00420-100
QuickClean 96-well Plasmid Miniprep Kit	384 Preps	L00237
QuickClean II PCR Extraction Kit	50 rxns	L00419-50
	100 rxns	L00419-100
QuickClean 96-Well PCR Purification Kit	384 Preps	L00238
QuickClean II Gel Extraction Kit	50 rxns	L00418-50
	100 rxns	L00418-100
Ready-to-Use™ 100 bp DNA Ladder	100 Lanes	M102R-100
	500 Lanes	M102R-500
Ready-to-Use™ PCR DNA Ladder	100 Lanes	M106R-100
	500 Lanes	M106R-500
Lambda DNA/HindIII Marker - ready-to-use™	100 Lanes	MM1212-100
	500 Lanes	MM1212-500
100 bp DNA Ladder	100 Lanes	M102O-100
	500 Lanes	M102O-500
PCR DNA Ladder	100 Lanes	M106O
	500 Lanes	M106O
6X Loading Buffer with Agarose Gel Loading Dye (with ficoll)	5 ml	D0084
6X Loading Buffer with Agarose Gel Loading Dye	5 ml	D0109-5
6X Loading Buffer with GelRed	300 $\mu\text{l}$	M00120
Human Genomic DNA	100 $\mu\text{g}$	M00094



## Chapter 2 PCR and Cloning

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# Green PCR

The environmentally friendly PCR reagents for your success

- Stable at room temperature
- Enhanced yields with longer enzyme half-life
- No refrigeration required; Save energy

GenScript's advanced high-stability technology has led to the invention of the new generation of PCR reagents—Green PCR reagents. The Green series of reagents, including the proprietary *Taq*, dNTP, to PCR master mix, are stable at room

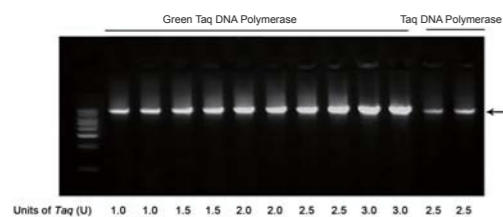
temperature for one month or at 4°C for over six months. The high-stability feature increases the half-life of the active enzymes, therefore more amplification cycles are carried out and higher yields are generated. With no freeze-thaw cycles, Green PCR reagents provide you instant access to high-throughput PCR automation. In addition, GenScript's Green PCR reagents can help preserve energy during storage and shipping.

## Green *Taq* DNA Polymerase

- Improved specificity and PCR yield.
- Room temperature reaction assembly
- Stable for 1 month at room temperature or 6 months at 4°C

Green *Taq* DNA Polymerase has terminal transferase activity that results in the addition of a single nucleotide (adenosine) at 3'-end of the extension product. This enzyme also has a longer enzyme half-life and therefore increases the PCR yields when amplifying long DNA fragments.

The Green *Taq* DNA Polymerase provides high yield and specificity when amplifying long DNA fragment.

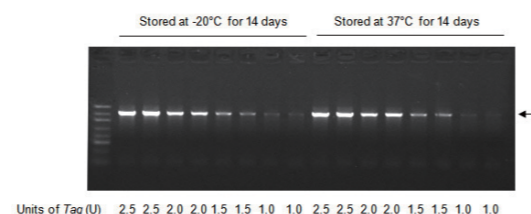


A 8 kb λDNA fragment was amplified with both *Taq* DNA Polymerase and Green *Taq* DNA Polymerase. For amplification of long DNA fragment, where longer elongation time is needed (in this case, the elongation time was three minutes), the Green *Taq* DNA polymerase has a longer enzyme half-life and therefore increases the PCR yield significantly.

### Product Overview:

Product	Quantity	Cat. No.
Green <i>Taq</i> DNA Polymerase	1,000 U	E00043

The Green *Taq* DNA Polymerase can be stored at 37°C for 14 days without loss of activity.



A 2 kb 23S rRNA fragment from *E. coli* genomic DNA was amplified using Green *Taq* DNA Polymerase stored at -20°C and 37°C, respectively.

## High Stability PCR Kit

GenScript's High-Stability PCR Kit contains Green *Taq* DNA Polymerase, 10X PCR buffer, and 10 mM dNTP, all specially formulated for higher stability using our proprietary technology. The kit can be stored at 4°C for over six months or at room temperature (25°C) for one month without significant loss of activity. The stabilizers in the buffer also increase the

stability of *Taq* DNA Polymerase at higher temperature (72°C), increasing the PCR yield of long DNA amplification. This kit facilitates quick and easy PCR setup without any need for thawing. This kit can be used in high-throughput assays in which all the PCR reagents need to be ready and stable for PCR setup at any time.

### Product Overview:

Product	Quantity	Cat. No.
High-Stability PCR Kit	200 rxns	L00342
Stabilized dNTP Mix, 10 mM each	0.5 ml	C01689

For more information on Green PCR, visit [http://www.genscript.com/green\\_pcr\\_reagents.html](http://www.genscript.com/green_pcr_reagents.html)

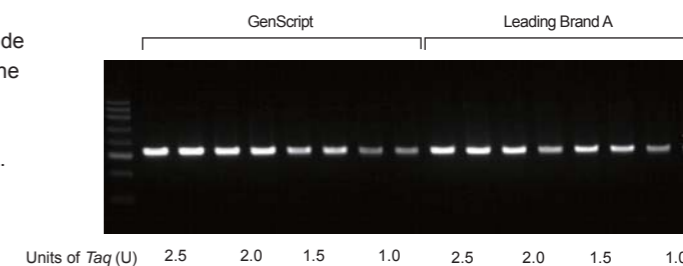
## Routine PCR

Reliable and affordable PCR reagents for routine PCR

## *Taq* DNA Polymerase

*Taq* DNA Polymerase is a thermostable DNA Polymerase isolated from an *E. coli* strain that carries the *Taq* DNA polymerase gene. The enzyme consists of a single polypeptide with a molecular weight of 94 kDa. *Taq* DNA polymerase is the most common polymerase used for PCR. GenScript's best-selling *Taq* DNA polymerase offers your a cost-effective solution (6¢/unit) to routine PCR with the satisfactory results.

### *Taq* DNA Polymerase PCR performance



A 500 bp λDNA fragment was amplified with *Taq* DNA Polymerase from different brands.

### Product Overview:

Product	Quantity	Cat. No.
<i>Taq</i> DNA Polymerase	1,000 U	E00007-1000
<i>Taq</i> DNA Polymerase	50,000 U	E00007-50000
<i>Taq</i> DNA Polymerase without Mg <sup>2+</sup>	1,000 U	E00008
<i>Taq</i> DNA Polymerase, concentrated	2,500 U	E00012
<i>Taq</i> and dNTP: 1,000 U of <i>Taq</i> (E00007); 0.5 ml of 10 mM dNTP (D0056)	1 Kit	E00101

## 2X Taq Master Mix

Fast and convenient PCR reaction set-up

2X Taq Master Mix is an optimized solution containing ready-to-use Taq DNA polymerase, salts, magnesium, and dNTPs for efficient PCR amplification. All you have to do is to add template and primers, significantly reducing setup time. The Master Mix is optimized for consistent and efficient routine

PCR amplification. It can amplify up to 4 kb from complex genomic DNA or 8 kb from λDNA. For a 50 µl reaction, simply add 25 µl of 2X Taq Master Mix to primers, DNA template and PCR-grade H<sub>2</sub>O.

### Product Overview:

Product	Quantity	Cat. No.
2X Taq Master Mix	100 rxns	E00019

For more information on Routine PCR, visit <http://www.genscript.com/pcr.html>

### PCR Related Products:

Product	Quantity	Cat. No.
dATP (100 mM) ≥99% HPLC	1 ml	C01577-1
	10 ml	C01577-10
	50 ml	C01577-50
	250 ml	C01577-250
dGTP (100 mM) ≥99% HPLC	1 ml	C01578-1
	10 ml	C01578-10
	50 ml	C01578-50
	250 ml	C01578-250
dCTP (100 mM) ≥99% HPLC	1 ml	C01579-1
	10 ml	C01579-10
	50 ml	C01579-50
	250 ml	C01579-250
dTTP (100 mM) ≥99% HPLC	1 ml	C01580-1
	10 ml	C01580-10
	50 ml	C01580-50
	250 ml	C01580-250
dNTP (25 mM each) ≥99% HPLC	1 ml	C01581-1
	10 ml	C01581-10
	50 ml	C01581-50
	250 ml	C01581-250
dNTP (10 mM each) ≥99% HPLC	1 ml	C01582-1
	10 ml	C01582-10
	50 ml	C01582-50
	250 ml	C01582-250
Stabilized dNTP Mix, 10 mM each	0.5 ml	C01689
dNTP mixture, 10 mM each	0.5 ml	D0056

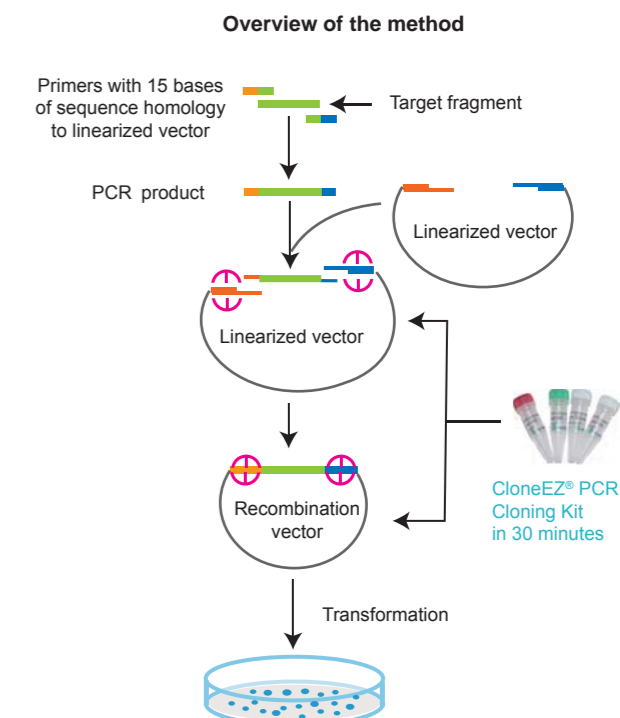
## PCR Cloning

### CloneEZ® PCR Cloning Kit

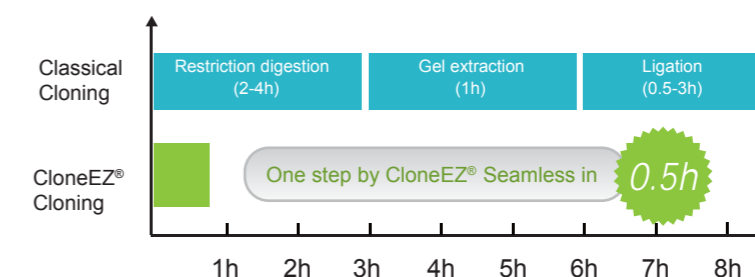
No more restriction site headaches

- **Universal**— Clone any insert into any location within any vector you choose.
- **Fast and Easy**— 30 minutes, one-step incubation at room temperature.
- **High Efficiency**— Success rate over 95%.
- **Compatibility**— The kit is highly compatible with high-throughput PCR cloning.

GenScript's proprietary CloneEZ® seamless cloning technology is a cutting-edge, recombination-based cloning technology that can accurately and efficiently assemble genes and gene fragments in any combination of sequences. The CloneEZ® PCR Cloning Kit is designed for the quick cloning of PCR products without any headaches of restriction sites. The universal CloneEZ® cloning method works with any insert and any vector at any restriction site. Using our proprietary CloneEZ® enzyme, this kit rapidly generates precise, directional constructs in 30-minute at room temperature.



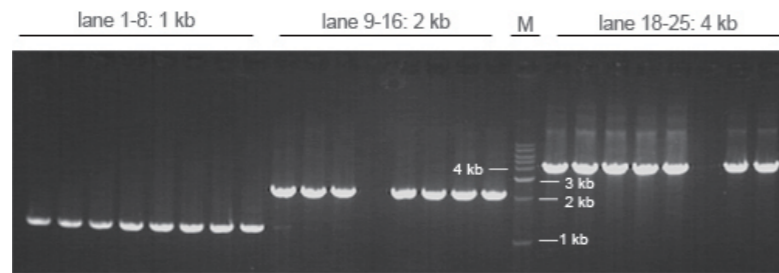
CloneEZ® PCR Cloning Kit can cut down PCR cloning procedure to 30 min from traditional 3.5 hours, with one-step procedure instead of multiple steps.



Shown below is number and percentage of positive clones obtained with CloneEZ® PCR Cloning Kit.

	1 kb	2 kb	4 kb
Number of positive clones	~1200	~800	221
Recombinant rate (%)	100%	95%	93%

PCR screening result of positive clones obtained with the CloneEZ® PCR Cloning Kit.



Product Overview:

Product	Quantity	Cat. No.
CloneEZ® PCR Cloning Kit	24 rxns	L00339

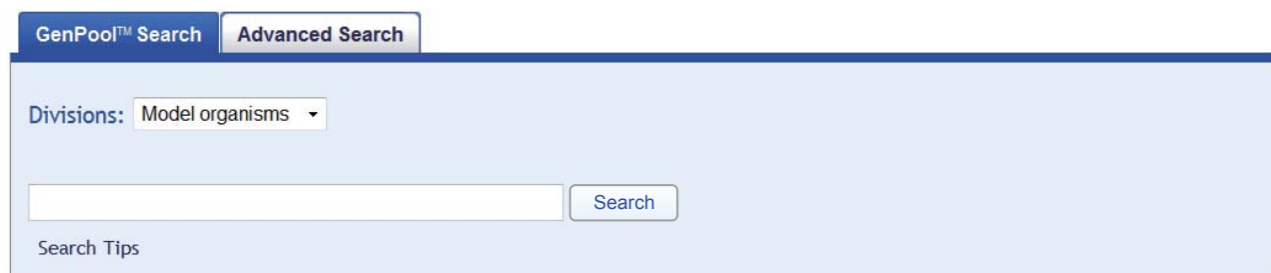
For more information on PCR Cloning Kit, visit [http://www.genscript.com/cloneez\\_pcr\\_cloning\\_kit.html](http://www.genscript.com/cloneez_pcr_cloning_kit.html)

## GenPool™ ORF Clones

- **Comprehensive selection**— Over 2 million ORF clones and predesigned siRNA collections
- **Convenient**— Delivered as the transfection-ready plasmid DNA
- **Cost-effective solution**—Starting at as low as \$149/clone for mutant clones

GenScript's GenPool™ ORF clones database currently hosts 2,428,863 ORF clones from 186 different species and provides various convenient search options. Such ORF cloning provides easy and quick means to turn DNA sequences into expression-ready clones.

Customer can search and retrieve ORF information from GenPool™ ORF clones database at <http://www.genscript.com/genpool.html>

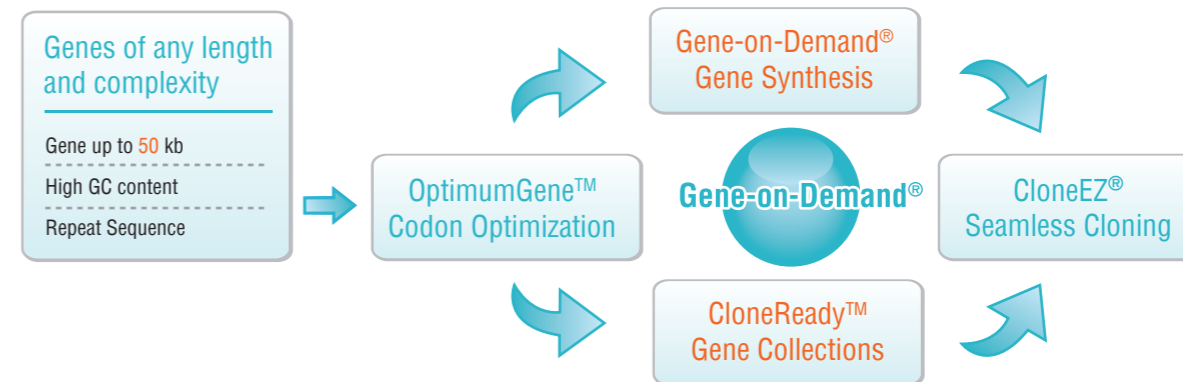


For more information on GenPool™ ORF clones, visit <http://www.genscript.com/genpool.html>

## Custom Molecular Biology Services

GenScript provides a comprehensive repertoire of molecular biology services, ranging from gene cloning and characterization to advanced genetic engineering and mutant libraries. We have delivered over 500,000 synthetic genes and constructs with the most complex and difficult traits through our Gene-on-Demand® *de novo* synthesis platform. Our proprietary

CloneEZ® seamless cloning technology is capable of placing any gene in any vector independent of restriction and ligation, seamlessly. Our CloneArch™ clone storage and management system provides our customers with worry-free clone storage and a portal to all molecular biology, simply one-click away.



### Services List

#### Gene Synthesis

GenScript's Gene-on-Demand® service offers synthesis of any gene. Our patented OptimumGene™ codon optimization technology can optimize your gene sequence, allowing it to reach the highest possible level of gene expression and protein solubility. Our prices are 30% less expensive than those of our competitors. Our recently launched Express Gene Synthesis delivers synthetic genes in as little as 5 business days. Our pioneer Gene-Brick™ synthesis service delivers 8-13 Kb full-length, synthetic DNA fragments with 100% guaranteed sequence accuracy.

#### Mutagenesis

Mutagenesis is one economical alternative to *de novo* gene synthesis. GenScript offers cost-effective mutagenesis as a complement to its gene synthesis service package.

#### PCR Cloning and Subcloning

GenScript provides PCR cloning and subcloning services. This package is highly flexible and can be tailored to any specific set of project requirements. Our proprietary CloneEZ® seamless cloning technology allows direct fusion of any DNA sequence in one 30-minute procedure.

#### Plasmid Preparation

Our services include industry-scale plasmid production, batch tube aliquoting, labeling, packaging, and step-by-step total QC management. GenScript currently offers Research Grade and SC Grade (Supercoiled content ≥ 95%, with enzyme-free and animal-free process) plasmids. High quality plasmids under GLP conditions are available to satisfy customers' variable needs.

#### CloneArch™ Clone Storage and Management Center

CloneArch™ is a worry-free clone storage and management system. It prevents unnecessary clone loss, preserving

precious time that can be reinvested in more productive biological research and drug development projects.

#### Custom Oligo

GenScript provides affordable custom DNA and RNA oligos with comprehensive modifications and labeling to meet research needs in biology, diagnostics, and drug discovery. We specialize in oligonucleotides labeled by fluorescent or non-fluorescent dyes, quencher pairs, or electrochemicals for qualitative and quantitative detection.

#### DNA Sequencing Service

GenScript DNA sequencing services in North America offer our customers high speed and superior quality services. Sanger DNA sequencing services are performed by our professionally trained staff on our state-of-the-art instrument and analyzed with advanced bioinformatics tools.

#### Mutant Libraries (Protein Engineering)

GenScript's strong expertise in *de novo* gene synthesis allows us to synthesize complex protein libraries without any dramatic increase in cost. Our mutant library services include site-directed mutagenesis libraries, sequential permutation scanning libraries, and randomized and degenerated libraries.

#### CloneReady™ Gene Collections

GenScript CloneReady™ Gene Collections contain over 100,000 popular genes for human, mouse, and other species which cover comprehensive native full-length, sequenced cDNA clones from both public and proprietary sources. GenScript offers free clones up to 3 kb with your downstream molecular biology orders.



**Vector-based siRNA and miRNA**

GenScript offers cost-effective vector-based RNAi services stand on their Tet-on and inducible expression vectors with our acclaimed 2<sup>nd</sup> generation design tools.

**Large-scale DNA Sequencing**

With years of experience, GenScript offers quick, high-quality, and cost-effective DNA sequencing services. We perform all sequencing services in a GLP-compliant laboratory environment.

**Competitive Advantages****Advanced Gene Design Algorithms (OptimumGene™)**

GenScript's proprietary gene design technologies can significantly improve the expression level of target proteins. Our advanced optimization takes the entire mRNA structure into consideration as opposed to traditional optimization methodologies which only consider the codon usage frequency and the structure of mRNA partially. The patent-pending OptimumGene™ Gene Design Technology can increase the protein expression level up to 30-fold, provided that the protein expression and purification methods are appropriate.

**CloneEZ® Seamless Cloning Technology**

This new-generation, recombination-based cloning technology can accurately and efficiently assemble genes and gene fragments in any combination of sequences.

We have processed hundreds of thousands of samples, and have the capacity to sequence thousands of samples per day.

**KI/KO Vector Construction**

Record-proven expertise and experience enables GenScript to efficiently and reliably deliver traditional (or conditional) KI/KO constructs and other types of custom vectors for genetic engineering. Typical turnaround time is less than four weeks.

**State-of-the-art Facilities**

GenScript is equipped with advanced bioscience facilities with a working area of about 20,000 square feet.

**Comprehensive Package**

We also offer mutagenesis, protein expression and purification, and plasmid preparation. Our full complements of upstream and downstream services provide our clients with a one-stop source for all their laboratory needs.

**Experienced Team**

We have synthesized more than 500,000 genes and constructs *de novo*. Our record length for gene synthesis is over 50,000 bp. We routinely synthesize long constructs (>10 kb), complex genes, and genes with extremely high or low GC content, repetitive sequences, and strong secondary structures.

**Quotations and Ordering**

Quotations and orders may be placed by email, phone, or fax with either a formal PO (Purchase Order) or credit card. Please choose the most convenient ordering method.



**Quotation Form:** [https://www.genscript.com/ssl-bin/quote\\_gene\\_synthesis](https://www.genscript.com/ssl-bin/quote_gene_synthesis)



**Email:** [gene@genscript.com](mailto:gene@genscript.com)



**Phone:** 1-877-436-7274 (Toll-Free); 1-732-885-9188



**Fax:** 1-732-210-0262; 1-732-885-5878



**Secured Web Server:** [https://www.genscript.com/ssl-bin/secure\\_data](https://www.genscript.com/ssl-bin/secure_data)

For more information on Molecular Biology Services, visit [http://www.genscript.com/molecular\\_biology\\_service.html](http://www.genscript.com/molecular_biology_service.html)

**Product List**

Product	Quantity	Cat. No.
Green <i>Taq</i> DNA Polymerase	1,000 U	E00043
High-Stability PCR Kit	200 rxns	L00342-1000
<i>Taq</i> DNA Polymerase	1,000 U	E00007-50000
	50,000 U	E00007
<i>Taq</i> DNA Polymerase without Mg <sup>2+</sup>	1,000 U	E00008
<i>Taq</i> DNA Polymerase, concentrated	2,500 U	E00012
<i>Taq</i> and dNTP: 1,000 U of <i>Taq</i> (E00007); 0.5 ml of 10 mM dNTP (D0056)	1 Kit	E00101
2X <i>Taq</i> Master Mix	100 rxns	E00019
CloneEZ® PCR Cloning Kit	24 rxns	L00339
Stabilized dNTP Mix, 10 mM each	0.5 ml	C01689
dNTP mixture, 10 mM each	0.5 ml	D0056
dATP (100 mM) >98% HPLC	1 ml	C01577*
dGTP (100 mM) >98% HPLC	1 ml	C01578*
dCTP (100 mM) >98% HPLC	1 ml	C01579*
dTTP (100 mM) >98% HPLC	1 ml	C01580*
dNTP (25 mM) >98% HPLC	1 ml	C01581*
dNTP (10 mM) >98% HPLC	1 ml	C01582*

\*These products are also available in larger package sizes.



## Chapter 3 Protein Analysis

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# Overview

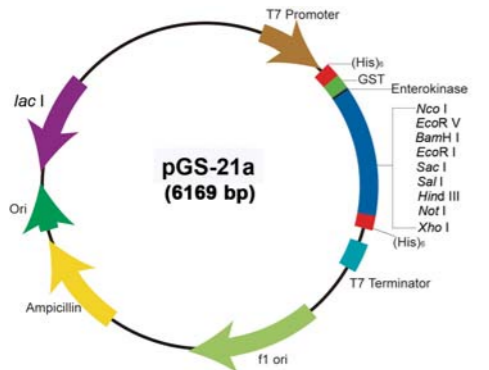
Active and purified proteins play crucial roles in nearly all biological processes, especially in the fields of functional and structural analysis, assay development, and drug candidate discovery. With GenScript's expertise and years of experience, you will have a trusted and committed provider who offers a direct path to your successful protein research projects with a

broad spectrum of protein products, These include protein expression vectors, protein isolation & purification resins and magnetic beads, Express™ PAGE gels, protein markers, eStain® 2.0 Protein Staining System, ONE-HOUR Western™ detection kits, and a wide selection of catalog proteins.

## Protein Expression

### Protein Expression Vectors

GenScript offers four unique expression vectors with enhanced promoters for efficient expression, selection, and analysis of recombinant proteins.



**T7 Promoter**  
 T AAT ACC ACT GAC TAT AGG GGA ATT GTG AGC GGA TAA CAA TTC CCC TCT AGA AAT AAT TTT GTT

**lacI**  
 TAA CTT TAA GAA GGA GAT ATA CAT ATG TCT GGT TCT CAT CAT CAT CAT CAT AGC AGC GGT

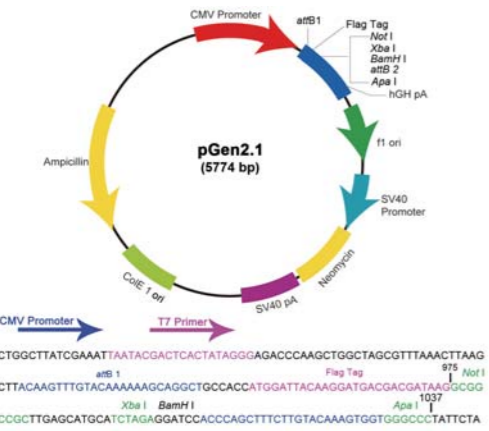
**Forward Sequencing Primer**  
 TAA CTT TAA GAA GGA GAT ATA CAT ATG TCT GGT TCT CAT CAT CAT CAT CAT AGC AGC GGT

**His-tag**  
 ATG TCC CC...TCG GAT CTG GGC CAG ACA GGC CAT AGA TCT GGT ACC GAC GAC GAC GAC AAG

**Enterokinase**  
 Met Ser Ser Asp Leu Gly His Thr Gly His Arg Ser Gly Thr Asp Asp Asp Lys

**SP6 Primer**  
 GCT GCT GCC ACC GCT GAG CAA TAA CTA GCA TAA CCC CTT GGG GGC TCT AAA CGG GTC TTG

**T7 Terminator**  
 AGG GGT TTT TTG



**CMV Promoter**  
 CTGGCTTATCGAAATTAATACGACTCACTATAGGAGACCAAGCTGGCTAGCGTTAAACTTAAG

**attB1**  
 CTTACAAGTTTGTACAAAAAAGCAGGCTGCACCATGGATTACAAGGATGACGACGATAAGCGCGG

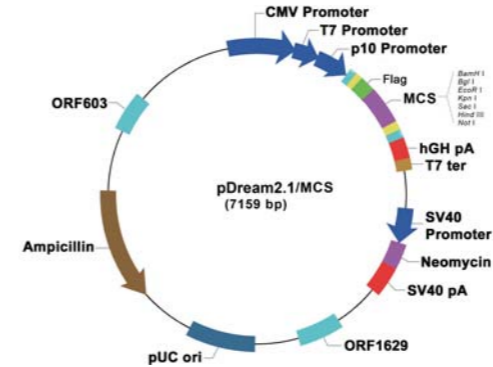
**Flag Tag**  
 CCCTTGGAGCATGCATCTAGAGGATCCACCCAGCTTTCTGTACAAAGTGGTGGGCCCTATTCTA

**attB2**  
 CCCTTGGAGCATGCATCTAGAGGATCCACCCAGCTTTCTGTACAAAGTGGTGGGCCCTATTCTA

**SP6 Primer**  
 GCT GCT GCC ACC GCT GAG CAA TAA CTA GCA TAA CCC CTT GGG GGC TCT AAA CGG GTC TTG

### pDream 2.1/MCS Expression Vector

The pDream 2.1/MCS is a widely used expression vector, which has seven restriction enzyme sites in the MCS. Any gene cloned into MCS can be expressed in three major protein expression systems: bacteria, insect cells, and mammalian cells.



**Flag Tag**  
 1804 TAT ACC ATG GAT TAC AAG GAT GAC GAC GAT AAG GGA TCC  
 Met Asp Tyr Lys Asp Asp Asp Asp Lys Gly Ser  
 ATA TGG TAC CTAATG TTC CTA CTG CTG CTA TTC CCT AGG

**BamHI**  
 1843 GAG ATC TGG AAT TCG GTA CCG AGC TCA AGC TTG CCG CCG  
 CTC TAG ACC TTA AGC CAT GGC TCG AGT TCG AAC GCC GGC  
 Glu Ile Trp Asn Ser Val Pro Ser Ser Ser Leu Arg Pro

**SP6 Primer**  
 1882 CCTATAGTGTACCTAAATCGTAACCCAGC  
 GGATATCACAGTGGATTAGCATTGGGTGC

### Product Overview:

Product	Quantity	Cat. No.
pDream2.1/MCS	10 µg	SD0222
pGen2.1	10 µg	SD0122
pGS-21a	10 µg	SD0121

For more information on protein expression vectors, visit <http://www.genscript.com/Vectors.html>

### pGS-21a Vector

The pGS-21a vector is designed for cloning, high-level expression, and convenient purification of proteins fused with both 6xHis and GST. Two 6xHis sequences are introduced into the vector for easy detection and purification of fused proteins. The first 6xHis is fused to GST which can be cleaved as a complete fused tag 6xHis-GST using enterokinase. The second 6xHis is used for detection and further purification after the cleavage of 6xHis-GST.

### pGen2.1 Vector

pGen2.1 is a human cytomegalovirus (CMV) promoter-based mammalian gene expression vector. and is one of the strongest promoters described. A target gene can be conveniently cloned into the pGen2.1 vector at the multiple cloning site (MCS). The target protein is expressed with a flag tag at the N-terminal. This vector also contains a selectable marker for mammalian cells, neomycin phosphotransferase gene, under a SV40 promoter. The pGen2.1 vector is used for either transient expression or stable expression in the presence of the antibiotic G418.

# Protein Isolation and Purification

## Affinity Chromatography Resins

Complete choices for easy, one-step protein purification

- Fast and simple procedures for batch or gravity-flow operation
- High binding capacity with ultra-low nonspecific binding
- Compatible with a variety of sample formats and buffer additives
- More cost-effective due to reusability

Among various protein purification technologies, affinity chromatography is the most important and powerful one because offers high selectivity, high resolution, and high capacity for target proteins. GenScript provides a variety of superior affinity purification resins for batch/gravity purification, allowing fast, efficient and reliable separation of proteins and antibodies from your crude samples ready for downstream applications (Table 1).

Table 1. Selection Guide of GenScript Affinity Chromatography Resins

Application	Product	Binding capacity	Size	Cat. No.
Antibody purification	Protein A Resin	>20 mg porcine IgG/ml settled resin	5 ml	L00210
	High-Affinity Antibody Purification Kit	>8 mg rabbit IgG/ml settled resin	1 kit	L00404
	Ultra Protein A Resin	30-40 mg hlgG/ml settled resin	5 ml	L00400
	Protein G Resin	>20 mg sheep IgG/ml settled resin	5 ml	L00209
	Protein L Resin	15 mg porcine Ig/ml settled resin	2.5 ml	L00239
His-tagged protein purification	High Affinity Ni-Charged Resin	>0 mg 6xHis-tagged protein (50 kDa)/ml settled resin	10 ml	L00223
GST fusion protein purification	Glutathione Resin	>6 mg horse liver GST (26 kDa)/ml settled resin	10 ml	L00206
	GST Fusion Protein Purification Kit	settled resin	1 kit	L00207
Purification of DYKDDDDK (FLAG® epitope) tagged protein	Anti-DYKDDDDK (FLAG®) Affinity Resin	1 mg DYKDDDDK-tagged protein per ml settled resin	5 ml	L00432
Purification of streptavidin, avidin or their conjugates	IminoBiotin Resin	>12 mg streptavidin/ml settled resin	5 ml	L00272
Purification of biotinylated protein, antibody, lectin etc	Streptavidin Resin	120 nmol D-Biotin/ml settled resin	5 ml	L00353
Immobilization of sulfhydryl-containing peptides	High-Affinity Iodoacetyl Resin	>8 mg rabbit IgG/ml settled resin	10 ml	L00403

FLAG® is a registered trademark of Sigma-Aldrich Co. LLC

## Protein A, G and L Resins

GenScript's Protein A, G and L Resins are high-performance affinity chromatography media for antibody purification from cell culture supernatants, serum, and ascites. The basis for antibody purification is the high affinity and specificity of protein A and G for the Fc-region of IgG from a variety of species, and also that of protein L for kappa light chain of IgG. GenScript Protein A, G and L Resins are based on recombinant Protein A, G and L expressed in *E. coli*. The non-essential regions of these proteins, such as albumin and cell-surface binding sites, respectively, have been removed, leaving all native IgG binding domains remain intact. When coupled to 4% highly cross-linked agarose, they provide greater recovery of the target antibody. With GenScript Protein A, G and L Resins, highly purified target antibodies can easily be obtained using standard batch or gravity-flow operation procedures (Figure 1). The protocol also can be scaled up or down to match specific purposes and sample volume requirements.

**GenScript's Protein A CIP Resin** (Cat. No. L00433) uses recombinant protein A as a ligand, which not only keeps the specific binding capacity, but also enhances chemical stability greatly under CIP conditions. The typical dynamic binding capacity (DBC) is more than 50 g human IgG/L settled resin, with no significant decrease of binding capacity after purification/CIP for 200 cycles. The Protein A CIP Resin has a low leakage of ligand (<15 ng/mg IgG) over a number of purification/CIP cycles. As a high quality antibody purification resin, it is highly suitable for large-scale antibody purification, and meets the purification requirements of industry-scale customers.

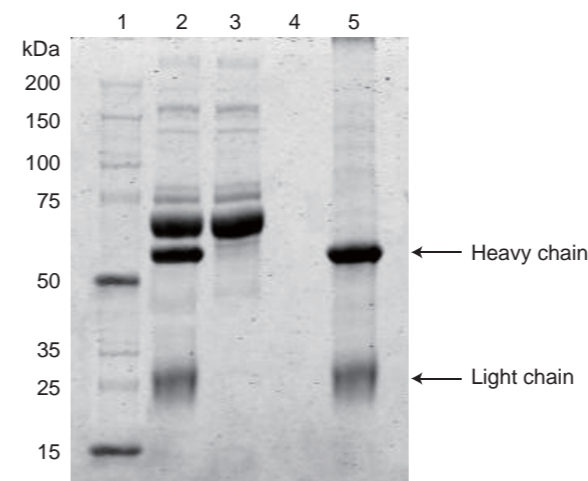


Figure 1. Affinity purification of rabbit IgG from rabbit serum, using GenScript Protein A Resin (L00210).  
Lane 1: Protein standards  
Lane 2: Rabbit serum  
Lane 3: Flow-through of serum  
Lane 4: Wash  
Lane 5: Eluted rabbit IgG (about 50 kDa and 25 kDa, respectively)

## Tagged Protein Purification Resins

GenScript supplies several types of high-quality affinity chromatography resins for the purification of recombinant tagged proteins.

**High Affinity Ni-Charged Resin** is a high performance Ni-NDA resin for the routine affinity purification of polyhistidine-tagged fusion proteins (Figure 2). This resin provides exceptional binding capacity with low Ni<sup>2+</sup> leakage and is compatible with a wide range of additives used in protein purification.

**Glutathione Resin** offers high binding capacity and is suitable for the purification of GST fusion proteins and other glutathione binding proteins expressed in *E. coli*, insect cells, and mammalian cells.

**Anti-DYKDDDDK (FLAG®) Affinity Resin** is 4% cross-linked agarose bead covalently linked to a purified murine IgG1 monoclonal antibody that binds DYKDDDDK sequence. It is designed for the purification of DYKDDDDK (FLAG® epitope) fusion proteins.

**Streptavidin Resin** is developed for single step purification of biotinylated macromolecules. It also can be applied for immunoprecipitation of specific antigens using biotin-labeled antibodies.

**IminoBiotin Resin** is intended for the purification of avidin, streptavidin, or their conjugates. Because no denaturing agents are used in the protocol, the target molecules have a better chance of maintaining their activity during and after purification.

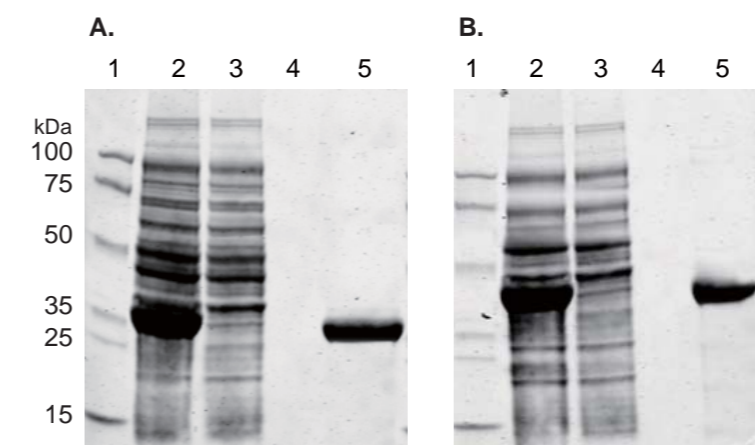


Figure 2. Affinity purification of polyhistidine-tagged proteins under native (A) and denaturing (B) conditions using GenScript High Affinity Ni-Charged Resin.

Panel A,  
Lane 1: Protein standards  
Lane 2: Bacterial lysate expressing a 36 kDa polyhistidine-tagged protein  
Lane 3: Flow-through of lysate  
Lane 4: Wash  
Lane 5: Eluted polyhistidine-tagged protein

Panel B,  
Lane 1: Protein standards  
Lane 2: Inclusion body expressing a 42 kDa polyhistidine-tagged protein  
Lane 3: Flow-through of inclusion body  
Lane 4: Wash  
Lane 5: Eluted polyhistidine-tagged protein

## Surface Activated Resin

GenScript's High-Affinity Iodoacetyl Resin is a surface activated resin specially designed for simple and efficient covalent immobilization of peptides, proteins, and other ligands through their sulfhydryl groups (-SH) to 4% cross-linked agarose medium. The resin has been chemically modified to form an 11-atom spacer arm that terminates in an iodoacetyl group, which is capable of reacting with a sulfhydryl group to generate a stable thioester linkage, enabling covalent immobilization of peptide, protein, or other sulfhydryl-containing ligands (Figure 3). The resin is ideal for conjugating sulfhydryl-containing peptide for subsequent antibody purification.

The High-Affinity Antibody Purification Kit provides all the components needed for sulfhydryl-containing peptide coupling and antibody purification, including the High-Affinity Iodoacetyl Resin and all the necessary buffers.

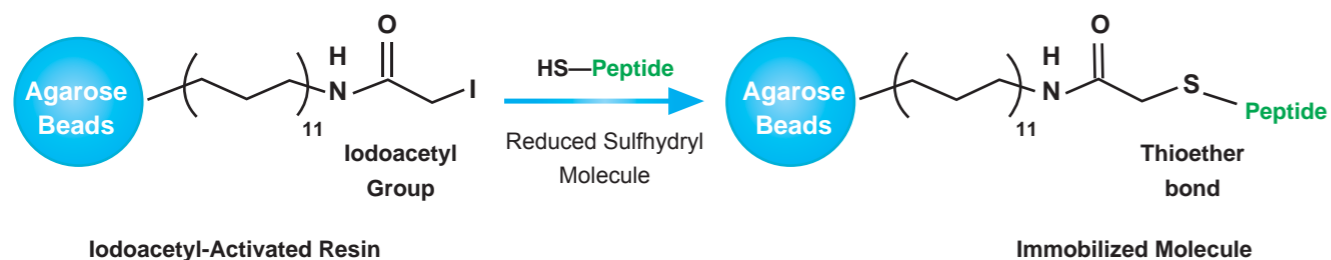


Figure 3. GenScript iodoacetyl resin immobilization chemistry.

Iodoacetyl groups of the activated resin react spontaneously with sulfhydryl groups on proteins, peptides, or other ligands to form stable thioester bonds, conjugating the molecule by an 11-atom spacer arm.

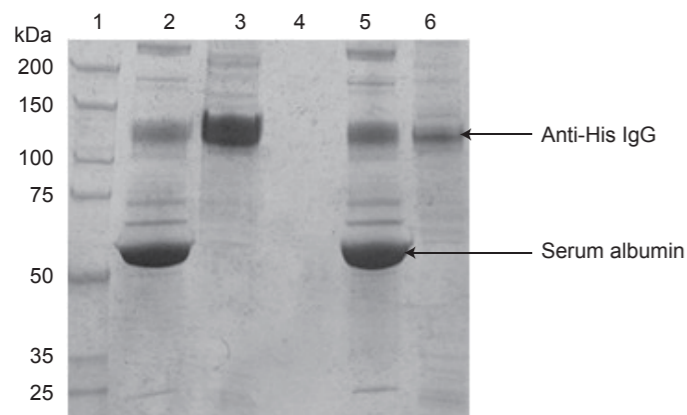


Figure 4. SDS-PAGE analysis of anti-His Tag IgG purified using Iodoacetyl Resins from GenScript and Supplier P.

1 mg (His)<sub>6</sub>-Cys peptide were coupled to 1 ml resins from GenScript and Supplier P, then, the peptide bound resins were used to separate anti-His poly-Ab from 10 ml rabbit serum, 8 mg (GenScript), and 3 mg (Supplier P) anti-His poly-Ab were finally purified respectively.

Lane 1: Protein Standard  
 Lane 2: Flow-through of serum (GenScript)  
 Lane 3: Eluted Anti-His Tag IgG (GenScript)  
 Lane 4: Empty  
 Lane 5: Flow-through of serum (Supplier P)  
 Lane 6: Eluted Anti-His Tag IgG (Supplier P)

## Magnetic Beads

Advance your proteomics research

- Quick, easy, and convenient magnetic separation procedures
- Gentle sample handling to avoid losing your target protein
- High binding capacity and reproducible results
- Ideal for immunoprecipitation and micro-scale protein and antibody purification

Over the years, a wide range of applications in Microbiology, Immunology and Molecular Biology have proved that magnetic beads separation is an increasingly important and powerful technique for life science research. GenScript has been continuously developing high-performance magnetic beads-based products to meet researchers' needs in proteomics and related fields. A comprehensive line of GenScript MagBeads are available for rapid and efficient bio-magnetic separation with reliable and reproducible results (see the table below).

Application	Product	Binding capacity	Size	Cat. No.
Immunoprecipitation and micro-scale antibody purification	Protein A MagBeads	>10 mg porcine IgG/ml settled beads	4 ml	L00273
	Protein G MagBeads	>10 mg goat IgG/ml settled beads	2 ml	L00274
	Protein A/G MagBeads	>10 mg goat or porcine IgG/ml settled beads	2 ml	L00277
Micro-scale purification of His-tagged proteins	Ni-Charged MagBeads	5 - 20 mg 6×His-tagged protein (27 kDa)/ml settled beads	8 ml	L00295
Micro-scale purification of GST fusion proteins	Glutathione MagBeads	5 - 10 mg GST (26 kDa)/ml settled beads	8 ml	L00327
Immobilization of biotinylated molecules for downstream applications	Streptavidin MagBeads	> 60 nmol free biotin/ml settled beads	2 ml	L00424
Immunoprecipitation and isolation of His-tagged proteins	Mouse Anti-His mAb MagBeads	300 µg 6×His-tagged protein (27 kDa)/ml settled beads	2 ml	L00275
Immunoprecipitation and isolation of GST fusion proteins	Mouse Anti-GST mAb MagBeads	300 µg GST (26 kDa)/ml settled beads	2 ml	L00336

## Protein A, G and A/G MagBeads

GenScript Protein A, G and A/G MagBeads are perfect for micro-scale IgG purification and immunoprecipitation (IP). These MagBeads are prepared by covalently pre-coupling of recombinant Protein A, G and A/G to the surface of superparamagnetic beads. When used with a magnetic separation rack (Figure 1), these Protein A, G and A/G MagBeads provide you fast, easy, and efficient purification of IgG from cell culture supernatants, serum, and ascites or other starting samples. Instead of eluting the antibodies, the IgG-bound MagBeads can be used for the immunoprecipitation of specific proteins from many types of samples (Figure 2). Magnetic handling is extremely simple, where all steps take place in a single tube. No columns, centrifugation or pre-treatment steps are needed. Bound only by affinity interactions, your proteins and protein complexes are preserved intact. Your immunoprecipitation is ensured to maintain maximum sensitivity and without losing target proteins.



Figure 1. GenScript 2-tube and multifunctional magnetic separation racks

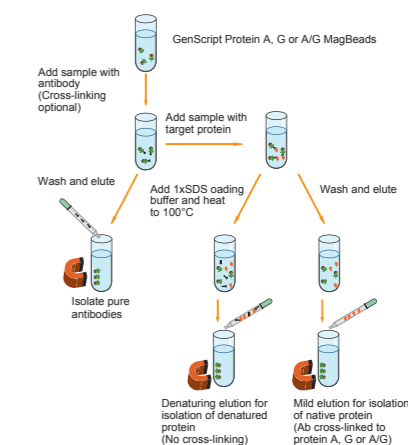
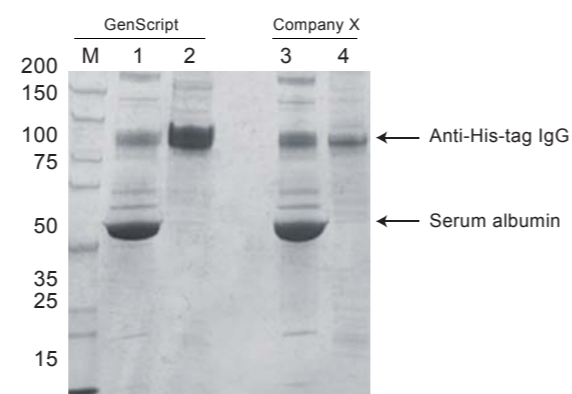


Figure 2. Workflow of GenScript Protein A, G and A/G MagBeads

## Protein Purification Kits

- High binding capacity
- Minimal loss of antigen protein

Protein Purification Kits contain high-affinity resins and all the necessary buffers needed to facilitate protein or antibody purification. The Protein Expression and Purification Kit also contains the pGS-21a vector for easy cloning, high-level expression, and convenient purification of proteins fused with both 6xHis tag and GST tag.



SDS-PAGE analysis of Anti-His-tag IgG purified by Iodoacetyl Resin from GenScript and Company X. A peptide containing His-tag was coupled to the resin from GenScript and Company X, respectively. The flow through and the elution fractions were analyzed.

M: Smart Broad-Range Protein Standard (GenScript, MM0906)  
 Lane 1: Flow through (GenScript)      Lane 2: Elution (GenScript)  
 Lane 3: Flow through (Company X)      Lane 4: Elution (Company X)

### Product Overview:

Product	Quantity	Cat. No.
Protein Expression and Purification Kit	1 Kit	L00208
GST Fusion Protein Purification Kit	1 Kit	L00207
High-Affinity Antibody Purification Kit	1 Kit	L00404

For more information on protein purification kits, visit [http://www.genscript.com/protein\\_purification\\_resins.html](http://www.genscript.com/protein_purification_resins.html)

## Protein Electrophoresis

Electrophoresis is a rapid, simple, and highly sensitive tool of proteins analysis. The separation of denatured protein, bound to SDS with negative charges by electrophoresis is based on the fact that molecules with different weights will migrate through a gel matrix at different rates upon application of an electric field.

### Express™ PAGE Gel System

High-performance and high-quality precast protein gels

- Superior protein band resolution
- Fast sample run time (45 min or less)
- High protein transfer efficiency
- Long shelf life (Up to 12 months at 4°C)

The Express™ PAGE Gel System is a high-performance precast polyacrylamide gel system with a variety of acrylamide percentages. With GenScript's proprietary technology, Express™ PAGE gels are designed as an easy-to-use tool. The unique gel formulations eliminate the "smiles" and poor resolution of other gel types and produce reliable separation

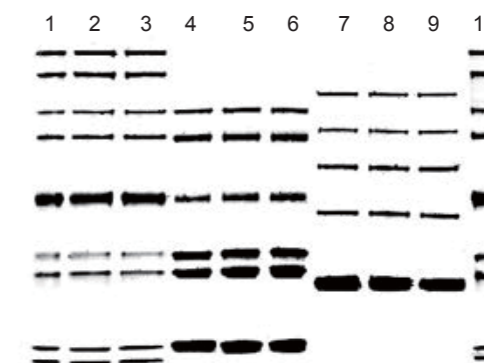
GenScript provides high-quality products and reagents for protein electrophoresis, which include a full range of Express™ PAGE gels and most accurate pre-stained and unstained protein standards. The widespread use of PAGE gels and protein standards ensures you achieve reliable separation results.

results every time. In addition, protein transfer from Express™ PAGE gels is more efficient, leading to more sample on your membrane for stronger detection signals during western analysis.

The protein migration table on the next page can help you to choose the appropriate gels for your protein samples. You're sure to find one that meets your electrophoresis needs. The data show in this table is from gels run at 140 volts for 45 min. At 140 volts, the Bromophenol Blue band will reach the bottom of the gels in about 30 min.

% Acrylamide				
8%	10%	12%	4-20%	8-16%
205 kDa	2056 kDa	2056 kDa	2056 kDa	2056 kDa
	116 kDa	116 kDa	116 kDa	116 kDa
116 kDa	67 kDa	67 kDa	67 kDa	67 kDa
67 kDa	45 kDa	45 kDa	45 kDa	45 kDa
45 kDa	29 kDa	29 kDa	29 kDa	20 kDa
	24 kDa	14.2 kDa	6.5 kDa	14.2 kDa

Proteins ranging from 6.5 kDa to 205 kDa are best resolved using 4-20% Express™ PAGE gels are seen here:



Three kinds of protein standards were run at 140 volts for 45 minutes and semi-dry transferred at 20 volts for 30 minutes.  
 Lane1, 2, 3, 10: Smart Broad-Range Protein Standard (GenScript, MM0906)  
 Lane4, 5, 6: Smart Middle-Range Protein Standard (GenScript, MM0900)  
 Lane7, 8, 9: EasyWestern Protein Standard (GenScript, MM0908)

### Product Overview:

Product	Separation Range	Volumn	Quantity	Cat. No.
Express™ PAGE gels (4 -20%), 10 Wells	205 - 6.5 kDa	50 µl	1 Box of 10	MG420W10
Express™ PAGE gels (4 -20%), 12 Wells	205 - 6.5 kDa	30 µl	1 Box of 10	MG420W12
Express™ PAGE gels (4 -20%), 15 Wells	205 - 6.5 kDa	25 µl	1 Box of 10	MG420W15
Express™ PAGE gels (8 -16%), 10 Wells	205 - 14 kDa	50 µl	1 Box of 10	MG816W10
Express™ PAGE gels (8 -16%), 12 Wells	205 - 14 kDa	30 µl	1 Box of 10	MG816W12
Express™ PAGE gels (8 -16%), 15 Wells	205 - 14 kDa	25 µl	1 Box of 10	MG816W15
Express™ PAGE gels (12%), 10 Wells	205 - 14 kDa	50 µl	1 Box of 10	MG012W10
Express™ PAGE gels (12%), 12 Wells	205 - 14 kDa	30 µl	1 Box of 10	MG012W12
Express™ PAGE gels (12%), 15 Wells	205 - 14 kDa	25 µl	1 Box of 10	MG012W15
Express™ PAGE gels (10%), 10 Wells	205 - 24 kDa	50 µl	1 Box of 10	MG010W10
Express™ PAGE gels (10%), 12 Wells	205 - 24 kDa	30 µl	1 Box of 10	MG010W12
Express™ PAGE gels (10%), 15 Wells	205 - 24 kDa	25 µl	1 Box of 10	MG010W15
Express™ PAGE gels (8%), 10 Wells	205 - 45 kDa	50 µl	1 Box of 10	MG008W10
Express™ PAGE gels (8%), 12 Wells	205 - 45 kDa	30 µl	1 Box of 10	MG008W12
Express™ PAGE gels (8%), 15 Wells	205 - 45 kDa	25 µl	1 Box of 10	MG008W15
5X Sample Buffer	-	-	5 ml	MB01015
Express Gel Running Buffer Powder	-	-	1 Box (5/PK)	M00138*
Transfer Buffer Powder	-	-	1 Box (10/PK)	M00139*

\*To make 1000 ml 1X Running Buffer or Transfer Buffer per package

For more information on Express™ PAGE gel system, visit [http://www.genscript.com/express\\_page\\_gels.html](http://www.genscript.com/express_page_gels.html)

# Endotoxin Detection and Removal System

Edotoxin-free world coming with GenScript

Endotoxin testing is the most critical quality control test required by FDA for all drugs in the final formulation. Because endotoxins are invariably associated with every gram-negative bacteria, they cause severe reactions in humans and animals and retain high toxic activity even at low concentration. In addition, endotoxins are suspected to play an important role in the occurrence and development of many different diseases.

GenScript is a leading company in providing innovative techniques for endotoxin detection and removal. The ToxinSensor™ Endotoxin Assay Kits are designed to detect *in vitro* endotoxin levels in a broad range of 0.005 - 1 EU/ml for human and animal parenteral drugs and biological samples. The ToxinEraser™ Endotoxin Removal Kit provides higher removal efficiency in which endotoxin level can drop below 0.1 EU/ml.

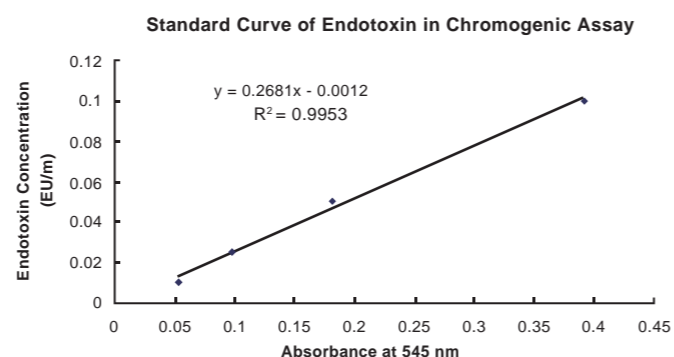
## ToxinSensor™ Chromogenic LAL Endotoxin Assay Kit

- Superior linearity and reproducibility
- High sensitivity and board application range
- Ready-to-use reagents and materials

ToxinSensor™ Chromogenic LAL Endotoxin Assay Kit is designed as a quantitative *in vitro* end-point endotoxin test for human and animal parenteral drugs, biological products, and medical devices. This method utilizes a modified Limulus Amebocyte Lysate (LAL) and a synthetic color-producing substrate to detect endotoxin chromogenically in a broad range of 0.005 - 1 EU/ml. Procedures described here conform to those described in the FDA guideline.

Under standard conditions, absorbance at 545 nm shows a linear relationship with endotoxin concentration in ranges of both 0.01 - 0.1 EU/ml and 0.1 - 1 EU/ml.

Draw a best-fit straight line among these points and determine endotoxin concentrations of samples graphically.



Note: The dilution of standards and incubation temperature are factors that may influence the OD value. Therefore, it is important to dissolve the endotoxin standards well, and the incubation temperature should be kept at  $37 \pm 1^\circ\text{C}$ . The graph above is an example of an experimental standard curve, and the OD values of standards may be different in different assays.

### Product Overview:

Product	Quantity	Cat. No.
ToxinSensor™ Chromogenic LAL Endotoxin Assay Kit	16 rxns	L00350C
	32 rxns	L00350

## ToxinSensor™ Gel Clot Endotoxin Assay Kit

ToxinSensor™ Gel Clot Endotoxin Assay Kit is used for qualitative testing of gram negative bacterial endotoxin levels. Limulus Amebocyte Lysate, supplied with this kit is to be reconstituted with LAL reagent water and then mixed in equal parts with the solution being tested. After incubation, gelation forms in the presence of endotoxin and does not form in the absence of endotoxin. ToxinSensor™ Gel Clot Endotoxin Assay

Kit is designed as an *in vitro* end-product endotoxin test for human and animal parenteral drugs, biological products, and medical devices. The procedures described in this manual conform to those described in the FDA Guidelines. Similar performance requirements for gel clot assays have been published and are updated regularly in the United States Pharmacopeia.

1. Sample: Protein A, 1 mg/ml in PBS, pH 7.4. It is purified from *E. coli* sonicate by Ni-NTA Resin.
2. Dilution by LAL Water: 1:200,000, 1:400,000, 1:800,000
3. The test is performed as described on the previous page and the assay result is:

Positive Control	Negative Control	1: 200,000	1: 400,000	1: 800,000
+	-	+	-	-

4. Endotoxin concentration in the sample is: from  $200,000 \times 0.25$  to  $400,000 \times 0.25$ , that is, from 50,000 to 100,000 EU/ml.

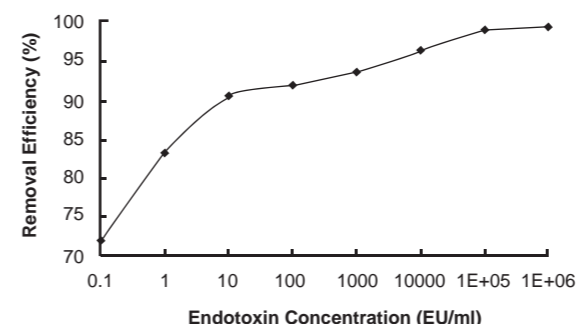
### Product Overview:

Product	Quantity	Cat. No.
ToxinSensor™ Gel Clot Endotoxin Assay Kit	1 Kit	L00351

## ToxinEraser™ Endotoxin Removal System

- High binding capacity (>2,000,000 EU/ml)
- Superior removal efficiency
- Reusable up to five times

GenScript's ToxinEraser™ Endotoxin Removal System includes Endotoxin Removal Kit, ToxinEraser™ Endotoxin Removal Resin, and ToxinEraser™ buffers. The system is based on the affinity matrix of modified polymyxin B (PMB) which allows for highly efficient endotoxin removal. The final endotoxin level can drop below 0.1 EU/ml after repeated uses of the resin.



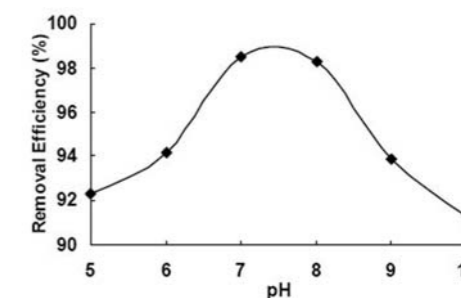
Endotoxin removal efficiency is highly affected by, and directly proportional to endotoxin concentration

### Product Overview:

Product	Quantity	Cat. No.
ToxinEraser™ Endotoxin Removal Kit	1 Kit	L00338
ToxinEraser™ Advanced Endotoxin Removal Kit	1 Kit	L00408
ToxinEraser™ Endotoxin Removal Resin	1 ml	L00402
ToxinEraser™ Regeneration Buffer	125 ml	M01053
ToxinEraser™ Equilibration Buffer	125 ml	M01054

For more information on endotoxin detection and removal system, visit [http://www.genscript.com/endotoxin\\_detection\\_and\\_removal\\_system.html](http://www.genscript.com/endotoxin_detection_and_removal_system.html)

### The Effect of pH on Removal Efficiency



Endotoxin removal can be performed in solution from pH 5-10 but the highest removal efficiency occurs at pH 7-8. The removal efficiency decreases with deviation from neutral pH.

# Protein Detection and Immunoassay

## eStain® Protein Staining System

### eStain® 2.0 Protein Staining System

- **Faster**—Complete protein gel staining in 7 minutes or less
- **Easier**—Press run button and walk away
- **Cleaner**—No additional buffers required
- **Safer**—Unique formulation without methanol

The eStain® 2.0 Protein Staining System, applying GenScript's patent-pending electric staining technology, enables you to

quickly, reliably, and efficiently stain protein gels with Coomassie blue dye within 7 minutes or less. As a user-friendly unit, the eStain® 2.0 Protein Staining Device (Figure 1) uses disposable eStain® Protein Staining Pads containing proprietary electrode buffers with Coomassie blue dye incorporated (Figure 2), offering easy and convenient procedures without the need for additional buffers.



Figure 1. The eStain® 2.0 Protein Staining System

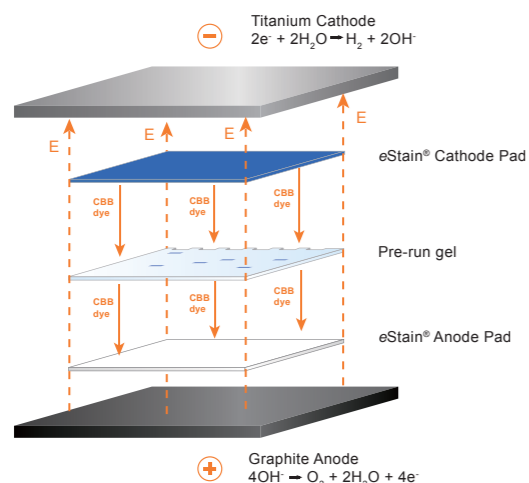
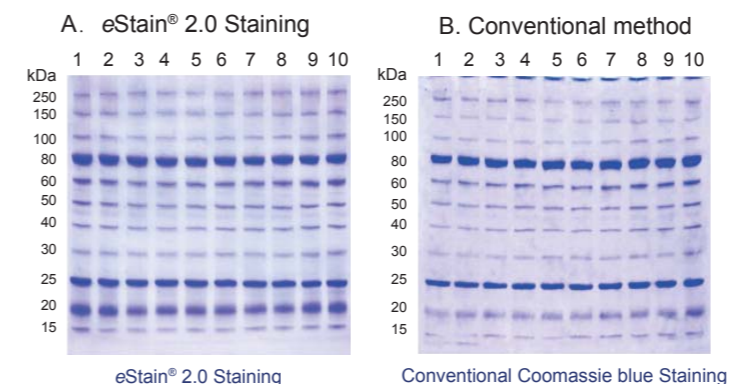


Figure 2. How eStain® 2.0 System works.

A specific voltage is applied to the graphite anode and titanium cathode of the eStain® 2.0 Device, driving negatively charged Coomassie blue dye reagents into the gel matrix between the eStain® Pads to stain the proteins and forcing the free staining reagents out of the gel matrix to destain the gel.

## Staining efficiency as high as conventional methods

In addition to ease and convenience, the eStain® 2.0 Protein Staining System provides high detection sensitivity comparable to that of traditional tri-step methods (Figure 3). After the staining process, you'll see sharp protein bands against a clear background.



High staining efficiency achieved using the eStain® 2.0 System.

Each lane was loaded with 7 µl of protein ladder and separated on 4-20% Express PAGE gels (Bis-Tris gel). The gels were stained either by eStain® 2.0 System (A) or by traditional Coomassie blue staining method (B) with CBB R-250.

## Suitable for various types and sizes of mini gels

The eStain® 2.0 Protein Staining System is designed to work with multiple mini polyacrylamide gels, including Tris-Glycine, Bis-Tris, Tris-Tricine, and Tris-Acetate gels, etc.

### Product Overview:

Product	Quantity	Cat. No.
eStain® 2.0 Protein Staining Device	1 unit	L02016
eStain® Protein Staining Pads (R-250, 20-pak)	1 box	L02011
eStain® Protein Staining Pads (R-250, 40-pak)	2×1 box (20-PAK)	L02011-2
eStain® Protein Staining Pads (G-250, 20-pak)	1 box	L02012
eStain® Protein Staining Pads (G-250, 40-pak)	2×1 box (20-PAK)	L02012-2
eStain® 2.0 Graphite Electrode	1 unit	L02017

For more information on eStain® protein staining system, visit [http://www.genscript.com/eStain\\_protein\\_staining\\_system.html](http://www.genscript.com/eStain_protein_staining_system.html)



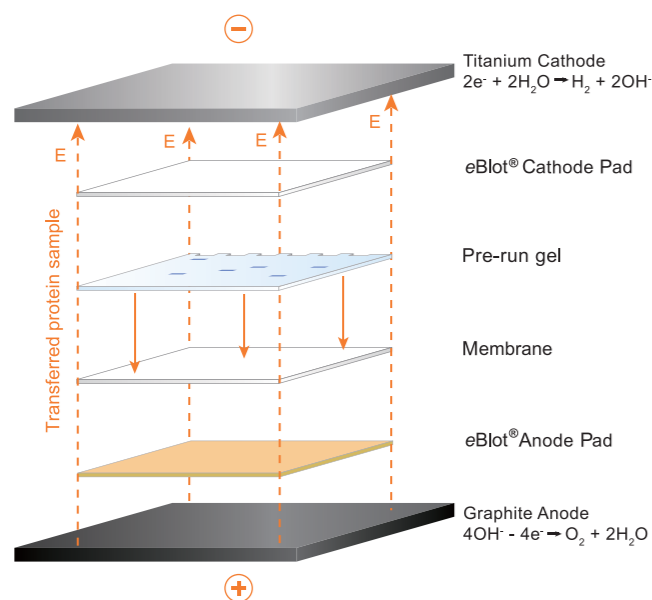
## eBlot® Protein Transfer System

- **Fast**—complete protein transfer in 7 to 10 minutes
- **Sensitive**—high transfer efficiency for reliable western results
- **Convenient**—no need for additional buffer or power supply
- **Safe**—proprietary formulation without methanol ★
- **Economical**—lower cost per gel than other fast protein blotting systems

Western blot is the most commonly applied and reliable method for protein detection. Traditional wet or semi-dry transfer is time-consuming, requires handling messy liquid, and often generates much hazardous waste. The eBlot® Protein Staining System cuts gel blotting time from hours down to seven to ten minutes. This cutting edge electric staining technology ensures a faster and simpler method for protein transfer from gel to membrane at lower cost than other fast protein blotting systems.



eBlot® Protein Transfer System

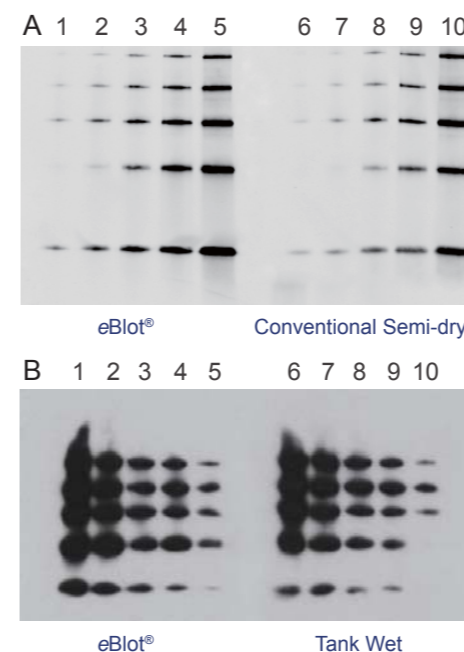


How eBlot® Protein Staining System Works

The eBlot® Protein Transfer System is based on proprietary fast semi-dry blotting technique developed by GenScript. A specific voltage allows for rapid and directional movement of negatively charged protein molecules from the gel matrix onto the membrane.

### High transfer efficiency with reproducible results

In addition to ease and convenience, the eBlot® Protein Transfer System delivers high protein transfer efficiency for high detection sensitivity as compared to traditional wet transfer methods



Higher transfer quality of eBlot® Protein Transfer System (A)

Comparison of protein transfer between eBlot® Protein Transfer System and a semi-dry western transfer method. (B) Comparison of protein transfer between eBlot® Protein Transfer System and a tank wet western transfer method.

Proteins were separated with GenScript Express™ PAGE Gels 8-16% and transferred to nitrocellulose. (A) Lanes 1-5 and 6-10: 0.313 µl, 0.625 µl, 1.25 µl, 2.5 µl, and 5.0 µl GenScript EasyWestern Protein Standard (22, 40, 60, 85, and 120 kDa); (B) Lanes 1-5 and 6-10: 5.0 µl, 2.5 µl, 1.25 µl, 0.625 µl, and 0.313 µl GenScript High Range EasyWestern Protein Standard (60, 85, 120, 160 and 200 kDa).

### Suitable for various types of mini gels

The eBlot® Protein Transfer System is designed to work with multiple types of mini polyacrylamide gels, including Tris-Glycine, Bis-Tris, Tris-Tricine, and Tris-Acetate gels, etc.

#### Ordering information:

Product	Quantity	Cat. No.
eBlot® Protein Transfer Device	1 unit	L03010
eBlot® Protein Transfer Pads Basic, without membrane	1 box (20-PAK)	L03011
eBlot® Protein Transfer Pads Nitrocellulose, 20-PAK	1 box (20-PAK)	L03013
eBlot® Protein Transfer Pads PVDF, 20-PAK	1 box (20-PAK)	L03014
eBlot® Graphite Electrode	1 unit	L03012
eBlot® Equilibration Buffer	1 bottle (125 ml)	M01078

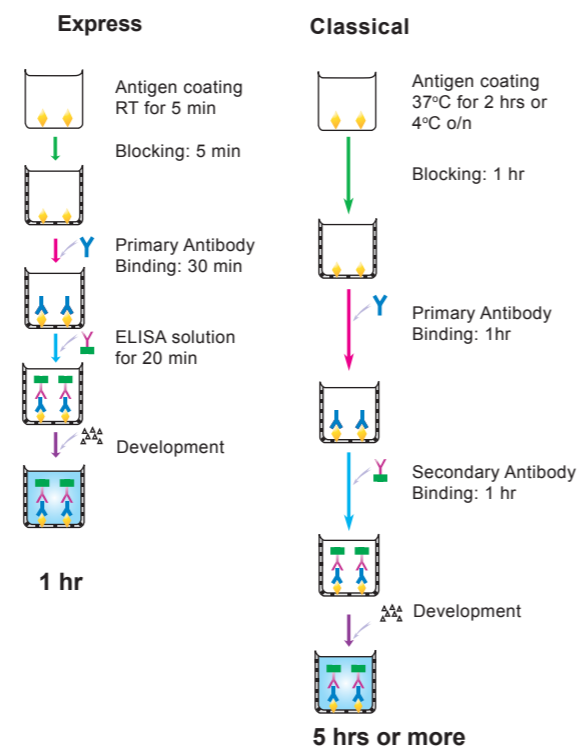
## Express™ ELISA Kits

Detect any antigen with an ELISA assay in one hour

- **Fast**—Cut indirect ELISA time down to one hour.
- **High Sensitivity**
- **Reproducible Results**
- **Less Optimization**

GenScript's Express™ ELISA Kits are designed to detect and quantify antigen-specific antibodies in serums and other samples using a proprietary (patent pending) one-hour indirect ELISA procedure. These kits allow users to perform a complete ELISA from antigen coating to signal development in just one hour. The kit contains all necessary reagents and buffers for performing indirect ELISA using ten 96-well plates.

### Overview of Indirect ELISA Procedures



### Product Overview:

Product	Quantity	Cat. No.
Express™ ELISA Kit (Rabbit)	1 Kit (10 assays)	L00251
Express™ ELISA Kit (Mouse)	1 Kit (10 assays)	L00252
Express™ ELISA Kit (Goat)	1 Kit (10 assays)	L00253
Dot Blot Box (Clear)	pack of 10	M00108
Dot Blot Box (Blue)	pack of 10	M00109
Dot Blot Box (Yellow)	pack of 10	M00110
2X Coating Buffer	125 ml	M01018
20X Wash Solution	125 ml	M01016
Stop Solution	125 ml	M01017
One-Solution Microwell TMB	110 ml	M00078
Pretreat Solution (A + B)	250 ml	M01019

For more information on Express™ ELISA Kits, visit [http://www.genscript.com/express\\_elisa\\_kit.html](http://www.genscript.com/express_elisa_kit.html)

## Western QuickBlock Kits

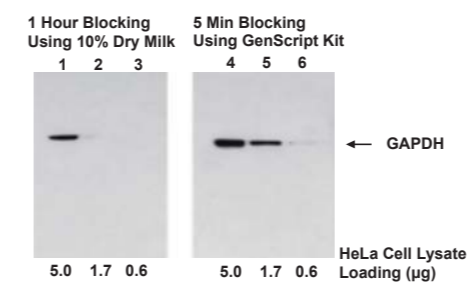
5-minute reliable blocking for Immunoblots and ELISA

- **Fast**—Five minute blocking of any membranes.
- **Ultra Sensitivity**—QuickBlock makes your western detection more sensitive.
- **Ease to Perform**—Our procedure is quick and simple.

GenScript's Western QuickBlock Kits are designed for the reliable and speedy blocking of any membranes used for western blots. It can also be used to block any other solid

surface, such as microtiter plates used for ELISA. Instead of the classical one-hour blocking procedure, this kit achieves complete blocking of a solid surface in just five minutes. Furthermore, the QuickBlock method has been shown to increase the sensitivity of Western detection when compared to the dry milk method, allowing researchers to reach the same antigen detection level with less antibody.

### Shown below is a Western blot using the western QuickBlock Kit (GenScript, L00276)



Western blots for the detection of GAPDH protein from HeLa cell lysate using either classical 10% dry milk blocking or the Western QuickBlock Kit. 5.0 µg, 1.7 µg, and 0.6 µg of HeLa cell lysate (BD Biosciences, #611449) were loaded in different lanes as shown in the figure. Both of the Western blots were developed with LumiSensor™ Chemiluminescent HRP Substrate (GenScript, L00221V60).

### Product Overview:

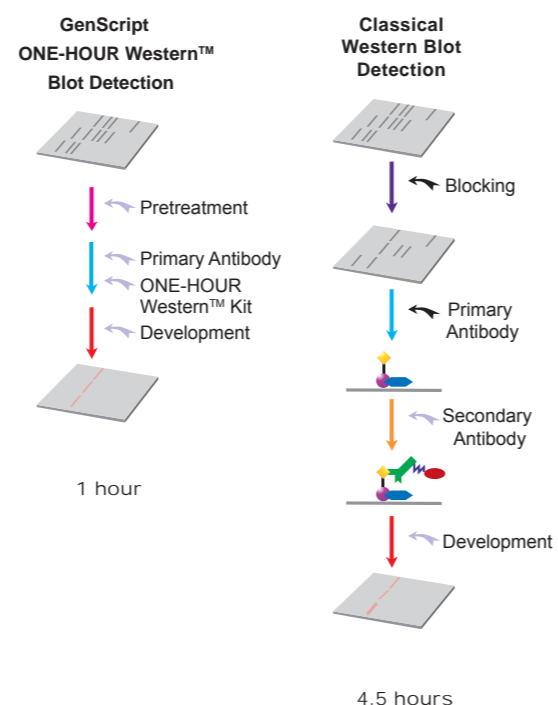
Product	Quantity	Cat. No.
Western QuickBlock Kit	1 Kit (20 assays)	L00276

For more information on Western QuickBlock Kits, visit [http://www.genscript.com/western\\_quickblock\\_kit.html](http://www.genscript.com/western_quickblock_kit.html)

## ONE-HOUR Western™ Detection System

Accurate western analysis in less time and with less effort

The ONE-HOUR Western™ Detection System is designed to produce high signal with low background for quick and clear Western analysis of proteins. GenScript's breakthrough ONE-HOUR Western™ technology streamlines the classical Western blot analysis by bypassing secondary antibody binding and washing steps. The system reduces the total Western blot analysis time from 4.5 hours down to only one hour.



### ONE-HOUR Western™ Kit Selection Guide

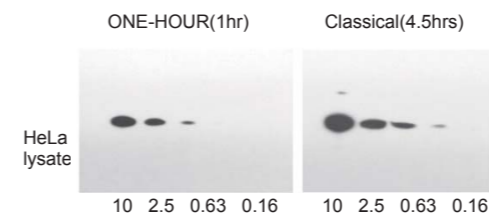
ONE-HOUR Western™ Detection Kits	Features	Total Time
ONE-HOUR Western™ Standard Kits	<ul style="list-style-type: none"> <li>Recommended for regular users</li> <li>Convenient package with all reagents included</li> <li>Fast and easy to perform</li> <li>High sensitivity and low background</li> </ul>	1 hour
ONE-HOUR Western™ Advanced Kits	<ul style="list-style-type: none"> <li>Recommended for detection of low amounts of protein</li> <li>Higher sensitivity and lower background</li> </ul>	1.25 hours
ONE-HOUR IP-Western Kits	<ul style="list-style-type: none"> <li>For immunoprecipitated proteins</li> <li>Low background</li> <li>Journal-quality images</li> </ul>	1 hour
ONE-HOUR Western™ Fluorescent Kit	<ul style="list-style-type: none"> <li>No dark room, developer or X-Ray film is needed</li> <li>More sensitive than traditional chemiluminescence methods</li> </ul>	1.25 hours
ONE-HOUR Western™ Multiplex Fluorescent Kit	<ul style="list-style-type: none"> <li>Simultaneous detection of multiple targets on a single blot</li> <li>Saves time associated with optimizing fluorescent Western blots</li> </ul>	1.25 hours

For more information about ONE-HOUR Western™ Detection System, visit [http://www.genscript.com/western\\_tech.html](http://www.genscript.com/western_tech.html)

## ONE-HOUR Western™ Standard Kits

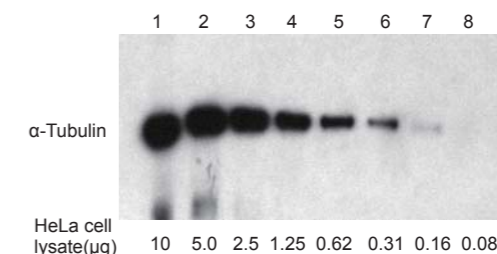
Optimized and ready-to-go system for Western analysis

- Fast and Easy**—The entire Western procedure is completed within one hour.
- Ready-to-Go**—The kits come with complete secondary antibodies and need no special labeling and far less optimization than traditional three-step kits.
- High Sensitivity**—The sensitivity of the ONE-HOUR Western™ Standard Kits is comparable to or even better than that of any classical 4.5-hour procedure.



Western blots detection of  $\alpha$ -Tubulin protein from HeLa cell lysate by both classical Western and ONE-HOUR Western™ Standard Kit (L00205C10)

ONE-HOUR Western™ Standard Kits, equipped with priority GenScript's ONE-HOUR Western™ technology, contain all the necessary reagents, buffers, nitrocellulose membrane and substrates for performing the Western or dot blot analysis. All the components in ONE-HOUR Western™ Standard Kits have been optimized for the best results.



Western blot detection of  $\alpha$ -Tubulin using the ONE-HOUR Western™ Standard Kit (GenScript, L00204C) and  $\alpha$ -tubulin polyclonal antibody (Abcam, ab4074). The blot was developed with the LumiSensor™ Chemiluminescent HRP Substrate included in the kit.

### Product Overview:

Product	Quantity	Cat. No.
ONE-HOUR Western™ Standard Kit (Goat)	1 Kit (5 assays)	L00228-1
ONE-HOUR Western™ Standard Kit (Mouse)	1 Kit (5 assays)	L00205C-1
ONE-HOUR Western™ Standard Kit (Rabbit)	1 Kit (5 assays)	L00204C-1
ONE-HOUR Western™ Standard Kit Using TMB (Rabbit)	1 Kit (5 assays)	L00204T
ONE-HOUR Western™ Standard Kit Using TMB (Mouse)	1 Kit (5 assays)	L00205T
ONE-HOUR Western™ Standard Kit Using TMB (Goat)	1 Kit (5 assays)	L00228T

For more information on ONE-HOUR Western™ Standard Kit, visit [http://www.genscript.com/western\\_complete\\_kit.html](http://www.genscript.com/western_complete_kit.html)

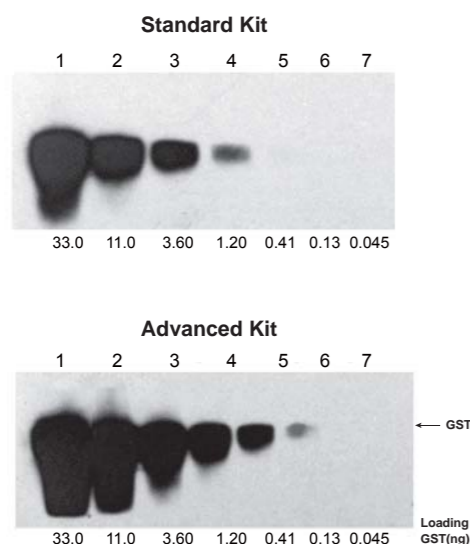
## ONE-HOUR Western™ Advanced Kits

The best Western detection kit for lower quantity of proteins

- **Superior Sensitivity**—The kits reveal very low amount of relevant protein.
- **Less Amount of Antibody Needed**—As low as 0.5-2 µg of antibody is required to attain superior results.

GenScript's ONE-HOUR Western™ Advanced Kits are designed to detect very low amount of relevant protein.

### Comparison of two ONE-HOUR Western™ kits using monoclonal antibodies



Western blots detection of GST protein using two ONE-HOUR Western™ Kits: Standard (GenScript, L00205C) and Advanced (GenScript, L00242). 10 µg and 2.5 µg of THE™ GST-tag mAb (GenScript, A00865) were used with these two kits to detect GST protein, respectively.

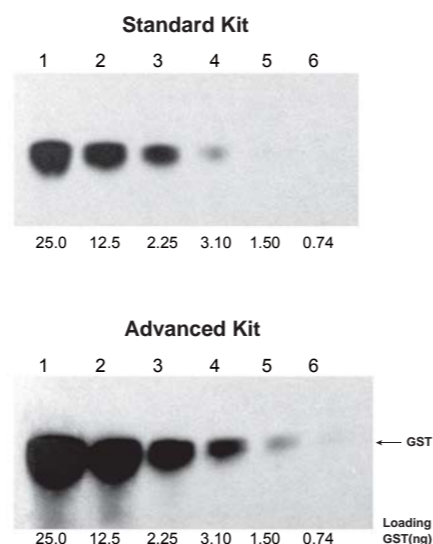
### Product Overview:

Product	Quantity	Cat. No.
ONE-HOUR Western™ Advanced Kit (Rabbit)	1 Kit (5 assays)	L00241
ONE-HOUR Western™ Advanced Kit (Mouse)	1 Kit (5 assays)	L00242
ONE-HOUR Western™ Advanced Kit (Goat)	1 Kit (5 assays)	L00243

For more information on ONE-HOUR Western™ Advanced Kits, visit [http://www.genscript.com/ip.com/advanced\\_western\\_tech.html](http://www.genscript.com/ip.com/advanced_western_tech.html)

The kits boast greater sensitivity with much less antibody. ONE-HOUR Western™ Advanced Kits contain all the necessary reagents, buffers, nitrocellulose membrane, and HRP substrate for performing a Western blot.

### Comparison of two ONE-HOUR Western™ kits using polyclonal antibodies



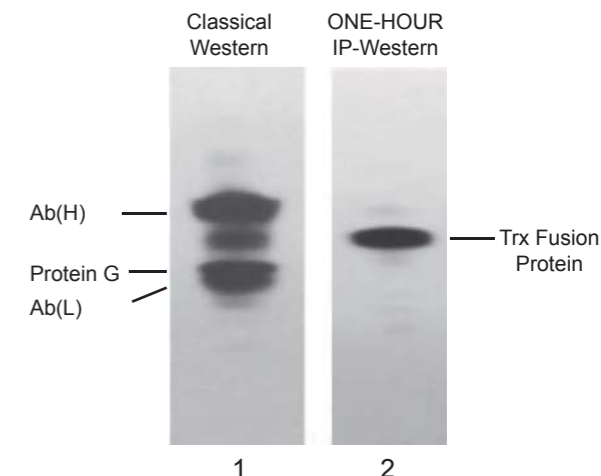
Western blots detection of GST protein using two ONE-HOUR Western™ kits: Standard (GenScript, L00204C) and Advanced (GenScript, L00241). 10 µg and 2.5 µg of GST-tag Antibody, pAb, Rabbit (GenScript, A00097) were used to detect GST protein, respectively.

## ONE-HOUR IP-Western Kits

Rapid and simple procedure to reach reproducible results

- **No Contamination**—GenScript's proprietary blocking reagents eliminate all contamination originated from antibody heavy chains, light chains, and proteins A/G.
- **Superior Sensitivity**—Comparable to or better than that of classical three-step Western blot kits. Taking the reduced background into account, the effective sensitivity of the ONE-HOUR IP-Western kits is even higher.
- **Simple Procedure**—Fewer and simpler steps than classical Western blot kits, leaving less room for human error.
- **No Secondary Antibody Required**—ONE-HOUR IP-Western Kits include GenScript's proprietary secondary antibodies, bypassing the need for any additional secondary antibodies.

IP-Western analysis frequently suffers from heavy/light chain, protein A and G contamination, particularly when the molecular weight of the target protein is close to those of the contaminants. This problem can be solved using GenScript's ONE-HOUR IP-Western Kits. This breakthrough has several significant advantages: enhanced sensitivity, elimination of background noise, and increased chances of identifying rare proteins. Like all ONE-HOUR Western™ Kits, the ONE-HOUR IP-Western Kits reduce total Western blot analysis time to about one hour.



A Trx fusion protein was immunoprecipitated using Trx-tag Antibody, mAb, Mouse (GenScript, A00180) bound to Protein G Resin (GenScript, L00209). Trx fusion protein was then immunoblotted with the same primary antibody by using HRP-conjugated goat anti-mouse IgG (Fc specific, Sigma, A 0168) (Lane 1) and using the ONE-HOUR IP-Western Kit L00232 (Lane 2).

### Kit Components:

Components	L00231 (Rabbit)	L00232 (Rabbit)	L00232 (Rabbit)
Pretreat A solution	100 ml	100 ml	100 ml
Pretreat B solution	100 ml	100 ml	100 ml
A&G blocker (100X)	-	1 ml	1 ml
Protein G blocker (100X)	1 ml	-	-
IP-WB 1 solution	1 ml	1 ml	1 ml
IP-WB 2 solution	1 ml	1 ml	1 ml
IP-WB 3 solution	100 ml	100 ml	100 ml
10X Wash solution	125 ml	125 ml	125 ml
WestClear™ Nitrocellulose Membrane (0.2 µm, 7.5×8 cm)	10 Sheets	10 Sheets	10 Sheets
LumiSensor™ Chemiluminescent HRP Substrate	2×30 ml	2×30 ml	2×30 ml
Protocol	1	1	1

### Product Overview:

Product	Quantity	Cat. No.
ONE-HOUR IP-Western Kit (Rabbit)	1 Kit (5 assays)	L00231
ONE-HOUR IP-Western Kit (Mouse)	1 Kit (5 assays)	L00232
ONE-HOUR IP-Western Kit (Goat)	1 Kit (5 assays)	L00233

For more information on ONE-HOUR IP-Western Kits, visit [http://www.genscript.com/ip\\_western\\_tech.html](http://www.genscript.com/ip_western_tech.html)

## ONE-HOUR Western™ Fluorescent Kits

Far-less time and journal-quality Western blot

- **Strong Versatility**—Any primary antibody from any species can be used with ONE-HOUR Western™ Fluorescent Kits.
- **Superior Sensitivity**—ONE-HOUR Western™ Fluorescent Kits are more sensitive than traditional chemiluminescence methods.

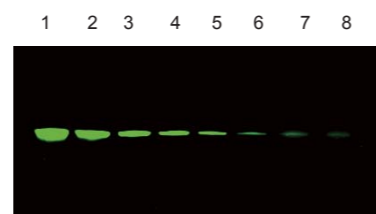
GenScript's ONE-HOUR Western™ Fluorescent Kit yields journal-quality Western blot results in just one hour. Using GenScript's breakthrough immunodetection technology (patent pending), this kit replaces the classical three-step Western, allowing the membrane to be scanned on LI-COR® Odyssey® Infrared Imaging System with far less time than traditional Western blot.

### Product Overview:

Product	Quantity	Cat. No.
ONE-HOUR Western™ Fluorescent Kit	1 Kit (10 Assay)	L00397

For more information on ONE-HOUR Western™ Fluorescent Kits, visit [http://www.genscript.com/one\\_step\\_fluorescent\\_western\\_kits.html](http://www.genscript.com/one_step_fluorescent_western_kits.html)

### Fluorescent Western blot detection of GAPDH Antibody, pAb, Goat (GenScript, A00191)



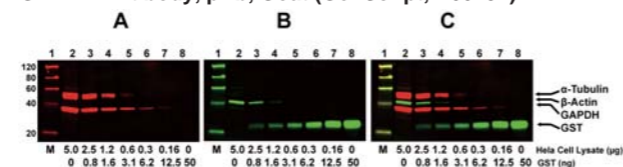
HeLa cell lysate (µg) 5.0 2.5 1.25 0.62 0.31 0.16 0.08 0.04  
Fluorescent Western blots for the detection of GAPDH using the ONE-HOUR Western™ Fluorescent Kit (GenScript, L00397). 5.0 µg, 2.5 µg, 1.25 µg, 0.62 µg, 0.31 µg, 0.16 µg, 0.08 µg and 0.04 µg of HeLa cell lysates were loaded into lanes 1, 2, 3, 4, 5, 6, 7 and 8 respectively.

## ONE-HOUR Western™ Multiplex Fluorescent Kit

Quick and clear Western analysis for multiple proteins

The ONE-HOUR Western™ Multiplex Fluorescent Kit is designed to deliver quick and clear Western blot analysis with high signals on low background for multiple proteins. This kit allows researchers to detect multiple antigens using multiple antibodies on the same membrane at the same time. The process includes a five-minute incubation of the membrane with the pretreated solution and 40-minute incubation with WB-M solution together with primary antibodies and corresponding fluorescent-dye-labeled secondary antibodies. After washing three times for ten minutes, the membrane can then be scanned on LI-COR® Odyssey® Infrared Imaging System.

### Multiplex fluorescent Western detection of GAPDH using GAPDH Antibody, pAb, Goat (GenScript, A00191)



A: 700 nm fluorescence image; B: 800 nm fluorescence image; C: The two fluorescence colors were imaged simultaneously in a single scan on a LI-COR® Odyssey® Infrared Imaging System; M: Protein Marker for Fluorescent Western Blotting (GenScript, M00124).

Antigens	Primary Antibodies	Amount	Secondary Antibodies	Amount
α-Tubulin	Mouse Anti-α-Tubulin mAb (Sigma, T6074)	6 µg	IRDye® 680y Anti-Mouse	3 µg
β-Actin	Mouse Anti-β-Actin mAb (GenScript, A00702)	6 µg	IRDye® 800CW Goat Anti-Mouse	3 µg
GAPDH	GAPDH Antibody, pAb, Goat (GenScript, A00191)	4 µg	IRDye® 680 Donkey Anti-Goat	2 µg
GST	GST-tag Antibody, pAb, Rabbit (GenScript, A00097)	6 µg	IRDye® 800CW Goat Anti-Rabbit	3 µg

### Product Overview:

Product	Quantity	Cat. No.
ONE-HOUR Western™ Multiplex Fluorescent Kit	1 Kit (10 Assay)	L00398

For more information on ONE-HOUR Western™ Multiplex Fluorescent Kit, visit [http://www.genscript.com/one-step\\_multiplex\\_fluorescent\\_western\\_kit.html](http://www.genscript.com/one-step_multiplex_fluorescent_western_kit.html)

## ONE-HOUR Western™ Kit Accessories

GenScript provides a variety reagents and related products for its line of ONE-HOUR Western™ Kits and ELISA Kits, including detection substrates, solutions, and membranes.

### Product Overview:

Product	Quantity	Cat. No.
LumiSensor™ Chemiluminescent HRP Substrate Kit	1 Kit (2×30 ml)	L00221V60
LumiSensor™ Chemiluminescent HRP Substrate Kit	1 Kit (2×150 ml)	L00221V300
LumiSensor™ Chemiluminescent HRP Substrate Kit	1 Kit (2×250 ml)	L00221V500
ChromoSensor™ One-Solution TMB Substrate	1 pk (60 ml)	L00222V60
ChromoSensor™ One-Solution TMB Substrate	1 pk (125 ml)	L00222V125
ChromoSensor™ One-Solution TMB Substrate	1 pk (250 ml)	L00222V250
ChromoSensor™ One-Solution TMB Substrate	1 pk (500 ml)	L00222V500
5X Wash Solution	100 ml	MB01011
A&G Blocker (100 X)	1 ml	M01014
Pretreat A (100 ml) & B (100 ml)	1 pack	M01013
Stripping Solution	100 ml	M01015-100
Stripping Solution	500 ml	M01015-500
Western Wash Box (Clear)	1 pack of 10	M00100
Western Wash Box (Blue)	1 pack of 10	M00101
Western Wash Box (Yellow)	1 pack of 10	M00102
Western Wash Box (Black)	1 pack of 10	M00103
Dot Blot Box (Clear)	1 pack of 10	M00108
Dot Blot Box (Blue)	1 pack of 10	M00109
Dot Blot Box (Yellow)	1 pack of 10	M00110
Western Membrane Forceps	1 pack of 10	M00099
WestClear™ Nitrocellulose Membrane	1 pk (10 sheets of 7.5 x 8 cm)	L00224A60

For more information on Western Accessories, visit [http://www.genscript.com/western\\_accessories.html](http://www.genscript.com/western_accessories.html)

## Protein A ELISA Kit

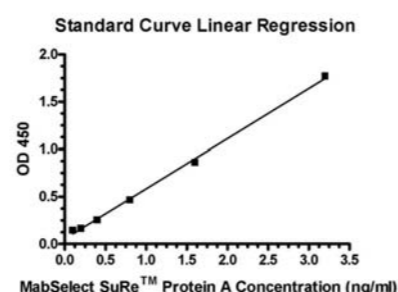
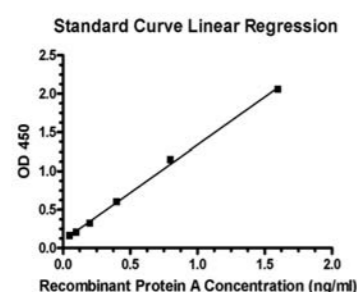
For Rapid & Accurate Detection of Natural and Recombinant Protein A Variants

### Accurate Detection of Residual Protein A in 2 Hours or Less

- **Superior sensitivity:** 20 pg/ml Protein A in antibody preps
- **Time-saving protocol:** complete assay in 2 hours or less
- **Broad-range detection:** natural Protein A, recombinant Protein A variants, and MabSelect SuRe ligand
- **High recovery:** 85%-115%
- **Easy to use:** ready-to-use ELISA plate with fast & simple sample preparation
- **Exceptional lot-to-lot consistency:** sandwiched ELISA based on high-quality monoclonal antibodies

In order to ensure that after Protein A affinity purification leached Protein A does not contaminate the target antibody, accurately quantifying the amount of Protein A ligand leached under defined conditions is very important. The key features of GenScript's Protein A ELISA Kit make it uniquely suited for precisely monitoring Protein A leakage during antibody purification.

### Sample Standard Curves



### Sensitivity:

Samples	LOD	LOQ
Recombinant and Natural Protein A	20 pg/ml	50 pg/ml
MabSelect SuRe™ Protein A	50 pg/ml	100 pg/ml

### Sensitivity:

# of tests	intra-assay		inter-assay		
	Meaning/ml	CV%	# of tests	Meaning/ml	CV%
12	1.60	1.60	8	1.60	3.70
12	0.40	4.05	8	0.40	5.42
12	0.10	4.56	8	0.10	7.59

■ Intra-assay Precision: CV<5%, Inter-assay Precision

### Product Overview

Product	Size	Cat#
Protein A ELISA Kit	1 kit	L00430

### Related Products

Product	Size	Cat#
Protein A CIP Resin	1 kit	L00433

## Related Reagents for Protein Analysis

Get fast and easy protein analysis with highest purity reagents

GenScript offers a comprehensive line of chemical products available in different sizes and with the highest level of purity, including amino acids, dNTPs, biological buffers, diagnostic

chromogens, pharmaceuticals, quaternary ammonium salts, tetrazolium salts, etc. Our top quality reagents provide solutions to every protein analysis problem at the most competitive prices.

### Product Overview:

Product	Quantity	Cat. No.
Tris HCl	100 g	C01650-100
	500 g	C01650-500
	5000 g	C01650-5000
TAPS Ultra	100 g	C01648-100
	500 g	C01648-500
	5000 g	C01648-5000
	25000 g	C01648-25000
TAPS	100 g	C01647-100
	500 g	C01647-500
	5000 g	C01647-5000
	25000 g	C01647-25000
PIPES Dipotassium salt	100 g	C01646-100
	500 g	C01646-500
	5000 g	C01646-5000
	25000 g	C01646-25000
PIPES Sesquisodium salt	100 g	C01645-100
	500 g	C01645-500
	5000 g	C01645-5000
	25000 g	C01645-25000
PIPES Disodium salt	100 g	C01644-100
	500 g	C01643-100
PIPES Monosodium salt	500 g	C01643-500
	5000 g	C01643-5000
	25000 g	C01643-25000
	100 g	C01642-100
PIPES Ultra	500 g	C01642-500
	5000 g	C01642-5000
	25000 g	C01642-25000
	100 g	C01641-100
PIPES	500 g	C01641-500
	5000 g	C01641-5000
	25000 g	C01641-25000
	100 g	C01640-100
MOPSO sodium salt Ultra	500 g	C01640-500
	5000 g	C01640-5000
	25000 g	C01640-25000
	100 g	C01639-100
MOPSO sodium salt	500 g	C01639-500
	5000 g	C01639-5000
	25000 g	C01639-25000
	100 g	C01638-100
MOPSO	500 g	C01638-500
	5000 g	C01638-5000
	25000 g	C01638-25000
	100 g	C01637-100
MOPS Sodium salt Ultra	500 g	C01637-500
	5000 g	C01637-5000
	25000 g	C01637-25000

Product	Quantity	Cat. No.
MOPS sodium salt	100 g	C01636-100
	500 g	C01636-500
	5000 g	C01636-5000
	25000 g	C01636-25000
MOPS hemisodium salt	100 g	C01635-100
	500 g	C01635-500
	5000 g	C01635-5000
	25000 g	C01635-25000
PS	100 g	C01633-100
	500 g	C01633-500
	5000 g	C01633-5000
	25000 g	C01633-25000
HEPPS	100 g	C01626-100
	500 g	C01626-500
	5000 g	C01626-5000
	25000 g	C01626-25000
HEPES Sodium salt Ultra	100 g	C01625-100
	500 g	C01625-500
	5000 g	C01625-5000
	25000 g	C01625-25000
HEPES Sodium salt	100 g	C01624-100
	500 g	C01624-500
	5000 g	C01624-5000
	25000 g	C01624-25000
HEPES hemisodium salt	500 g	C01623-500
	5000 g	C01623-5000
	25000 g	C01623-25000
HEPBS	100 g	C01620-100
	500 g	C01620-500
	5000 g	C01620-5000
	25000 g	C01620-25000
CHES Ultra	500 g	C01619-500
	5000 g	C01619-5000
	25000 g	C01619-25000
CHES	100 g	C01618-100
	500 g	C01618-500
	5000 g	C01618-5000
	25000 g	C01618-25000
CAPSO Sodium salt	100 g	C01617-100
	500 g	C01617-500
	5000 g	C01617-5000
	25000 g	C01617-25000
CAPSO Ultra	100 g	C01616-100
	500 g	C01616-500
	5000 g	C01616-5000
CAPS	100 g	C01613-100
	5000 g	C01613-5000
	25000 g	C01613-25000
BES Ultra	100 g	C01612-100
	500 g	C01612-500
	5000 g	C01612-5000
	25000 g	C01612-25000
BES	100 g	C01611-100
	500 g	C01611-500
	5000 g	C01611-5000
	25000 g	C01611-25000

## Product Overview:

Product	Quantity	Cat. No.
ADA Disodium salt	100 g	C01608-100
	500 g	C01608-500
	5000 g	C01608-5000
	25000 g	C01608-25000
ADA Monosodium salt	100 g	C01607-100
	500 g	C01607-500
	5000 g	C01607-5000
	25000 g	C01607-25000
ADA Ultra	100 g	C01606-100
	500 g	C01606-500
	5000 g	C01606-5000
	25000 g	C01606-25000
ADA	100 g	C01605-100
	500 g	C01605-500
	5000 g	C01605-5000
	25000 g	C01605-25000

## Immunology Reagents

GenScript provides a broad range of immunology reagents that are widely used in diagnostic assays and biochemical analyses. Please select the high-quality reagents for your immunology experiment from the following lists.

### Product Overview:

Product	Quantity	Cat. No.
One-Solution Microwell TMB	110 ml	M00078-110
Biotin-Protein A	2 mg	M00095-2
Biotin-Protein G	1 mg	M00096-1
Biotin-Protein L	1 mg	M00097-1
Coating Stabilizer	500 ml	M00085-500
HRP-Protein A	1 mg	M00089-1
HRP-Protein G	1 mg	M00090-1
HRP-Protein L	1 mg	M00098-1
Lyophilization Stabilizer	5 ml	M00084-5
	25 ml	M00084-25
Streptavidin-HRP	1 mg	M00091-1

Product	Cas. No.	Purity	Quantity	Cat. No.
ADOS	82692-96-4	≥99%	10 g	C01592-10
			100 g	C01592-100
			500 g	C01592-500
ADPS	82611-88-9	≥99%	10 g	C01591-10
			100 g	C01591-100
			500 g	C01591-500
ALPS	82611-85-6	≥99%	10 g	C01600-10
			100 g	C01600-100
			500 g	C01600-500
DAOS	83777-30-4	≥99%	10 g	C01595-10
			100 g	C01595-100
			500 g	C01595-500

### Product Overview:

Product	Cas. No.	Purity	Quantity	Cat. No.
DTNB	69-78-3	≥99%	10 g	C01604-10
			100 g	C01604-100
			500 g	C01604-500
HDAOS	82692-88-4	≥99%	10 g	C01596-10
			100 g	C01596-100
			500 g	C01596-500
MADB	209518-16-1	≥99%	10 g	C01597-10
			100 g	C01597-100
			500 g	C01597-500
MAOS	82692-97-5	≥99%	10 g	C01598-10
			100 g	C01598-100
			500 g	C01598-500
TBHBA	14348-40-4	≥99%	10 g	C01590-10
			100 g	C01590-100
			500 g	C01590-500
TMB	54827-17-7	≥99%	10 g	C01601-10
			100 g	C01601-100
			500 g	C01601-500

Product	Cas. No.	Purity	Quantity	Cat. No.
TMB HCl	64285-73-0	≥99%	10 g	C01602-10
			100 g	C01602-100
			500 g	C01602-500
TODB	NA	≥99%	10 g	C01599-10
			100 g	C01599-100
			500 g	C01599-500
TOOS	82692-93-1	≥99%	10 g	C01594-10
			100 g	C01594-100
			500 g	C01594-500
TOPS	40567-80-4	≥99%	10 g	C01593-10
			100 g	C01593-100
			500 g	C01593-500



# Catalog Proteins

## Human Hematopoietic Stem Cell Expansion Cytokine Bundles

Extremely low endotoxin levels & Specific for Stem Cell Research

The Human Hematopoietic Stem Cell Expansion Cytokine Bundle contains the key components required for ex vivo Human Hematopoietic Stem Cell development. The cytokine bundles minimize time spent identifying suppliers for various proteins and waiting for proteins to arrive from several places. You also save money by using these simple packages. GenScript offers three cytokine bundles for human hematopoietic stem cell expansion.

The first (Cat.No. L00444-1) contains human stem cell factor, human thrombopoietin and human Flt-3 ligand. The second, (Cat.No. L00443-1) contains human stem cell factor, human Thrombopoietin, human Flt-3 Ligand, and human Interleukin-3. The third one (Cat.No. L00442-1) contains human stem cell factor, human thrombopoietin, human Flt-3 ligand, and human Interleukin-6.

### Contents of Human Hematopoietic Stem Cell Expansion Cytokine Bundle

Cytokines	Cytokine Catalog No.	Bundle Catalog No. L00444-1	Bundle with IL-3 Catalog No. L00443-1	Bundle with IL-6 Catalog No. L00442-1
Human SCF	Z00400	10 µg	100 µg (10 µg×10 vials)	100 µg (10 µg×10 vials)
Human TPO	Z02720	10 µg	100 µg (10 µg×10 vials)	100 µg (10 µg×10 vials)
Human Flt3-Ligand	Z02726	10 µg	100 µg (10 µg×10 vials)	100 µg (10 µg×10 vials)
Human IL-6	Z00372			10 µg
Human IL-3	Z02702		10 µg	

### Characteristics of Each Cytokine in the Bundle

Cytokines	Cytokine Catalog No.	Content Characteristics		
		Activity (ED50)	Purity	Endotoxin Level
Human SCF	Z00400	The ED50 is <2 ng/ml, corresponding to a specific activity of >5×10 <sup>5</sup> units/mg (determined by the dose-dependant stimulation of human TF-1 cells).	>95% by SDS-PAGE and HPLC analysis	<1 EU/µg
Human TPO	Z02720	The ED50 is typically 1-3 ng/ml, corresponding to a specific activity of >3.3×10 <sup>5</sup> units/mg (determined by the dose-dependant stimulation of Mo7e cells).	>98% by SDS-PAGE and HPLC analysis	<0.2 EU/µg
Human Flt3-Ligand	Z02726	The ED50 is <1.0 ng/ml, corresponding to a specific activity of >1.0×10 <sup>6</sup> units/mg (determined by the dose-dependant stimulation of the proliferation of human AML5 cells).	>97% by SDS-PAGE and HPLC analysis	<0.2 EU/µg
Human IL-6	Z00372	The ED50 is <1.0 ng/ml, corresponding to a specific activity of >1.0×10 <sup>6</sup> units/mg (determined by the dose-dependant stimulation of the proliferation of human AML5 cells).	>98% by SDS-PAGE, HPLC and FPLC analysis	<1 EU/µg
Human IL-3	Z02702	The ED50 is <0.1 ng/ml, corresponding to a specific activity of >1.0×10 <sup>7</sup> units/mg (determined by the dose-dependant stimulation of the proliferation of human TF-1 cells).	>97% by SDS-PAGE and HPLC analysis	<0.2 EU/µg

## Cytokines

Cytokines, a category of immunoactive proteins, act as humoral regulators which modulate the functional activities of individual cells and tissues at nano to picomolar concentrations either under normal or pathological conditions. The cytokine family consists mainly of smaller, water-soluble proteins and glycoproteins with a molecular mass between 8 and 30 kDa, including haemopoietin,

interleukin, interferon, epidermal growth factor, tumour necrosis factor, and others that are secreted by the cells of immune system to regulate immune response. GenScript offers a comprehensive package of recombinant cytokine proteins which facilitate scientists' research activities by providing quick and easy access to these proteins.

### Product Overview:

Name	Quantity	Cat. No.
B Cell Activating Factor (BLys), Human	1 mg	Z02724 -1
	20 µg	Z02724 -20
BAFF Receptor (BAFF-R), Human	1 mg	Z02725 -1
	50 µg	Z02725 -50
B-Cell Maturation Antigen (BCMA), Human	1 mg	Z02731 -1
	20 µg	Z02731 -20
Beta Defensin-3 (BD-3), Murine	1 mg	Z02895 -1
	20 µg	Z02895 -20
Beta Defensins-2 (BD-2), Murine	1 mg	Z02894 -1
	20 µg	Z02894 -20
Betacellulin (BTC), Human	1 mg	Z02749 -1
	20 µg	Z02749 -20
beta-Defensin 1 (BD-1), Human	1 mg	Z02754 -1
	25 µg	Z02754 -25
beta-Defensin 2 (BD-2), Human	1 mg	Z02755 -1
	20 µg	Z02755 -20
beta-Defensin 3 (BD-3), Human	1 mg	Z02756 -1
	20 µg	Z02756 -20
beta-Defensin 4 (BD-4), Human	1 mg	Z02757 -1
	20 µg	Z02757 -20
Bone Morphogenetic Protein-2 (BMP-2), Human	1 mg	Z02913 -1
	10 µg	Z02913 -10
	100µg	Z02913 -100
	50µg	Z02913 -50
	500 µg	Z02913 -500
Bone Morphogenetic Protein-4 (BMP-4), Human	1 mg	Z02750 -1
	10 µg	Z02750 -10
Bone Morphogenetic Protein-7 (BMP-7), Human	1 mg	Z02751 -1
	10 µg	Z02751 -10
Brain Natriuretic Peptide (BNP), Human	1 mg	Z02746 -1
	100 µg	Z02746 -100
CD40 Ligand/TRAP (CD154 Ligand/TRAP), human	1 mg	Z02022 -1
	10 µg	Z02022 -10
	50 µg	Z02022 -50
Endothelial-Monocyte A Activating Polypeptide II (EMAP-II), Human	1 mg	Z02732 -1
	20 µg	Z02732 -20
Epiregulin (EREG), Human	1 mg	Z02865 -1
	25 µg	Z02865 -25
Epidermal Growth Factor (EGF), Rat	1 mg	Z02787 -1
	100 µg	Z02787 -100
Flt-3 Ligand (Flt-3L), Rhesus Macaque	1 mg	Z02762 -1
	10 µg	Z02762 -10
Flt-3 Ligand (Flt-3L), Human	1 mg	Z02726 -1
	10 µg	Z02726 -10
HSA-IFN-alpha 2b, Human	1 mg	Z02019 -1

Name	Quantity	Cat. No.
HSA-IFN-alpha 2b, Human	10 µg	Z02019 -10
	50 µg	Z02019 -50
Human Hematopoietic Stem Cell Expansion Cytokine Bundle	1 Kit	L00444 -1
Human Hematopoietic Stem Cell Expansion Cytokine Bundle (With IL-3)	1 Kit	L00443 -1
Human Hematopoietic Stem Cell Expansion Cytokine Bundle (With IL-6)	1 Kit	L00442 -1
Human Interferon alpha 2b, Human	1 mg	Z00353 -1
	10 µg	Z00353 -10
Human Interferon alpha 2b, Human	50 µg	Z00353 -50
Interferon Omega, Human	1 mg	Z02909 -1
	20 µg	Z02909 -20
Interferon-gamma (IFN-γ), Mouse	1 mg	Z02916 -1
	100 µg	Z02916 -100
Interferon-gamma (IFN-γ), Mouse	20 µg	Z02916 -20
	500 µg	Z02916 -500
Interferon-gamma, Human	1 mg	Z02915 -1
	10 µg	Z02915 -10
	100 µg	Z02915 -100
	50 µg	Z02915 -50
Interferon-λ1 (IFN-λ1), Human	1 mg	Z02742 -1
	20 µg	Z02742 -20
Interferon-tau (IFN-tau), Ovine	1 mg	Z02790 -1
	10 µg	Z02790 -10
Interferon-α 2a (IFN-α 2a), Human	1 mg	Z00358 -1
	10 µg	Z00358 -10
	50 µg	Z00358 -50
Interferon-α1b (IFN-α 1b), Human	10 µg	Z02866 -10
	2 µg	Z02866 -2
Interferon-α2b (IFN-α 2b), Human	1 mg	Z02740 -1
	100 µg	Z02740 -100
Interleukin-1 (IL-1) Receptor Antagonist, Human	1 mg	Z00367 -1
	10 µg	Z00367 -10
	50 µg	Z00367 -50
Interleukin-1 alpha (IL-1α), Human	1 mg	Z02698 -1
	10 µg	Z02698 -10
Interleukin-1 Alpha, Mouse	1 mg	Z02912 -1
	10 µg	Z02912 -10
Interleukin-1 beta (IL-1β), Rhesus Macaque	1 mg	Z02758 -1
	10 µg	Z02758 -10
Interleukin-1 beta (IL-1β), Human	1 mg	Z02699 -1
	10 µg	Z02699 -10
Interleukin-1 receptor antagonist (IL-1ra), Human	1 mg	Z02700 -1
	100 µg	Z02700 -100
Interleukin-10 (IL-10), Human	1 mg	Z02707 -1
	10 µg	Z02707 -10
Interleukin-10 (IL-10), Mouse	1 mg	Z02036 -1
	10 µg	Z02036 -10
	50 µg	Z02036 -50
Interleukin-11 (IL-11), Human	1 mg	Z02708 -1
	10 µg	Z02708 -10
Interleukin-11 (IL-11), Human	1 mg	Z00375 -1
	10 µg	Z00375 -10
	50 µg	Z00375 -50
Interleukin-12 (IL-12), Human	1 mg	Z02709 -1
	10 µg	Z02709 -10
Interleukin-13 (IL-13), Human	1 mg	Z02710 -1
	10 µg	Z02710 -10

Name	Quantity	Cat. No.
Interleukin-13 Variant (IL-13V), Human	1 mg	Z02711 -1
	10 µg	Z02711 -10
Interleukin-15 (IL-15), Human	1 mg	Z00377 -1
	10 µg	Z00377 -10
	50 µg	Z00377 -50
Interleukin-16 (IL-16), Human	1 mg	Z02196 -1
	10 µg	Z02196 -10
	50 µg	Z02196 -50
Interleukin-17 (IL-17), Human	10 µg	Z02061 -10
	50 µg	Z02061 -50
Interleukin-17 (IL-17), Human	1 mg	Z02712 -1
	25 µg	Z02712 -25
Interleukin-17F (IL-17F), Human	1 mg	Z02713 -1
	25 µg	Z02713 -25
Interleukin-2 (IL-2), Mouse	1 mg	Z02764 -1
	20 µg	Z02764 -20
Interleukin-2 (IL-2), Human	1 mg	Z00368 -1
	10 µg	Z00368 -10
	50 µg	Z00368 -50
Interleukin-20 (IL-20), Human	1 mg	Z02714 -1
	10 µg	Z02714 -10
Interleukin-21 (IL-21), Human	1 mg	Z02715 -1
	10 µg	Z02715 -10
Interleukin-22 (IL-22), Human	1 mg	Z02716 -1
	10 µg	Z02716 -10
Interleukin-22 (IL-22), Mouse	1 mg	Z02197 -1
	10 µg	Z02197 -10
	50 µg	Z02197 -50
Interleukin-3 (IL-3), Human	1 mg	Z02702 -1
	10 µg	Z02702 -10
Interleukin-3 (IL-3), Canine	1 mg	Z02783 -1
	10 µg	Z02783 -10
Interleukin-31 (IL-31), Human	1 mg	Z02717 -1
	10 µg	Z02717 -10
Interleukin-33 (IL-33), Human	1 mg	Z02718 -1
	10 µg	Z02718 -10
Interleukin-4 (IL-4), Mouse	1 mg	Z02766 -1
	20 µg	Z02766 -20
	5 µg	Z02766 -5
Interleukin-4 (IL-4), Human	1 mg	Z02696 -1
	10 µg	Z02696 -10
	50 µg	Z02696 -50
Interleukin-6 (IL-6), Human	1 mg	Z00372 -1
	10 µg	Z00372 -10
	50 µg	Z00372 -50
Interleukin-7 (IL-7), Human	1 mg	Z02704 -1
	10 µg	Z02704 -10
Interleukin-8 (IL-8) (3-79), Human	1 mg	Z02189 -1
	10 µg	Z02189 -10
	50 µg	Z02189 -50
Interleukin-8 (IL-8) (8-79), Human	1 mg	Z02195 -1
	10 µg	Z02195 -10
	50 µg	Z02195 -50
Interleukinβ (IL-1β), Mouse	1 mg	Z02194 -1
	10 µg	Z02194 -10
	50 µg	Z02194 -50

Name	Quantity	Cat. No.
Interferon-gamma (IFN-γ), Rat	1 mg 100 µg	Z02788-1 Z02788-100
Interleukin-11 (IL-11), Mouse	1 mg 10 µg	Z02769-1 Z02769-10
Interleukin-13 (IL-13), Mouse	1 mg 10 µg	Z02770-1 Z02770-10
Interleukin-25 (IL-25), Mouse	1 mg 10 µg	Z02771-1 Z02771-10
Interleukin-3 (IL-3), Mouse	1 mg 10 µg	Z02765-1 Z02765-10
Interleukin-33 (IL-33), Mouse	1 mg 10 µg	Z02772-1 Z02772-10
Interleukin-6 (IL-6), Mouse	1 mg 10 µg	Z02767-1 Z02767-10
Interleukin-6 (IL-6), Rat	1 mg 10 µg	Z02785-1 Z02785-10
Interleukin-6 (IL-6), Rhesus Macaque	1 mg 10 µg	Z02759-1 Z02759-10
Otoraplin (OTOR), Human	1 mg 20 µg	Z02807-1 Z02807-20
Pegylated Interferon-α 2b, Human	1 mg 10 µg 50 µg	Z02020-1 Z02020-10 Z02020-50
soluble CD40 Ligand (sCD40L), Human	1 mg 50 µg	Z02727-1 Z02727-50
Sonic HedgeHog (Shh), Human	1 mg 25 µg	Z02910-1 Z02910-25
Thrombopoietin (TPO), Human	1 mg 10 µg	Z02720-1 Z02720-10
Thymic Stromal Lymphopoietin (TSLP), Human	1 mg 10 µg	Z02721-1 Z02721-10
Trefoil Factor 1 (TFF-1), Human	1 mg 20 µg	Z02808-1 Z02808-20
Trefoil Factor 2 (TFF-2), Human	1 mg 20 µg	Z02809-1 Z02809-20
Trefoil Factor 3 (TFF3), Human	1 mg 20 µg	Z02904-1 Z02904-20

## Growth Factors

Growth factors are known for their ability to enhance cell proliferation, cell growth, and cellular differentiation by regulating tissue morphogenesis, angiogenesis, and neurite outgrowth. Growth factors typically act as signaling molecules between cells which play an important role in regulating a variety of

cellular processes. Their activities are mediated through binding to transmembrane receptors. The regulation of some growth factors and their receptors are also involved in tumor formation.

### Product Overview:

Name	Quantity	Cat. No.
Epidermal Growth Factor (EGF), Human	1 mg	Z00333-1
	10 µg	Z00333-10
	50 µg	Z00333-50
Granulocyte Colony Stimulating Factor (G-CSF), Human	1 mg	Z00342-1
	10 µg	Z00342-10
	50 µg	Z00342-50
Granulocyte Macrophage Colony Stimulating Factor (GM-CSF), Human	1 mg	Z00349-1
	10 µg	Z00349-10
	50 µg	Z00349-50
Pegylated Granulocyte Colony Stimulating Factor (PEG-G-CSF), Human	1 mg	Z00393-1
	10 µg	Z00393-10
	50 µg	Z00393-50
Stem Cell Factor (SCF), Human	1 mg	Z00400-1
	10 µg	Z00400-10
	50 µg	Z00400-50
Tumor Necrosis Factor alpha (TNF-α) (mutant), Human	1 mg	Z00404-1
	10 µg	Z00404-10
	50 µg	Z00404-50
Tumor Necrosis Factor-alpha (TNF-alpha), Human	1 mg	Z01001-1
	10 µg	Z01001-10
	50 µg	Z01001-50
Fibroblast Growth Factor-1 (FGF-1, FGF-acidic), Mouse	10 µg	Z02053-10
	50 µg	Z02053-50
Fibroblast Growth Factor-2 (FGF-2, FGF-basic), Mouse	10 µg	Z02054-10
	50 µg	Z02054-50
Insulin Like Growth Factor-1 (IGF-1) (4-70), Human	1 mg	Z02187-1
	10 µg	Z02187-10
	50 µg	Z02187-50
Long Arg <sup>3</sup> Insulin-like Growth Factor-I (Long-R <sup>3</sup> -IGF-I) (Receptor Grade), Human	1 mg	Z02188-1
	10 µg	Z02188-10
	10 mg	Z02188-10
	50 µg	Z02188-50
Granulocyte Macrophage Colony Stimulating Factor (GM-CSF), <i>P. Pichia</i> Derived (Sargramostim), Human	1 mg	Z02190-1
	10 µg	Z02190-10
	50 µg	Z02190-50
Vascular Endothelial Growth Inhibitor (VEGI), Human	10 µg	Z02198-10
Platelet-Derived Growth Factor-BB, Human	50 µg	Z02198-50
	10 µg	Z02529
Tumor Necrosis Factor-α (TNF-α, human)	1 mg	Z02682-1
	10 µg	Z02682-10
	50 µg	Z02682-50
Tumor Necrosis Factor-α (TNF-α, murine, N-his tagged)	100 µg	Z02684-100
Tumor Necrosis Factor-α (TNF-α, human, N-his tagged)	10 µg	Z02685-10
	50 µg	Z02685-50

Name	Quantity	Cat. No.
Vascular Endothelial Growth Factor (VEGF), Human	1 mg	Z02689 -1
	10 µg	Z02689 -10
	100 µg	Z02689 -100
	50 µg	Z02689 -50
Vascular Endothelial Growth Factor (VEGF), Murine	1 mg	Z02690 -1
	100 µg	Z02690 -100
	20 µg	Z02690 -20
Epidermal Growth Factor, Human	100 µg	Z02691 -100
Stem Cell Factor (SCF), Human	1 mg	Z02692 -1
	10 µg	Z02692 -10
	50 µg	Z02692 -50
Human Granulocyte Macrophage Colony Stimulating Factor , <i>P. Pichia</i> (Sargramostim)	1 mg	Z02693 -1
	10 µg	Z02693 -10
	50 µg	Z02693 -50
Human Granulocyte Macrophage Colony Stimulating Factor, <i>P. Pichia</i>	1 mg	Z02694 -1
	10 µg	Z02694 -10
	50 µg	Z02694 -50
Human Granulocyte Macrophage Colony Stimulating Factor, <i>E.coli</i>	1 mg	Z02695 -1
	10 µg	Z02695 -10
	50 µg	Z02695 -50
EPO-alpha (EPO-α), Human	150000 IU	Z02719 -150000
	2000 IU	Z02719 -2000
	500 IU	Z02719 -500
Macrophage Colony Stimulating Factor (M-CSF), Human	10 µg	Z02723 -10
	2 µg	Z02723 -2
Oncostatin-M (OSM) (227a.a.), Human	1 mg	Z02728 -1
	10 µg	Z02728 -10
Oncostatin-M (OSM) (209a.a.), Human	1 mg	Z02729 -1
	10 µg	Z02729 -10
Fibroblast Growth Factor-acidic (FGF-acidic), Human	1 mg	Z02733 -1
	50 µg	Z02733 -50
Fibroblast Growth Factor-basic (FGF-basic), Human	1 mg	Z02734 -1
	50 µg	Z02734 -50
Fibroblast Growth Factor-7 (FGF-7), Human	1 mg	Z02735 -1
	10 µg	Z02735 -10
Fibroblast Growth Factor-10 (FGF-10), Human	1 mg	Z02737 -1
	25 µg	Z02737 -25
Fibroblast Growth Factor-19( FGF-19), Human	1 mg	Z02738 -1
	25 µg	Z02738 -25
Fibroblast Growth Factor-21(FGF-21), Human	1 mg	Z02739 -1
	20 µg	Z02739 -20
NOGGIN, Human	1 mg	Z02753 -1
	20 µg	Z02753 -20
Granulocyte-Macrophage Colony Stimulating Factor (GM-CSF), Rhesus Macaque	1 mg	Z02761 -1
	10 µg	Z02761 -10
Granulocyte-Macrophage Colony Stimulating Factor (GM-CSF), Mouse	1 mg	Z02773 -1
	20 µg	Z02773 -20
Tumor Necrosis Factor-alpha (TNF-α), Mouse	20 µg	Z02774 -20
	5 µg	Z02774 -5
Fibroblast Growth Factor-basic (FGF-basic ), Mouse	1 mg	Z02776 -1
	50 µg	Z02776 -50
Fibroblast Growth Factor-7 (FGF-7), Mouse	1 mg	Z02777 -1
	10 µg	Z02777 -10
Epidermal Growth Factor (EGF), Mouse	1 mg	Z02778 -1
	100 µg	Z02778 -100
Vascular Endothelial Growth Factor 120 (VEGF120), Mouse	1 mg	Z02779 -1

Name	Quantity	Cat. No.
Vascular Endothelial Growth Factor 120 (VEGF120), Mouse	10 µg	Z02779 -10
Vascular Endothelial Growth Factor 165 (VEGF165), Mouse	1 mg	Z02780 -1
	10 µg	Z02780 -10
NOGGIN, Mouse	1 mg	Z02782 -1
	20 µg	Z02782 -20
Fibroblast Growth Factor-basic (FGF-basic), Rat	1 mg	Z02786 -1
	50 µg	Z02786 -50
Fibroblast Growth Factor-basic (FGF-basic), Bovine	10 µg	Z02789 -10
	50 µg	Z02789 -50
Migration Inhibitor Factor (MIF), Human	1 mg	Z02802 -1
	50 µg	Z02802 -50
Melanoma Inhibitor Activity Protein 2 (MIA-2), Human	1 mg	Z02810 -1
	20 µg	Z02810 -20
IGF-BP3, Human	1 mg	Z02862 -1
	25 µg	Z02862 -25
Vascular Endothelial Growth Factor 165 (VEGF165), Human	1 mg	Z02863 -1
	10 µg	Z02863 -10
Epigen (EPG), Human	1 mg	Z02864 -1
	25 µg	Z02864 -25
Fibroblast Growth Factor-9 (FGF-9), Human	1 mg	Z02890 -1
	20 µg	Z02890 -20
Fibroblast Growth Factor-23 (FGF-23), Human	1 mg	Z02891 -1
	20 µg	Z02891 -20
Platelet-derived growth factor -BB, human	1 mg	Z02892 -1
	10 µg	Z02892 -10
EPO-alpha/Fc Chimera, Human	1 mg	Z02907 -1
	10 µg	Z02907 -10
Vascular Endothelial Growth Factor A164, Rat	1 mg	Z02917 -1
	10 µg	Z02917 -10
	2 µg	Z02917 -2

## Chemokines

Chemokines are a family of small cytokines, or proteins secreted by cells, with a molecular mass of between 8 and 10 kDa. Members of the chemokine family are divided into four groups depending on the spacing of their first two cysteine residues. The major role of chemokines is to act as a chemoat-

tractants to guide the migration of cells.

GenScript offers a broad range of active chemokine proteins with excellent lot-to-lot consistency, superior activity and lower endotoxin level. It also provides the scientists with quick and easy access to achieve research and discovery.

### Product Overview:

Name	Quantity	Cat. No.
BCA-1/CXCL13, Human	1 mg	Z02826 -1
	20 µg	Z02826 -20
CXCL16, Mouse	1 mg	Z02853 -1
	25 µg	Z02853 -25
Dendritic Cell Inflammatory Protein 1 (DCIP-1)/CXCL3, Murine	1 mg	Z02905 -1
	10 µg	Z02905 -10
ENA-78/CXCL5 (5-78a.a.), Human	1 mg	Z02820 -1
	20 µg	Z02820 -20
Eotaxin/CCL11, Human	1 mg	Z02835 -1
	20 µg	Z02835 -20
Eotaxin/CCL11, murine	1 mg	Z02902 -1
	20 µg	Z02902 -20
Eotaxin-2/CCL24, Human	1 mg	Z02846 -1
	20 µg	Z02846 -20
Eotaxin-3/CCL26, Human	1 mg	Z02898 -1
	20 µg	Z02898 -20
Exodus-2/CCL21, Mouse	1 mg	Z02855 -1
	20 µg	Z02855 -20
Exodus-2/CCL21, Human	1 mg	Z02843 -1
	20 µg	Z02843 -20
Fractalkine/CX3CL1, Human	1 mg	Z02828 -1
	20 µg	Z02828 -20
GRO alpha/CXCL1, Rat	1 mg	Z02858 -1
	25 µg	Z02858 -25
GRO-alpha/ KC/CXCL1, Murine	1 mg	Z02899 -1
	20 µg	Z02899 -20
GRO-alpha/MGSA/CXCL1, Human	1 mg	Z02817 -1
	25 µg	Z02817 -25
GRO-beta/CXCL2, Human	1 mg	Z02818 -1
	10 µg	Z02818 -10
GRO-gamma/CXCL3, Human	1 mg	Z02819 -1
	10 µg	Z02819 -10
HCC-4/CCL16, Human	1 mg	Z02839 -1
	20 µg	Z02839 -20
Hemofiltrate CC Chemokine-1/CCL14, Human	1 mg	Z02837 -1
	10 µg	Z02837 -10
I-309/CCL1 Human	1 mg	Z02911 -1
	10 µg	Z02911 -10
IP-10/CXCL10, Human	1 mg	Z02823 -1
	25 µg	Z02823 -25
I-TAC/CXCL11, Human	1 mg	Z02824 -1
	20 µg	Z02824 -20
Lymphotactin/XCL1, Human	1 mg	Z02827 -1
	20 µg	Z02827 -20
LIX/CXCL5 (93a.a.), Mouse	1 mg	Z02851 -1
	20 µg	Z02851 -20
Macrophage Inflammatory Protein-1 gamma/CCL9/10, Murine	1 mg	Z02901 -1
	20 µg	Z02901 -20

Name	Quantity	Cat. No.
Macrophage Inflammatory Protein-3 beta/CCL19, Murine	1 mg	Z02903 -1
	20 µg	Z02903 -20
Macrophage-Derived Chemokine/CCL22 (69a.a.), Human	1 mg	Z02844 -1
	20 µg	Z02844 -20
MCP-1/MCAF/CCL2, Human	1 mg	Z02829 -1
	20 µg	Z02829 -20
MCP-2/CCL8, Human	1 mg	Z02834 -1
	10 µg	Z02834 -10
MCP-2/CCL8, Mouse	1 mg	Z02854 -1
	20 µg	Z02854 -20
MCP-3/CCL7, Human	1 mg	Z02833 -1
	10 µg	Z02833 -10
MCP-4/CCL13, Human	1 mg	Z02836 -1
	20 µg	Z02836 -20
MDC/CCL22, Mouse	1 mg	Z02856 -1
	20 µg	Z02856 -20
MEC/CCL28, Mouse	1 mg	Z02857 -1
	20 µg	Z02857 -20
MEC/CCL28, Human	1 mg	Z02848 -1
	20 µg	Z02848 -20
MIG/CXCL9, Human	1 mg	Z02822 -1
	20 µg	Z02822 -20
MIP-1 alpha/CCL3, Human	1 mg	Z02830 -1
	20 µg	Z02830 -20
MIP-1 beta /CCL4, Human	1 mg	Z02831 -1
	10 µg	Z02831 -10
MIP-2/CXCL2, Mouse	1 mg	Z02850 -1
	20 µg	Z02850 -20
MIP-3 alpha/CCL20, Human	1 mg	Z02842 -1
	20 µg	Z02842 -20
MIP-3/CCL23, Human	1 mg	Z02845 -1
	20 µg	Z02845 -20
MIP-4/CCL18, Human	1 mg	Z02841 -1
	10 µg	Z02841 -10
MIP-5/CCL15, Human	1 mg	Z02838 -1
	25 µg	Z02838 -25
NAP-2 /CXCL7, Human	1 mg	Z02821 -1
	10 µg	Z02821 -10
Platelet Factor-4/CXCL4(PF-4/CXCL4), Human	1 mg	Z02896 -1
	20 µg	Z02896 -20
RANTES/ CCL5, Human	1 mg	Z02832 -1
	20 µg	Z02832 -20
SDF-1 alpha/CXCL12 , Murine	1 mg	Z02900 -1
	10 µg	Z02900 -10
SDF-1 alpha/CXCL12, Human	1 mg	Z02825 -1
	10 µg	Z02825 -10
SDF-1 alpha/CXCL12, Rat	1 mg	Z02859 -1
	10 µg	Z02859 -10
SDF-1 beta/CXCL12, Human	1 mg	Z02897 -1
	10 µg	Z02897 -10
SDF-1 beta/CXCL12, Mouse	1 mg	Z02852 -1
	10 µg	Z02852 -10
SDF-1 beta/CXCL12, Rat	1 mg	Z02860 -1
	10 µg	Z02860 -10
TARC/CCL17, Human	1 mg	Z02840 -1
	20 µg	Z02840 -20
TECK/CCL25, Human	1 mg	Z02847 -1
	20 µg	Z02847 -20

## Hormones

Hormones are produced by specialized glands, act as a chemical messenger that transports a signal from one cell to

another, and can function at sites away from their release locations.

### Product Overview:

Name	Quantity	Cat. No.
Exendin-4	1 mg	Z02811 -1
	100 µg	Z02811 -100
Glucagon-Like Peptide-1 (GLP-1), human	10 µg	Z00212-10
Growth Hormone (GH), Human	1 mg	Z02791 -1
	100 µg	Z02791 -100
Growth Hormone (GH), mouse	1 mg	Z02192-1
	10 µg	Z02192-10
	50 µg	Z02192-50
	1 mg	Z02021 -1
Parathyroid Hormone (PTH) (1-84), Human	10 µg	Z02021 -10
	50 µg	Z02021 -50
	1 mg	Z02792-1
Parathyroid Hormone 1-34 (PTH 1-34), Human	100 µg	Z02792-100
	1 mg	Z02793-1
Parathyroid Hormone 7-34 (PTH 7-34) , Human	100 µg	Z02793-100
	1 mg	Z02908-1
Thymosin Beta 4 Human	25 µg	Z02908-25

## Neurotrophines

Neurotrophins are a family of proteins that induce the survival, development, and function of neurons. They belong to a class of growth factors, secreted proteins that are capable of signaling particular cells to survive, differentiate, or grow. Growth factors such as neurotrophins that promote the survival of neurons are

known as neurotrophic factors. Neurotrophic factors are secreted by a target tissue and act by preventing the associated neuron from initiating programmed cell death - thus allowing the neurons to survive. Neurotrophins also induce differentiation of progenitor cells, to form neurons.

### Product Overview:

Name	Quantity	Cat. No.
Ciliary Neurotrophic Factor (CNTF), Human	1 mg	Z02745 -1
	20 µg	Z02745 -20
Glia Maturation Factor beta ( GMF-β), Human	1 mg	Z02744 -1
	10 µg	Z02744 -10
Glia maturation factor-beta(GMF-β), Murine	1 mg	Z02893 -1
	10 µg	Z02893 -10
Neurotrophin-4 (NT-4), Human	1 mg	Z02743 -1
	10 µg	Z02743 -10
NRG-1 EGF-like domain (NRG-1β2), Human	1 mg	Z02747 -1
	50 µg	Z02747 -50
Pigment Epithelium-derived Factor (PEDF), Human	1 mg	Z02722 -1
	20 µg	Z02722 -20

## Enzymes & Inhibitors

Enzymes which serve a variety of functions inside living organisms and are widely used in academic research and industrial production. Almost all processes in a biological cell require the presence of enzymes. Through years of experiences

in satisfying customer' needs in the constantly changing technological fields, GenScript has developed many widely-used enzyme products according to meet your research needs.

### Product Overview:

Name	Quantity	Cat. No.
Cu/Zn Superoxide Dismutase (SOD), Human	1 mg	Z02794 -1
	100 µg	Z02794 -100
Enterokinase, Light Chain, Porcine	100 IU	Z01003
ErbB3 Fragment (ErbB3-f), Human	1 mg	Z02748-1
	20 µg	Z02748-20
Kallikrein-1, His, Human	1 mg	Z02906-1
	20 µg	Z02906-20
Porcine Enterokinase, Lyophilized	100 IU	Z02199-100
	100 IU	Z02799-100
PreScission Protease (PSP)	250 IU	Z02799-250
	1 mg	Z02795-1
Protein Disulfide Isomerase (PDI), Human	100 µg	Z02795-100
	100 mg	Z02003
Proteinase K	1 mg	Z02797-1
	100 µg	Z02797-100
Staphylokinase	1 mg	Z02796-1
	500 µg	Z02796-500
Streptokinase	1000 IU	Z02798-1000
	10000 IU	Z02798-10000

## Virus Antigens

GenScript provides a comprehensive array of high purity and high stability virus antigens, including Cytomegalovirus, Epstein-Barr virus, Hepatitis A-E virus, Herpes Simplex virus, HIV, Human T-Lymphocyte virus, Rubella virus, SARS virus,

Varicella Zoster virus, etc. Viral proteins serve as excellent antigens in ELISA and Western Blot and in the rapid detection of relative virus seroconverters with minimal specificity problems.

### Product Overview:

Name	Quantity	Cat. No.
CMV Pp150 (UL32), CytomegaloVirus Antigen, Recombinant	1 mg	Z02027
CMV Pp28 (UL99), CytomegaloVirus Antigen, Recombinant	1 mg	Z02026
CMV Pp38 (UL80a), CytomegaloVirus Antigen, Recombinant	1 mg	Z00008
CMV Pp65 (UL83), CytomegaloVirus Antigen, Recombinant	1 mg	Z00010
Combined Hepatitis C Virus Antigen (HCV Antigen), Recombinant	1 mg	Z02018
Epstein-Barr Virus (HHV-4) p23 Protein, Recombinant	1 mg	Z00018
Epstein-Barr Virus (HHV-4) EA Protein, Recombinant	1 mg	Z02031
Epstein-Barr Virus (HHV-4) mosaic EBNA2 Protein, Recombinant	1 mg	Z02030
HAV P2C, Hepatitis A Virus Antigen, Recombinant	1 mg	Z00022
HAV P2C-P3A, Hepatitis A Virus Antigen, Recombinant	1 mg	Z00023
HAV P3C, Hepatitis A Virus Antigen, Recombinant	1 mg	Z00024
HAV VP1, Hepatitis A Virus Antigen, Recombinant	1 mg	Z00025
HAV VP1-P2A, Hepatitis A Virus Antigen, Recombinant	1 mg	Z00026
HAV VP3, Hepatitis A Virus Antigen, Recombinant	1 mg	Z00005

Name	Quantity	Cat. No.
HAV VP4-VP2, Hepatitis A Virus Antigen, Recombinant	1 mg	Z00028
HBV Core, Hepatitis B Virus Antigen, Recombinant	1 mg	Z00029
HBV HBe, Hepatitis B Virus Antigen, Recombinant	1 mg	Z00031
HCV NS3 Subtype 1c, Hepatitis C Virus Antigen, Recombinant	1 mg	Z00065
HCV NS3 Subtype 2b, Hepatitis C Virus Antigen, Recombinant	1 mg	Z00068
HCV NS3 Subtype 2c, Hepatitis C Virus Antigen, Recombinant	1 mg	Z00069
HCV NS3 Subtype 5a, Hepatitis C Virus Antigen, Recombinant	1 mg	Z00076
HCV NS3 Subtype 6a, Hepatitis C Virus Antigen, Recombinant	1 mg	Z00080
HCV NS3, Hepatitis C Virus Antigen, Recombinant	1 mg	Z00042
HCV NS4 a+b (1658-1863), Hepatitis C Virus Antigen, Recombinant	1 mg	Z00081
HCV NS5 (2061-2302), Hepatitis C Virus Antigen, Recombinant	1 mg	Z00102
HCV NS5 Genotype 1, Hepatitis C Virus Antigen, Recombinant	1 mg	Z00100
HCV NS5 Genotype 2, Hepatitis C Virus Antigen, Recombinant	1 mg	Z00107
HCV NS5 Genotype 3, Hepatitis C Virus Antigen, Recombinant	1 mg	Z00108
HCV NS5 Genotype 4, Hepatitis C Virus Antigen, Recombinant	100 µg	Z00111 -100
	500 µg	Z00111 -500
HCV NS5 Genotype 5, Hepatitis C Virus Antigen, Recombinant	1 mg	Z00110
HCV NS5 Genotype 6, Hepatitis C Virus Antigen, Recombinant	1 mg	Z00109
HCV Nucleocapsid Genotype 1, Hepatitis C Virus Antigen, Recombinant	1 mg	Z00130
HCV Nucleocapsid Genotype 4, Hepatitis C Virus Antigen, Recombinant	1 mg	Z00135
HCV Nucleocapsid Genotype 5, Hepatitis C Virus Antigen, Recombinant	1 mg	Z00134
HCV Nucleocapsid Genotype 6a, Hepatitis C Virus Antigen, Recombinant	1 mg	Z00133
HDV, Hepatitis D Virus Antigen, Recombinant	1 mg	Z00032
Hepatitis B Surface Antigen adr Subtype (HBsAg, adr)	1 mg	Z02813-1
	100 µg	Z02813-100
Hepatitis B Surface Antigen adw Subtype (HBsAg, adw)	1 mg	Z02814-1
	100 µg	Z02814-100
Hepatitis B Surface Antigen preS1 (HBsAg-preS1)	1 mg	Z02815-1
	100 µg	Z02815-100
HEV ORF2, Hepatitis E Virus Antigen, Recombinant	1 mg	Z00033
HEV ORF2/ORF3, Hepatitis E Virus Antigen, Recombinant	1 mg	Z02015
HIV Type O Envelope (synthetic), Human Immunodeficiency Virus Antigen, Recombinant	1 mg	Z02013
HIV-1 Envelope, Human Immunodeficiency Virus Antigen, Recombinant	1 mg	Z02010
HIV-1 p24 Core, Human Immunodeficiency Virus Antigen, Recombinant	1 mg	Z00150
HIV-1, 2 Envelope, Human Immunodeficiency Virus Antigen, Recombinant	1 mg	Z02014
HIV-2 gp36 Envelope (synthetic), Human Immunodeficiency Virus Antigen, Recombinant	1 mg	Z02012
HIV-2 gp36 Envelope, Human Immunodeficiency Virus Antigen, Recombinant	1 mg	Z02011
HSV-1 gD, Herpes Simplex Virus Antigen, Recombinant	1 mg	Z00058
HSV-1 gG, Herpes Simplex Virus Antigen, Recombinant	1 mg	Z00059
HSV-2 gD, Herpes Simplex Virus Antigen, Recombinant	1 mg	Z00060
HSV-2 gG, Herpes Simplex Virus Antigen, Recombinant	1 mg	Z00061
HTLV-1 Envelope, Human T-Lymphocyte Virus Antigen, Recombinant	1 mg	Z00147
HTLV-1 p24 Core, Human T-Lymphocyte Virus Antigen, Recombinant	1 mg	Z00145
Rubella Virus Capsid C	1 mg	Z00167
Rubella Virus E1 Mosaic	1 mg	Z00176
Rubella Virus E2	1 mg	Z00177
SARS-Associated Coronavirus E	1 mg	Z02017
SARS-Associated Coronavirus M	1 mg	Z02016
SARS-Associated Coronavirus Nucleocapsid (1-49)	1 mg	Z00037
SARS-Associated Coronavirus Nucleocapsid (1-49/192-220)	1 mg	Z02024
SARS-Associated Coronavirus Nucleocapsid (340-390)	1 mg	Z00039
SARS-Associated Coronavirus Spike Mosaic S (C)	1 mg	Z00030
SARS-Associated Coronavirus Spike Mosaic S (M)	1 mg	Z00041
SARS-Associated Coronavirus Spike mosaic S (N)	1 mg	Z02025
VZV ORF26, Varicella Zoster Virus Antigen, Recombinant	1 mg	Z00014
VZV ORF9, Varicella Zoster Virus Antigen, Recombinant	1 mg	Z00013

## Other Catalog Proteins

## Product Overview:

Name	Quantity	Cat. No.
Protein G	5 mg	Z02007
Glutathione S-Transferase (GST), Schistosoma japonicum	1 mg	Z02039-1
Streptavidin	5 mg	Z02043-5
	10 mg	Z02201-10
Purified Protein A	50 mg	Z02201-50
	500 mg	Z02201-500
Histone H3, human	100 µg	Z02527
Endostatin, Human	100 µg	Z02533-100
	20 µg	Z02533-20
Angiostatin K1-3, Human	10 µg	Z02730-10
	50 µg	Z02730-50
MIC-A, Human	1 mg	Z02800-1
	50 µg	Z02800-50
MIC-B, Human	1 mg	Z02801-1
	50 µg	Z02801-50
High-Mobility Group Box 1 (His6-tagged) (HMGB1), Human	1 mg	Z02803-1
	50 µg	Z02803-50
SPARC, Human	1 mg	Z02804-1
	50 µg	Z02804-50
Hirudin	1 mg	Z02812-1
	10 µg	Z02812-10

# Custom Protein Services

GenScript takes your project directly from gene synthesis to protein production! Our free Rare Codon Analysis Tool can determine whether your gene sequence is optimal, and at the same time explore means to boost your target protein expression.

## Services List

### Bacterial Protein Expression

GenScript has developed BacPower™ technologies to tackle hard-to-express and hard-to-dissolve proteins. This package guarantees delivery of 3 mg purified and soluble protein, starting from only \$2,200. GenScript offers protein customization options letting you choose your desired purity, either 75% or 85%, as well as the option of tag-free proteins.

### Yeast Protein Expression

GenScript's proprietary YeastHIGH™ technology combines all the advantages of bacterial and eukaryotic expression systems. Our yeast expression system employs stable and durable production strains that resemble mammalian protein processing.

### Baculovirus/Insect Cell Protein Expression

GenScript has pioneered secretion methods for collecting recombinant proteins from baculovirus infected insect cells. With the capacity to produce proteins in large quantities up to 100 liters per project, GenScript offers services which suit not only academic institutions but also pharmaceutical and biotechnology industries.

### Mammalian Cell Protein Expression

GenScript's proprietary 293 and CHO suspension system platform promotes fast production and delivery of recombinant proteins and monoclonal antibodies up to grams level.

### Large-scale Protein Production Service

In addition to large-scale purification service, our versatile and reliable protein expression system, which includes fermentors, WAVE Mixer™, and bioreactors, allows GenScript to provide proteins insert up to gram level to its clients in both public and private research sectors, academia, and all levels of the pharmaceutical industry.

### Protein Purification and Characterization

GenScript offers a variety of methods for protein purification and characterization. We deliver proteins in different purity levels, allowing customers to choose the ideal level of purity for their intended downstream applications.

## Competitive Advantages

### Optimum Gene™ codon optimization technology for gene expression

GenScript's advanced Optimum Gene™ codon optimization technology can optimize your gene sequence for the highest

possible level of gene expression and protein solubility. In addition, the OptimumGene™ algorithm optimizes a variety of parameters that are critical to transcription, translation, and protein folding.

### Extensive recombinant protein production experience

We have delivered thousands of difficult proteins including trans-membrane proteins, secreted proteins, proteases, and other enzymes at a success rate of greater than 90%.

### BacPower™ technology and FoldArt™ protein refolding technology

Hard-to-express and hard-to-dissolve proteins are specifically tackled by our proprietary BacPower™ technology and FoldArt™ protein refolding technology.

### Comprehensive services

GenScript provides a directional streamlined service platform that delivers projects directly from gene synthesis, to protein expression, and further to stable cell line generation, antibody production, and assay development.

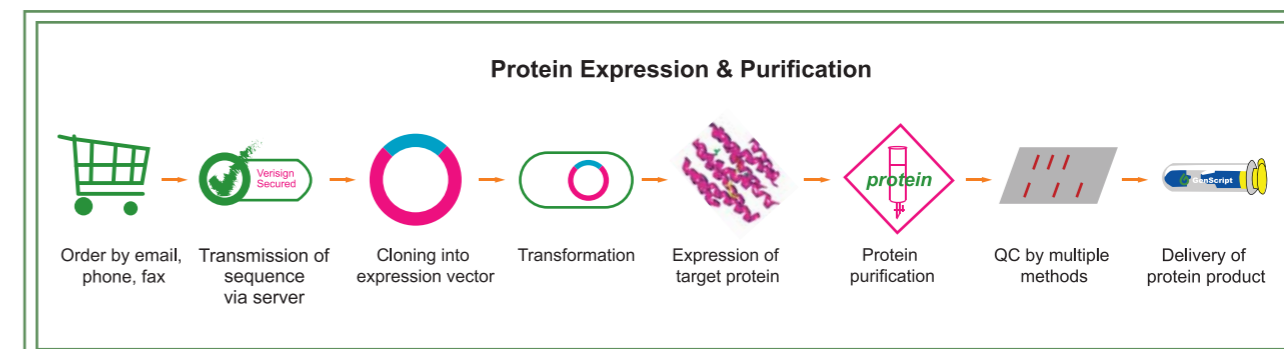
### High quality services

GenScript provides high quality protein expression services to meet your stringent requirements. We strive to produce high purity, high activity proteins in a timely fashion. The purity level of our deliverables has been over 95% with endotoxin levels lower than 0.01 EU/μg.

## Applications

GenScript has years of experience in protein expression and purification. Combining our expert specialists with industry-leading technology and state-of-the-art facilities, we are ready to deliver projects involving any expression system, construct, or purification procedure to meet your individual needs.

- Target validation
- Enzyme characterization
- High-throughput screening
- Antibody production
- Structural biology studies
- Eukaryotic protein analysis
- NMR studies with isotope-labeled proteins
- SAR (structure-activity relationships)
- Animal feed production
- Environmental engineering



## Quotations and Ordering

Quotations and orders may be placed by email, phone, or fax with either a formal PO (Purchase Order) or credit card. Please choose the most convenient ordering method.

	<b>Quotation Form:</b> Obtainable our website
	<b>Email:</b> <a href="mailto:protein@genscript.com">protein@genscript.com</a>
	<b>Phone:</b> 1-877-436-7274 (Toll-Free); 1-732-885-9188
	<b>Fax:</b> 1-732-210-0262; 1-732-885-5878
	<b>Secured Web Server:</b> <a href="https://www.genscript.com/ssl-bin/secure_data">https://www.genscript.com/ssl-bin/secure_data</a>





## Chapter 4 Antibodies

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# Overview

Reliable and well-selected antibodies are among the most effective tools available to researchers when it comes to identifying and locating specific proteins. Increasingly, antibodies have been employed to directly diagnose and treat diseases. GenScript provides a broad range of high-quality antibodies, including THE™ Elite Antibodies, Phospho-specific Antibodies, and more, that can be applied to all areas in biological research and drug discovery.

THE™ Elite antibodies consist of the most precise and effective antibodies that meet the most demanding research requirements. MiniFresh® antibodies have been launched as a trial size package to reduce your research costs. Simply determine your needs to choose the best match. Our antibodies are thoroughly tested to ensure the highest level of purity and quality.

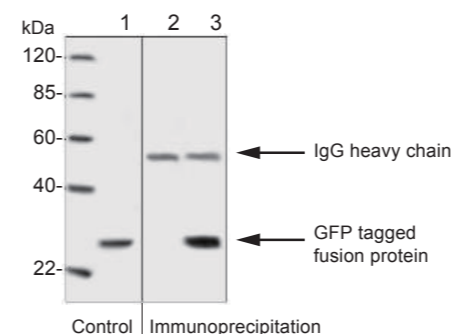
## THE™ Elite Antibodies

The most precise and effective antibodies

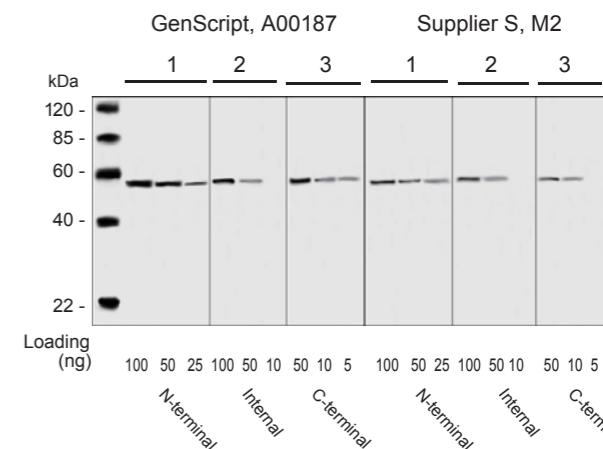
- **Wide Selection**—His Tag, HA tag, GST, cMyc, GFP, alpha tubulin, actin, and many more.
- **Ultra Specificity**—Low non-specific binding
- **Ultra Sensitivity**—Higher sensitivity than most other antibodies available on the market
- **Ultra Affinity**—Binding to target antigens with extremely low dissociation constant, Kd
- **Ultra Reactivity**—Recognition of exposed terminal and internal antigens expressed in a wide range of species and expression systems
- **Ultra Stability**—Delivered in lyophilized form which is stable for at least two years with reproducible lot-to-lot consistency
- **Ultra Clear Background**—Superior signal-to-background ratio

GenScript has developed a portfolio of THE™ Elite antibodies with proprietary technology, rigorous manufacturing and quality control processes. THE™ stands for THE unmistakable, THE irreplaceable, and THE best quality in the industry. These antibodies are the most precise and effective antibodies which meet the most demanding research requirements.

### Applications of THE™ Elite antibodies

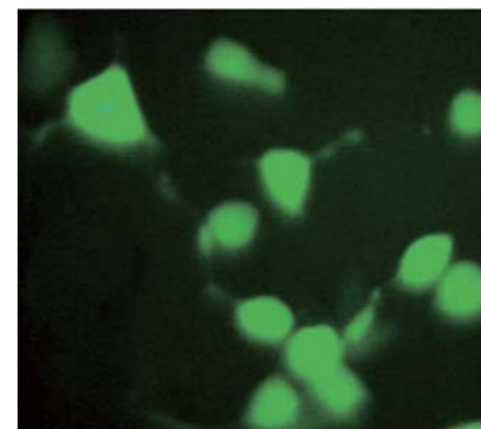


Immunoprecipitation of GFP-tagged fusion protein from cell lysates followed by western blot analysis.  
 Lane 1: Control  
 Lane 2: Negative control: Immunoprecipitates of the cell lysates incubated with Rabbit IgG Control (Cat.No. A01008).  
 Lane 3: Immunoprecipitate of the cell lysates incubated with THE™ GFP Antibody (Cat.No. A01704).

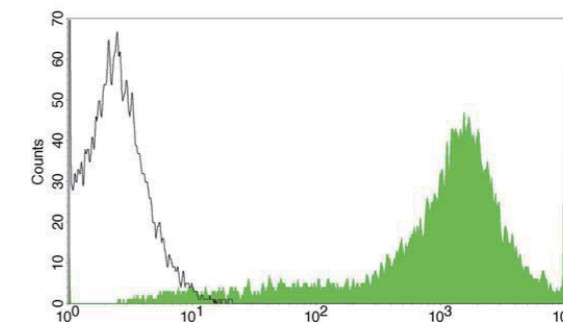


THE™ DYKDDDDK Tag Antibody (Cat. No. A00187) detects recombinant proteins with Flag-tags at terminal and internal positions. The antibody was compared with Anti-Flag M2 antibody from Supplier S.

### Western Blotting analysis of cMyc tagged fusion protein using THE™ cMyc Tag Antibody (Cat. No. A00704)

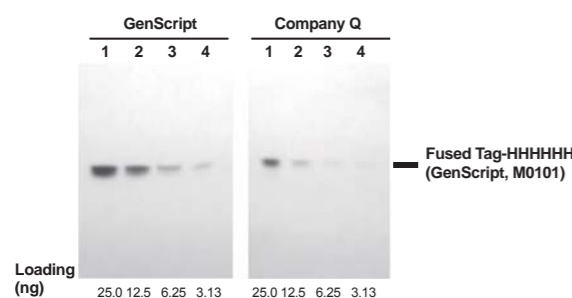


Immunofluorescence analysis of transfected HEK 293 cells expressing c-Myc tag fusion protein using THE™ c-Myc-tag Antibody (Mouse) (Cat.No. A00704)

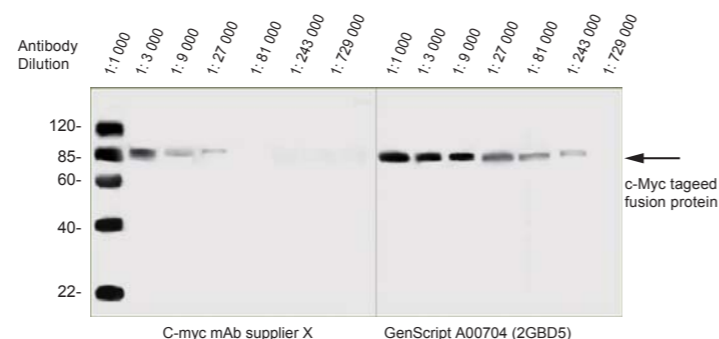


Flow cytometric analysis of transfected HEK293 cells expressing His-tagged protein using THE™ His Tag [FITC] mAb (Cat.No. A01620; green shaded histogram) or a negative control antibody (clear histogram).

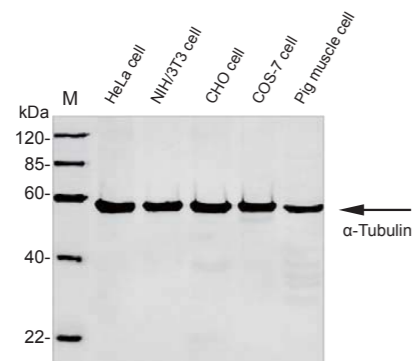
### Western blot analysis of fusion proteins: THE™ Elite antibodies vs. other suppliers



**Lanes 1-4:** 25 ng, 12.5 ng, 6.25 ng, 3.13 ng Multiple tag protein (GenScript, M0101), respectively  
**Primary antibody:** THE™ Anti-His-tag Monoclonal Antibody (Mouse) (GenScript, A00186)  
**Secondary antibody:** Goat Anti-Mouse IgG (H&L) [HRP] Polyclonal Antibody (GenScript, A00160, 1:10,000)



Western blot displays working concentration comparison of THE™ c-Myc Tag Antibody, mAb, Mouse (Cat.No. A00704) with Mouse Anti-c-Myc mAb (9E10), showing GenScript A00704 detects proteins better than antibody from supplier X with antibody dilution.  
 Both c-Myc antibodies have a starting dilution of 1:1 000 (equivalent to 1.0 µg/ml).  
 The signal was developed with IRDye™ 800 Conjugated affinity Purified Goat Anti-Mouse IgG.



Detection of  $\alpha$ -Tubulin in different cell extracts (species) using THE™  $\alpha$ -Tubulin Antibody (Cat.No. A01410).

### THE™ Elite Antibodies

#### THE™ Tag Antibodies selection guide

Tag	Specificity	Recognized tag position			Conjugation	Application	Cat. No.
		Internal	N-terminal	C-terminal			
His Tag	6× Histidines				Unconjugated	ELISA, FACS, IP, WB, IF	A00186
	5× Histidines	√	√	√	Biotin	ELISA, WB	A00613
	4× Histidines				FITC	FACS, IF	A01620
					HRP	ELISA, WB	A00612
GFP Tag	Detect all GFP variants Weak reactivity to certain RFP variants	-	-	-	Unconjugated	WB, IP, FACS, ICC/IF	A01704
cMyc Tag	EQKLISEEDL	√	√	√	Unconjugated	ELISA, WB, IP, IF	A00704
					Biotin	ELISA, WB	A00864
					HRP	ELISA, WB, IP, IF	A00863
GST Tag	Recombinant GST and GST-tagged protein	√	√	√	Unconjugated	ELISA, WB, IP	A00865
					Biotin	ELISA, WB	A00867
					HRP	ELISA, WB, IP, IF	A00866
HA Tag	YPYDVPDYA	√	√	√	Unconjugated	ELISA, WB, IP, IF	A01244
					Biotin	ELISA, WB	A01297
					FITC	FACS, IF	A01621
					HRP	ELISA, WB	A01296
Flag Tag	DYKDDDDK	√	√	√	Unconjugated	ELISA, WB, IP, IF	A00187
					Biotin	ELISA, WB	A01429
					FITC	ELISA, WB	A01632
					HRP	FACS, IF	A01428
Strep II Tag	NWSHPQFEK				Unconjugated	ELISA, WB, IP, FACS, ICC/IF	A01732
					Biotin	ELISA, WB	A01737
					HRP	ELISA, WB	A01742
					FITC	FACS, ICC/IF	A01736
V5 Tag	V5 Tag	√	√	√	Unconjugated	ELISA, WB, IP, FACS, ICC/IF	A01724
					HRP	ELISA, WB	A01733
Protein C tag	Protein C tag	√	√	√	Biotin	ELISA, WB	A01735
					Unconjugated	WP, IP, FCM, ICC/IF	A01774
PEG	PEG40K, PEG20K, PEG5K, PEG12, PEGylated drugs and PEG conjugates				Unconjugated	Competitive ELISA, Double Antigen Bridging ELISA, WB, IHC	A01795

### THE™ cAMP/cGMP Antibody

Product	THE™ cGMP Antibody (Cat. No. A01509)							
Compound	cGMP	AMP	cAMP	GMP	ADP	GDP	ATP	GTP
Cross-reactivity	100 %	<0.0001 %	<0.0001 %	<0.0001 %	<0.0001 %	<0.0001 %	<0.0001 %	<0.0001 %

Product	THE™ cAMP Antibody (Cat. No. A01508)							
Compound	cAMP	AMP	cGMP	GMP	ADP	GDP	ATP	GTP
Cross-reactivity	100%	<0.0001 %	<0.0001%	0.00817%	<0.0001 %	<0.0001 %	<0.0001 %	<0.0001 %

### THE™ anti- alpha Actin/ beta Tubulin Antibody

Target	Species Reactivity	MW	Conjugation	Application	Cat. No.
Actin	Chicken, Cow, Fish, Goat, Hamster, Human, Mouse, Pig, Rabbit	42 kDa	Unconjugated	ELISA, FACS, IP, WB, IF	A00702
			HRP	ELISA, WB	A00730
			Biotin	FACS, IF	A01546
Tubulin	Hamster, Human, Monkey, Mouse, Pig	50-55 kDa	Unconjugated	ELISA, WB, IF	A01410
			HRP	ELISA, WB	A01490
			Biotin	ELISA, WB	A01545

For more information about THE™ Elite Antibodies, please visit our webpage at [http://www.genscript.com/THE\\_antibody.html](http://www.genscript.com/THE_antibody.html).

### Product Overview:

Product	Applications	Species Reactivity	Quantity	Cat. No.
THE™ beta Actin Antibody [HRP], mAb, Mouse	ELISA, WB	NA	200 µg (5×40 µg)	A00730-200
THE™ beta Actin Antibody [HRP], mAb, Mouse	ELISA, WB	NA	40 µg	A00730-40
THE™ beta Actin Antibody, mAb, Mouse	ELISA, WB	Mouse, rabbit, chicken, human, hamster, etc.	100 µg	A00702-100
			200 µg (5×40 µg)	A00702-200
			40 µg	A00702-40
THE™ beta Actin Antibody [Biotin], mAb, Mouse	ELISA, WB	NA	100 µg	A01546
THE™ c-Myc Antibody [Biotin], mAb, Mouse	ELISA, WB, IP	NA	200 µg (5×40 µg)	A00864-200
THE™ c-Myc Antibody [HRP], mAb, Mouse	ELISA, WB, IF, IP	NA	40 µg	A00864-40
			100 µg	A00863-100
THE™ c-Myc Tag Antibody, mAb, Mouse	ELISA, WB, IF, IP	NA	100 µg	A00704-100
			200 µg (5×40 µg)	A00704-200
			40 µg	A00704-40
THE™ DYKDDDDK Tag Antibody [Biotin], mAb, Mouse	ELISA, WB, IP	NA	100 µg	A01429-100
THE™ DYKDDDDK Tag Antibody [HRP], mAb, Mouse	ELISA, WB, IP	NA	100 µg	A01428-100
THE™ DYKDDDDK Tag Antibody, mAb, Mouse	ELISA, WB, IP	NA	100 µg	A00187-100
THE™ DYKDDDDK Tag Antibody [FITC], mAb, Mouse	IF, FC	NA	100 µg	A01632
THE™ GST Antibody [Biotin], mAb, Mouse	ELISA, WB, IP	NA	200 µg (5×40 µg)	A00867-200
			40 µg	A00867-40
THE™ GST Antibody [HRP], mAb, Mouse	ELISA, WB, IP	NA	40 µg	A00866-40
THE™ GST Antibody, mAb, Mouse	ELISA, WB, IP	NA	100 µg	A00865-100

Product	Applications	Species Reactivity	Quantity	Cat. No.
THE™ GST Antibody, mAb, Mouse	ELISA, WB, IP	NA	200 µg (5×40 µg)	A00865-200
			40 µg	A00865-40
			500µg	A00865-500
THE™ HA Tag Antibody [Biotin], mAb, Mouse	ELISA, WB	NA	100 µg	A01297
THE™ HA Tag Antibody [HRP], mAb, Mouse	ELISA, WB	NA	100 µg	A01296
THE™ HA Tag Antibody, mAb, Mouse	ELISA, WB, IP	NA	100 µg	A01244-100
THE™ HA Tag Antibody [FITC], mAb, Mouse	IF, FC	NA	100 µg	A01621
THE™ alpha Tubulin Antibody [Biotin], mAb, Mouse	ELISA, WB	NA	100 µg	A01545
THE™ alpha Tubulin Antibody [HRP], mAb, Mouse	ELISA, WB	NA	100 µg	A01490
THE™ alpha Tubulin Antibody, mAb, Mouse	ELISA, WB	NA	100 µg	A01410-100
			200 µg (5×40 µg)	A01410-200
			40 µg	A01410-40
THE™ BrdU Antibody [HRP], mAb, Mouse	ELISA	NA	100 µg	A01653
THE™ BrdU Antibody, mAb, Mouse	ELISA, IF, FC	NA	100 µg	A01650-100
THE™ cAMP Antibody, mAb, Mouse	ELISA	NA	100 µg	A01509-100
			200 µg (5×40 µg)	A01509-200
			40 µg	A01509-40
THE™ cGMP Antibody, mAb, Mouse	ELISA	NA	100 µg	A01508-100
			200 µg (5×40 µg)	A01508-200
			40 µg	A01508-40
THE™ GFP Antibody, pAb, Rabbit	WB, IF, IP, FC	NA	100 µg	A01704-100
			200 µg (5×40 µg)	A01704-200
			40 µg	A01704-40
THE™ His Tag Antibody [Biotin], mAb, Mouse	ELISA, WB	NA	100 µg	A00613
THE™ His Tag Antibody [FITC], mAb, Mouse	IF, FC	NA	100 µg	A01620
THE™ His Tag Antibody [HRP], mAb, Mouse	ELISA, WB	NA	100 µg	A00612
THE™ His Tag Antibody, mAb, Mouse	ELISA, WB, IF, FACS, IP	NA	100 µg	A00186-100
THE™ NWSHPQFEK Tag Antibody	ELISA, WB, IF, FACS, IP	NA	100 µg	A01732-100
			200 µg (5×40 µg)	A01732-200
			40 µg	A01732-40
THE™ NWSHPQFEK Tag Antibody [Biotin], mAb, Mouse	ELISA, WB	NA	100 µg	A01737-100
			200 µg (5×40 µg)	A01737-200
			40 µg	A01737-40
THE™ NWSHPQFEK Tag Antibody [FITC], mAb, Mouse	IF, FACS	NA	100 µg	A01736-100
THE™ NWSHPQFEK Tag Antibody [HRP], mAb, Mouse	ELISA, WB	NA	100 µg	A01742-100
			200 µg (5×40 µg)	A01742-200
			40 µg	A01742-40
THE™ Protein C Tag Antibody, mAb, Mouse	ELISA, WB, IF, IP, FC	NA	100 µg	A01774-100
			200 µg (5×40 µg)	A01774-200
			40 µg	A01774-40
THE™ V5 Tag Antibody [Biotin], mAb, Mouse	ELISA, WB	NA	100 µg	A01735-100
THE™ V5 Tag Antibody [HRP], mAb, Mouse	ELISA, WB	NA	100 µg	A01733-100
THE™ V5 Tag Antibody, mAb, Mouse	ELISA, WB, IF, FACS, IP	NA	100 µg	A01724-100
			200 µg (5×40 µg)	A01724-200
			40 µg	A01724-40

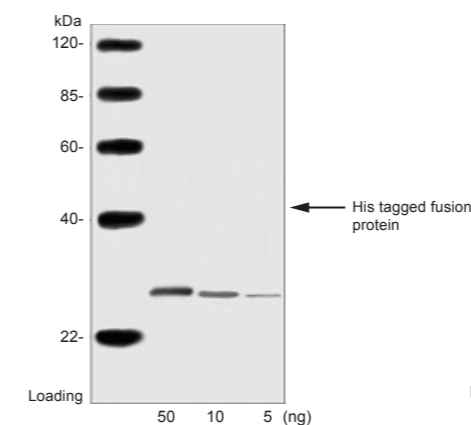
## Epitope Tag Antibodies

### The most comprehensive tag antibody pool

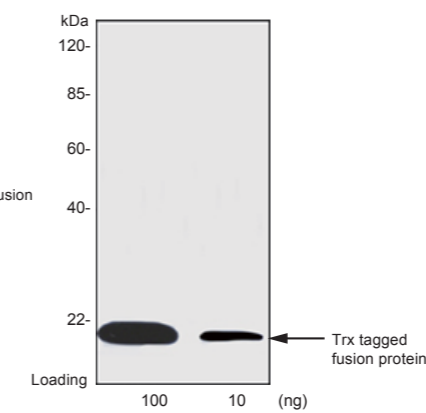
- **Comprehensive pool:** Over 80 antibodies against > 40 different epitope tags
- **Long-term stability:** Lyophilized form remains stable for at least two years
- **Superior sensitivity:** Improved immunoassay sensitivity
- **Lot-to-lot consistency:** Rigorous quality control and manufacturing processes guarantee delivery of high quality products
- **Ultra convenience:** Suitable for use in multiple applications
- **Wide choices:** Conjugated and unconjugated antibodies for different application requirements

An epitope is an antigenic determinant, a biological structure or sequence to which an antibody binds. Recombinant DNA technology allows us to construct fusion proteins expressed from a gene of interest with an epitope tag. These fusion proteins can be identified and purified by using epitope tag-specific antibodies, which simplifies the time-consuming and labor-intensive purification workflow. GenScript offers a comprehensive tag antibody portfolio against 40 different epitope tags, including the most commonly used tags, such as His tag (6-Histidine), HA (Hemagglutinin) tag, cMyc tag, GST tag, and DYKDDDDK. All GenScript antibodies are carefully tested by multiple methods and produced by rigorous manufacturing and QC processes to ensure their specific, consistent, and efficient performance.

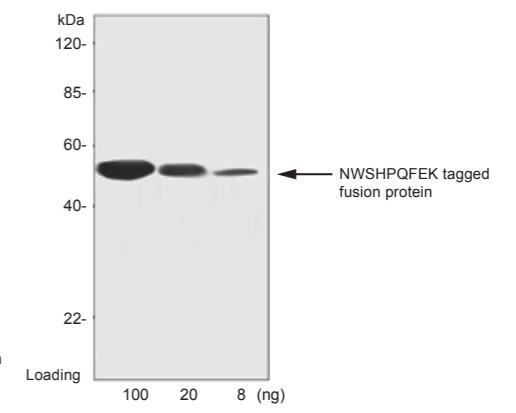
### High sensitivity: Western blot analysis of Epitope Tag Antibodies



Western blot analysis of His-tagged fusion protein using 1 µg/ml of rabbit anti-His tag antibody (Cat.No. A00174)

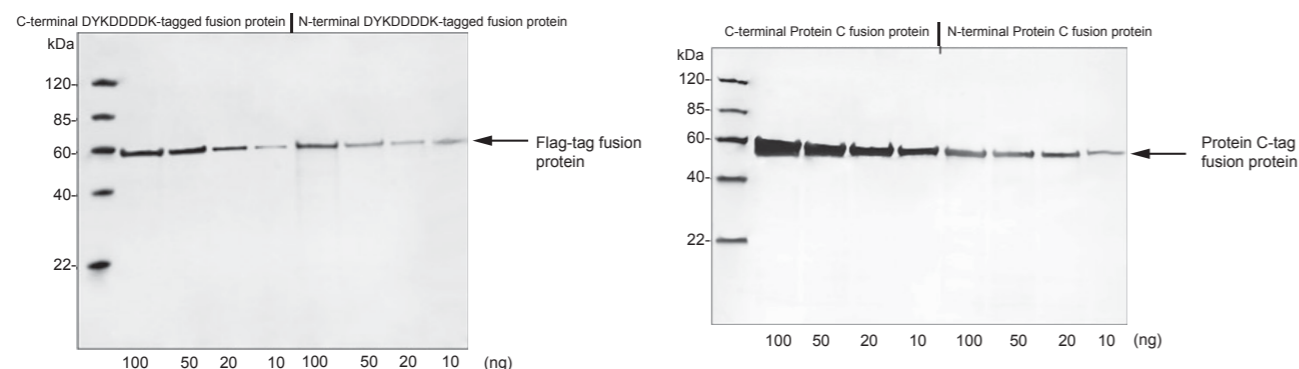


Western blot analysis of Trx-tagged fusion protein using 1 µg/ml of rabbit anti-Trx-tag antibody (Cat.No. A00180)



Western blot analysis of Strep II-tagged fusion protein using rabbit anti-NWSHPQFEK antibody (Cat.No. A00626)

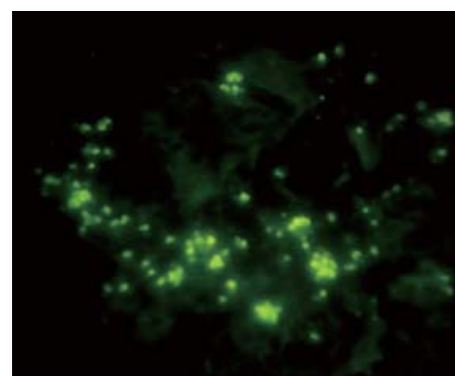
### Detection of protein tags at different terminal positions using Epitope Tag antibodies



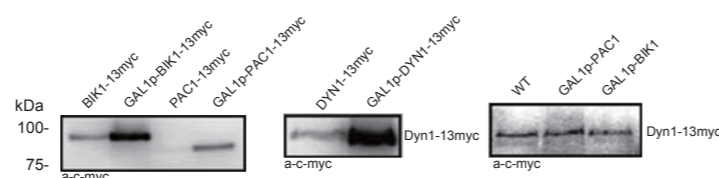
Western blot analysis of Flag-tagged fusion proteins expressed in *E. coli* using 1 µg/ml of rabbit anti-DYKDDDDK-tag antibody (Cat.No. A00170)

Western blot analysis of Protein C-tagged fusion proteins expressed in *E. coli* using 1 µg/ml of rabbit anti-Protein C-tag antibody (Cat.No. A00637)

### Broad applications using Epitope tag antibodies



Immunofluorescent analysis of human kidney tissue using rabbit anti-c-Myc-tag antibody (Cat.No. A00172)



Rabbit anti-c-Myc-tag antibody (Cat.No. A00172) was used in this western blot to demonstrate the overexpression of Bik1, Pac1, or Dyn1 from GAL1 promoter in budding yeast.

Left and middle:

Western blot of cell lysates prepared from strains with either an endogenous or GAL1 promoter driving expression of designated 13myc-tagged gene.

Right:

Western blot of Dyn1-13myc protein in strains with either endogenous or GAL1 promoter driven expression of PAC1 or BIK1.

### Product Overview:

Product	Applications	Species Reactivity	Quantity	Cat. No.
THE™ Anti-c-Myc-tag [Biotin] mAb (Mouse)	ELISA, WB, IF, IP	NA	40 µg	A00864-40
			200 µg (5×40 µg)	A00864-200
THE™ Anti-c-Myc-tag [HRP] mAb (Mouse)	ELISA, WB, IF, IP	NA	40 µg	A00863-40
			100 µg	A00863-100
THE™ Anti-c-Myc-tag mAb (Mouse)	ELISA, WB, IF, IP	NA	40 µg	A00704-40
			100 µg	A00704-100
THE™ Anti-GST-tag [HRP] mAb (Mouse)	ELISA, WB, IP	NA	40 µg	A00866-40
			100 µg	A00866-100
THE™ Anti-GST-tag mAb (Mouse)	ELISA, WB, IP	NA	40 µg	A00865-40
			100 µg	A00865-100
THE™ Anti-GST-tag mAb (Mouse)	ELISA, WB, IP	NA	200 µg (5×40 µg)	A00865-200
			500 µg	A00865-500
THE™ Anti-GST-tag [Biotin] mAb (Mouse)	ELISA, WB, IP	NA	40 µg	A00867-40
			200 µg (5×40 µg)	A00867-200

Product	Applications	Species Reactivity	Quantity	Cat. No.
THE™ Anti-HA-tag [Biotin] mAb (Mouse)	ELISA, WB	NA	100 µg	A01297-100
THE™ Anti-HA-tag [HRP] mAb (Mouse)	ELISA, WB	NA	100 µg	A01296-100
THE™ Anti-HA-Tag mAb (Mouse)	ELISA, WB, IP	NA	100 µg	A01244-100
THE™ Anti-His [Biotin] mAb	ELISA, WB	NA	100 µg	A00613-100
THE™ Anti-His [HRP] mAb	ELISA, WB	NA	100 µg	A00612-100
THE™ Anti-His mAb (Mouse)	ELISA, WB, IF, FACS, IP	NA	100 µg	A00186-100
THE™ Mouse Anti-DYKDDDDK-tag mAb	ELISA, WB, IP	NA	100 µg	A00187-100
THE™ Mouse Anti-DYKDDDDK-tag mAb (Biotin)	ELISA, WB, IP	NA	100 µg	A01429-100
THE™ Mouse Anti-DYKDDDDK-tag mAb (HRP)	ELISA, WB, IP	NA	100 µg	A01428-100
AU1-tag Antibody, pAb, Rabbit	ELISA, WB	NA	40 µg	A00628-40
			200 µg (5×40 µg)	A00628-200
Avi-tag Antibody, pAb, Rabbit	ELISA, WB	NA	40 µg	A00674-40
			200 µg (5×40 µg)	A00674-200
B-tag Antibody, pAb, Rabbit	ELISA, WB	NA	40 µg	A00638-40
			200 µg (5×40 µg)	A00638-200
CBP-tag Antibody, pAb, Rabbit	ELISA, WB	Mouse, Rat, Bovine, Rabbit	40 µg	A00635-40
			200 µg (5×40 µg)	A00635-200
cGFP-tag Antibody, mAb, Mouse	ELISA, WB	NA	40 µg	A00185-40
			200 µg (5×40 µg)	A00185-200
c-Myc-tag Antibody [HRP], pAb, Rabbit	ELISA, WB	NA	40 µg	A00173-40
			100 µg	A00173-100
c-Myc-tag Antibody, pAb, Rabbit	ELISA, WB, IF, IP	NA	40 µg	A00172-40
			200 µg (5×40 µg)	A00172-200
Cre Recombinase Antibody, mAb, Mouse	ELISA, WB	NA	40 µg	A00888-40
			200 µg (5×40 µg)	A00888-200
DDDDK-tag Antibody, pAb, Rabbit	ELISA, WB	NA	40 µg	A00676-40
			200 µg (5×40 µg)	A00676-200
DYKDDDDK-tag Antibody, pAb, Rabbit	ELISA, WB, IF, FACS	NA	40 µg	A00170-40
			200 µg (5×40 µg)	A00170-200
E2-tag Antibody, pAb, Rabbit	ELISA, WB	NA	40 µg	A00630-40
			200 µg (5×40 µg)	A00630-200
E-tag Antibody [HRP], pAb, Rabbit	ELISA, WB	NA	40 µg	A00874-40
			200 µg (5×40 µg)	A00874-200
E-tag Antibody, pAb, Rabbit	ELISA, WB	NA	40 µg	A00631-40
			200 µg (5×40 µg)	A00631-200
GFP Antibody, pAb, Rabbit	ELISA, WB, IP	NA	40 µg	A01388-40
			200 µg (5×40 µg)	A01388-200
Glu-Glu-tag Antibody, pAb, Rabbit	ELISA, WB	NA	40 µg	A00627-40
			200 µg (×40 µg)	A00627-200
GST-tag Antibody [Biotin], pAb, Rabbit	ELISA, WB	<i>Schistosoma japonicum</i>	40 µg	A00202-40
			200 µg (5×40 µg)	A00202-200
GST-tag Antibody [HRP], pAb, Goat	ELISA, WB	NA	40 µg	A01380-40
			200 µg (×40 µg)	A01380-200
GST-tag Antibody [HRP], pAb, Rabbit	ELISA, WB	<i>Schistosoma japonicum</i>	40 µg	A00130-40
			200 µg (5×40 µg)	A00130-200
GST-tag Antibody, pAb, Goat	ELISA, WB	NA	40 µg	A01379-40
			200 µg (5×40 µg)	A01379-200
GST-tag Antibody, pAb, Rabbit	ELISA, WB	<i>Schistosoma japonicum</i>	40 µg	A00097-40
			200 µg (5×40 µg)	A00097-200
HA-tag Antibody [Biotin], pAb, Goat	ELISA, WB	NA	40 µg	A00203-40
			200 µg (5×40 µg)	A00203-200
HA-tag Antibody [HRP], pAb, Goat	ELISA, WB	NA	40 µg	A00169-40
			200 µg (5×40 µg)	A00169-200
HA-tag Antibody, pAb, Goat	ELISA, WB, IF, IP	NA	40 µg	A00168-40
			200 µg (5×40 µg)	A00168-200
HAT-tag Antibody, pAb, Rabbit	ELISA, WB	NA	40 µg	A00636-40
			200 µg (5×40 µg)	A00636-200

## Control Antibodies/Loading Control Antibodies

### Isotype Controls

The selection of an appropriate isotype control is key to a successful flow cytometry experiment. Isotype control antibodies that have no relevant specificity can distinguish non-specific "background" staining from specific antibody staining. Three main factors contribute to the levels of background staining associated with a primary antibody: a) binding to Fc receptors on target cells, b) non-specific protein interactions with cellular proteins, lipids, or carbohydrates, and c) cell autofluorescence.

All of these factors vary greatly depending on the target cell type and the isotype of the primary antibody. Therefore, in order to accurately determine the level of specific staining by the primary antibody, isotype controls need to be matched to the specific primary antibodies being used. GenScript offers a series of isotype control antibodies that can be used in your research.

#### Product Overview:

Product	Quantity
Chicken IgY Control (Whole Molecule), Purified	4 mg
Goat IgG Control (Whole Molecule), Purified	4 mg
Human IgG Control [FITC] (Whole Molecule), Purified	0.5 mg
Human IgG Control (Whole Molecule), Purified	4 mg
Mouse IgG control (Whole Molecule), Purified	1 mg
Mouse IgG Control [FITC] (Whole Molecule), Purified	0.5 mg
Rabbit IgG Control (Whole Molecule), Purified	4 mg
Rabbit IgG Control [FITC] (Whole Molecule), Purified	0.5 mg

### Loading Controls

Loading control proteins are known to be constitutively and stably expressed at high levels in almost all tissues and cells. Housekeeping proteins, such as GAPDH, tubulin, and actin represent some of the well known loading control proteins. GenScript offers a wide selection of polyclonal and monoclonal

loading control antibodies against GAPDH,  $\alpha$ -tubulin, and  $\beta$ -actin for several species. HRP- and biotin-conjugated versions of these antibodies are also available. GenScript offers a series of loading control antibodies that can be used in your research.

#### Product Overview:

Product	Applications	Species Reactivity	Quantity	Cat. No.
THE™ Anti- $\alpha$ -Tubulin Monoclonal Antibody (Mouse)	ELISA, WB	NA	100 $\mu$ g	A01410
THE™ Anti- $\beta$ -Actin [HRP] Monoclonal Antibody (Mouse)	ELISA, WB	NA	40 $\mu$ g 200 $\mu$ g	A00730 A00730
THE™ Anti- $\beta$ -Actin Monoclonal Antibody (Mouse)	ELISA, WB	Mouse, rabbit, chicken, human, hamster, cow, goat, fish, pig	40 $\mu$ g 200 $\mu$ g 100 $\mu$ g	A00702 A00702 A00702
GAPDH Antibody [Biotin], pAb, Goat	WB	Human, mouse, rat, goat, rabbit, chicken, hamster, bovine, swine, fish, <i>E. coli</i>	40 $\mu$ g 200 $\mu$ g	A00915 A00915
GAPDH Antibody [HRP], pAb, Goat	WB	Human, mouse, rat, goat, rabbit, chicken, hamster, bovine, swine, fish, <i>E. coli</i>	40 $\mu$ g 200 $\mu$ g	A00192 A00192

Product	Applications	Species Reactivity	Quantity	Cat. No.
His-tag Antibody, pAb, Rabbit	ELISA, WB	NA	40 $\mu$ g 200 $\mu$ g (5 $\times$ 40 $\mu$ g)	A00174-40 A00174-200
His-tag antibody [Biotin], pAb, Rabbit	WB	NA	40 $\mu$ g	A00205-40
HSV-tag Antibody, pAb, Rabbit	ELISA, WB	NA	40 $\mu$ g	A00624-40
KLH Antibody, mAb, Mouse	ELISA	NA	40 $\mu$ g	A01486-40
KT3-tag Antibody, pAb, Rabbit	ELISA, WB	NA	40 $\mu$ g 200 $\mu$ g (5 $\times$ 40 $\mu$ g)	A00632-40 A00632-200
MAT-tag Antibody, pAb, Rabbit	ELISA, WB	NA	40 $\mu$ g 200 $\mu$ g (5 $\times$ 40 $\mu$ g)	A00681-40 A00681-200
MBP-tag Antibody, mAb, Mouse	ELISA, WB	NA	40 $\mu$ g 200 $\mu$ g (5 $\times$ 40 $\mu$ g)	A00190-40 A00190-200
NWSHPQFEK Antibody [HRP], pAb, Rabbit	ELISA, WB	NA	40 $\mu$ g	A00875-40
NWSHPQFEK Antibody, pAb, Rabbit	ELISA, WB	NA	40 $\mu$ g 200 $\mu$ g (5 $\times$ 40 $\mu$ g)	A00626-40 A00626-200
Protein A Antibody [HRP], pAb, Chicken	ELISA, WB	NA	40 $\mu$ g 200 $\mu$ g (5 $\times$ 40 $\mu$ g)	A00729-40 A00729-200
Protein C-tag Antibody (HPC4), pAb, Rabbit	ELISA, WB	NA	40 $\mu$ g 200 $\mu$ g (5 $\times$ 40 $\mu$ g)	A00637-40 A00637-200
RFP-tag Antibody, pAb, Rabbit	ELISA, WB	NA	40 $\mu$ g 200 $\mu$ g (5 $\times$ 40 $\mu$ g)	A00682-40 A00682-200
S1-tag Antibody, pAb, Rabbit	ELISA, WB	NA	40 $\mu$ g 200 $\mu$ g (5 $\times$ 40 $\mu$ g)	A00679-40 A00679-200
SNAP-tag Antibody, pAb, Rabbit	ELISA, WB	NA	40 $\mu$ g 200 $\mu$ g (5 $\times$ 40 $\mu$ g)	A00684-40 A00684-200
SRT-tag Antibody, pAb, Rabbit	ELISA, WB	NA	40 $\mu$ g 200 $\mu$ g (5 $\times$ 40 $\mu$ g)	A00725-40 A00725-200
S-tag Antibody, pAb, Rabbit	ELISA, WB	NA	100 $\mu$ g	A00625-100
SUMO-tag Antibody, pAb, Rabbit	ELISA, WB	NA	500 $\mu$ g	A00640
T7-tag Antibody, pAb, Rabbit	WB	NA	40 $\mu$ g 200 $\mu$ g (5 $\times$ 40 $\mu$ g)	A00622-40 A00622-200
tag-100-tag Antibody, pAb, Rabbit	ELISA, WB	NA	40 $\mu$ g 200 $\mu$ g (5 $\times$ 40 $\mu$ g)	A00677-40 A00677-200
TAP-tag Antibody [HRP], pAb, Rabbit	ELISA, WB	NA	40 $\mu$ g 200 $\mu$ g (5 $\times$ 40 $\mu$ g)	A01435-40 A01435-200
TAP-tag Antibody, pAb, Rabbit	ELISA, WB	NA	40 $\mu$ g 200 $\mu$ g (5 $\times$ 40 $\mu$ g)	A00683-40 A00683-200
TF-tag Antibody, pAb, Rabbit	ELISA, WB	NA	40 $\mu$ g	A01329-40
Trx-tag Antibody, mAb, Mouse	ELISA, WB	<i>E. coli</i> and human	40 $\mu$ g 200 $\mu$ g (5 $\times$ 40 $\mu$ g)	A00180-40 A00180-200
Trx-tag Antibody, pAb, Goat	ELISA, WB,	<i>E. coli</i> and human	40 $\mu$ g 200 $\mu$ g (5 $\times$ 40 $\mu$ g)	A00129-40 A00129-200
Ty1-tag Antibody, pAb, Rabbit	ELISA, WB, IP	NA	40 $\mu$ g 200 $\mu$ g (5 $\times$ 40 $\mu$ g)	A01004-40 A01004-200
Universal-tag Antibody, pAb, Rabbit	ELISA, WB	NA	40 $\mu$ g 200 $\mu$ g (5 $\times$ 40 $\mu$ g)	A00680-40 A00680-200
V5-tag Antibody [HRP], pAb, Rabbit	ELISA, WB	NA	40 $\mu$ g 200 $\mu$ g (5 $\times$ 40 $\mu$ g)	A00877-40 A00877-200
V5-tag Antibody, mAb, Mouse	ELISA, WB, IHC	NA	100 $\mu$ g	A00641-100
V5-tag Antibody, pAb, Rabbit	ELISA, WB	NA	40 $\mu$ g	A00623-40
VSV-G-tag Antibody [HRP], pAb, Rabbit	ELISA, WB	NA	40 $\mu$ g 200 $\mu$ g (5 $\times$ 40 $\mu$ g)	A00872-40 A00872-200
VSV-G-tag Antibody, pAb, Rabbit	ELISA, WB, IP	NA	40 $\mu$ g 200 $\mu$ g (5 $\times$ 40 $\mu$ g)	A00199-40 A00199-200

Product	Applications	Species Reactivity	Quantity	Cat. No.
GAPDH Antibody, mAb, Mouse	WB, IF	Human, cow, pig, rat and other mammals, avian	100 µg	A00084
GAPDH Antibody, pAb, Goat	ELISA, WB	Human, mouse, rat, goat, rabbit, chicken hamster, bovine, swine, fish, <i>E. coli</i>	40 µg 200 µg	A00191-40 A00191-200
α-Actin-1 Antibody, pAb, Rabbit	WB	NA	40 µg 200 µg	A00885-40 A00885-200
β-Tubulin III Antibody, pAb, Rabbit	ELISA, WB, IHC, FACS	Human, mouse, rat*	40 µg 200 µg	A01203-40 A01203-200

\*: This product has not been tested with reactivity to other species.

NA: Not Available.

 For more information on Loading Control Antibodies, visit [http://www.genscript.com/loading\\_control\\_antibody.html](http://www.genscript.com/loading_control_antibody.html)

## Primary Antibodies

GenScript has a collection of primary antibodies for a broad spectrum of biomolecules. They are available as high specificity monoclonal antibodies and/or as polyclonal antibodies. These antibodies are useful in detecting specific biomolecules and

measuring changes in their level and specificity due to modifications such as phosphorylation, methylation, or glycosylation.

### Product Overview:

Product	Applications	Species Reactivity	Quantity	Cat. No.
Lys20p, Lys21p Antibody, mAb, Mouse	WB, IF	Yeast	100 µg	A00102
Nab1p Antibody (methylated), mAb, Mouse	WB, IF, ICC	Yeast	100 µg	A00103
Nop1p Antibody, mAb, Mouse	WB, IF	Yeast	100 µg	A00105
Nop2p Antibody, mAb, Mouse	WB, IF	Yeast	100 µg	A00106
Nop5p, Nop6p Antibody, mAb, Mouse	IF, Immunoblotting	Yeast	100 µg	A00108
Nop5p/Nop58p Antibody, mAb, Mouse	WB, IF	Yeast	100 µg	A00107
Nsp1p Antibody, mAb, Mouse	WB, IF	Yeast	100 µg	A00109
Nsr1p Antibody, mAb, Mouse	WB, IF	Yeast	100 µg	A00110
Pab1p Antibody, mAb, Mouse	WB, IF	Yeast	100 µg	A00111
Pdi1p Antibody, mAb, Mouse	WB, IF	Yeast	100 µg	A00112
Pma1p Antibody, mAb, Mouse	WB, IF	Yeast	100 µg	A00101
ADP Antibody, pAb, Rabbit	ELISA, WB	NA	40 µl	A01316-40
ADP Antibody, pAb, Rabbit	ELISA, WB	NA	200 µl	A01316-200
AMPK Alpha-1 Chain Antibody, pAb, Rabbit	ELISA, WB	Mouse*	40 µg	A00893-40
AMPK Alpha-1 Chain Antibody, pAb, Rabbit	ELISA, WB	NA	200 µg	A00893-200
Annexin A8 Antibody, pAb, Rabbit	WB	Human*	100 µg	A00703
ApoM Antibody, pAb, Rabbit	ELISA, WB	Mouse*	40 µg	A00954-40
ApoM Antibody, pAb, Rabbit	ELISA, WB	Mouse*	200 µg	A00954-200
BMP-7 Antibody (1G10H5), mAb, Mouse	ELISA, WB	Human*	200 µg	A01286-200
BMP-7 Antibody (1G10H5), mAb, Mouse	ELISA, WB	Human*	40 µg	A01286-40
cAMP Antibody, pAb, Rabbit	ELISA	NA	200 µl	A00614-200

Product	Applications	Species Reactivity	Quantity	Cat. No.
cAMP Antibody, pAb, Rabbit	ELISA	NA	40 µl	A00614-40
CCR3 Antibody, pAb, Rabbit	ELISA, IHC	Human*	200 µg 40 µg	A00977-200 A00977-40
CCR5 Antibody, pAb, Rabbit	ELISA, IHC	Human*	200 µg 40 µg	A00979-200 A00979-40
cGMP Antibody, pAb, Rabbit	ELISA, WB	NA	200 µl 40 µl	A00615-200 A00615-40
Connexin 30 Antibody, pAb, Rabbit	ELISA, WB	Mouse, Human, Rat, Bovine	40 µg 200 µg	A00892-40 A00892-200
Cre Recombinase Antibody, mAb, Mouse	ELISA, WB	<i>E. coli</i>	40 µg	A00888-40
CXCR2 Antibody, pAb, Rabbit	ELISA, WB, IHC	Human*	200 µg 40 µg	A00993-200 A00993-40
Cytochrome P450 2C23 Antibody, pAb, Rabbit	ELISA, WB	Mouse*	40 µg 200 µg	A00891-40 A00891-200
Enterokinase Antibody, mAb, Mouse	ELISA, WB	Bovine, Porcine	40 µg 200 µg	A00889-40 A00889-200
Estrogen Receptor Beta Antibody, pAb, Rabbit	ELISA, WB	Mouse	200 µg 40 µg	A00939-200 A00939-40
FGF-16 Antibody (8B6D8), mAb, Mouse	ELISA, WB	Human	200 µg 40 µg	A01468-200 A01468-40
FGF-16 Antibody (8D6F2), mAb, Mouse	ELISA, WB	Human	200 µg 40 µg	A01469-200 A01469-40
FGF-16 Antibody (9D6B4), mAb, Mouse	ELISA, WB	Human	200 µg 40 µg	A01470-200 A01470-40
FGF-6 Antibody, mAb, Mouse	ELISA, WB	Human	200 µg 40 µg	A01411-200 A01411-40
FGF-Acidic Antibody (5F12C10), mAb, Mouse	ELISA, WB	Human	200 µg 40 µg	A01282-200 A01282-40
FGF-Acidic Antibody (5F5G8), mAb, Mouse	ELISA, WB	Human	200 µg 40 µg	A01281-200 A01281-40
GAD65 Antibody, pAb, Rabbit	WB	Human	200 µg 40 µg	A01496-200 A01496-40
GFP Antibody, pAb, Rabbit	ELISA, WB, IP	NA	40 µg 100 µg	A01388-40 A01388-100
GM-CSF Antibody (1B3E11), mAb, Mouse	ELISA, WB	Human	200 µg 40 µg	A01287-200 A01287-40
GM-CSF Antibody (4D6C4), mAb, Mouse	ELISA, WB	Human	200 µg 40 µg	A01290-200 A01290-40
Histone H4 Antibody, pAb, Rabbit	ELISA, WB	Human, Mouse, Rat, Bovine, Fruit fly, Maze, Baker's yeast	40 µg 200 µg	A01176-40 A01176-200
HRP Antibody (Horseradish Peroxidase), pAb, Rabbit	ELISA	Horseradish	200 µg	A00619
Human CT-1 Antibody (6F7F9), mAb, Mouse	ELISA, WB	Human*	40 µg 200 µg	A01060-40 A01060-200
Human RANTES Antibody (1E11E6), mAb, Mouse	ELISA, WB	Human	200 µg 40 µg	A01475-200 A01475-40
Human RANTES Antibody (2H8G2), mAb, Mouse	ELISA, WB	Human	200 µg 40 µg	A01476-200 A01476-40
Human RANTES Antibody (4A10F2), mAb, Mouse	ELISA, WB	Human	200 µg 40 µg	A01479-200 A01479-40
IDO Antibody, pAb, Rabbit	WB	Mouse*	40 µg 200 µg	A00887-40 A00887-200
IL-1 beta Antibody (6B1G11), mAb, Mouse	ELISA, WB	Human	200 µg 40 µg	A01485-200 A01485-40
IL-1 beta Antibody (7C10B9), mAb, Mouse	ELISA	Human	200 µg 40 µg	A01487-200 A01487-40
IL-8 Antibody, mAb, Mouse	ELISA, WB	Human	500 µg	A00044-500

Product	Applications	Species Reactivity	Quantity	Cat. No.
IL-8 Antibody, mAb, Mouse	ELISA, WB	Human	100 µg	A00044-100
IP-10 Antibody, mAb, Mouse	ELISA, WB	Human*	500 µg 100 µg	A00163-500 A00163-100
KLH Antibody, mAb, Mouse	ELISA	<i>Megathura crenulata</i>	40 µg 100 µg	A01486-40 A01486-100
MARCKS Antibody, pAb, Rabbit	WB, IF, ICC	Rat	100 µg	A00155
M-CSF Antibody, mAb, Mouse	ELISA, WB	Human*	500 µg 100 µg	A00184-500 A00184-100
Mitoferrin-1 Antibody, pAb, Rabbit	ELISA, WB	Mouse*	200 µg 40 µg	A00916-200 A00916-40
MPS1/RPS27 Antibody, mAb, Mouse	ELISA, WB	Human*	200 µg 40 µg	A01056-200 A01056-40
PCNA Antibody, mAb, Mouse	WB	Human*	200 µg 40 µg	A01055-200 A01055-40
PEN2 Antibody, pAb, Rabbit	ELISA, WB	Human, Mouse, Rat, Bovine	200 µg 40 µg	A00882-200 A00882-40
Peroxiredoxin-6 Antibody, pAb, Rabbit	ELISA, WB	Human, Mouse, Pig, Bovine, Orangutan	200 µg 40 µg	A00962-200 A00962-40
PGK1 Antibody, pAb, Rabbit	ELISA, WB	Human, Mouse, Chicken, Fruit fly, Zebra fish	40 µg 200 µg	A00961-40 A00961-200
Piwi-like Protein 1 Antibody, pAb, Rabbit	ELISA, WB	Human	200 µg 40 µg	A00963-200 A00963-40
PKC ε Antibody, pAb, Rabbit	ELISA, WB	Mouse, Rat, Human, Rabbit	40 µg	A00675
PKCγ Antibody, pAb, Rabbit	WB	Human, Mouse	200 µg	A00904-200
PKCγ Antibody, pAb, Rabbit	WB	Human, Mouse	40 µg	A00904-40
PKCδ Antibody, pAb, Rabbit	ELISA, WB	Human, Mouse	200 µg 40 µg	A01067-200 A01067-40
PON2 Antibody, pAb, Rabbit	WB	Mouse*	40 µg 200 µg	A00816-40 A00816-200
Presenilin 2 Antibody, pAb, Rabbit	ELISA, WB	Human, Mouse	200 µg 40 µg	A00943-200 A00943-40
Prohibitin Antibody, pAb, Rabbit	WB	Human, Rat	200 µg 40 µg	A00706-200 A00706-40
Protein A Antibody [HRP], pAb, Chicken	ELISA, WB	NA	200 µg 40 µg 100 µg	A00729-200 A00729-40 A00729-100
Protein A Antibody, pAb, Chicken	ELISA, WB	NA	200 µg 40 µg 100 µg	A00728-200 A00728-40 A00728-100
RAGE Antibody, pAb, Rabbit	ELISA, WB	Human*	200 µg 40 µg	A00972-200 A00972-40
RAP1A and RAP1B Antibody, pAb, Rabbit	ELISA, WB	Human, Mouse, Rat, Bovine, Chicken, Common carp, Zebrafish, African clawed frog	40 µg	A01047-40
Runx3 Antibody, pAb, Rabbit	ELISA, WB	Mouse*	200 µg 40 µg	A00973-200 A00973-40
SAA1 Antibody, pAb, Rabbit	ELISA, WB	Human, Mouse, Rat, Bovine	200 µg 40 µg	A00944-200 A00944-40
SCF Antibody (1C5G10), mAb, Mouse	ELISA, WB	Human*	200 µg 40 µg	A01061-200 A01061-40
Serum Amyloid P Antibody, pAb, Rabbit	ELISA, WB	Human, Mouse*	40 µg 200 µg	A00701-40 A00701-200
Streptavidin Antibody, pAb, Rabbit	ELISA, WB, Dot blot/other application	NA	10 mg 5 mg	A00621-10 A00621-5
Superoxide Dismutase 1 Antibody, pAb, Rabbit	ELISA, WB	Human, Mouse, Rat, Pig, Horse, Bovine, Bornean orangutan, Chimpanzee, Fission yeast	200 µg 40 µg	A01005-200 A01005-40

Product	Applications	Species Reactivity	Quantity	Cat. No.
Ubiquitin Antibody, mAb, Mouse	IF	Human*	100 µg	A00134
Ubiquitin Antibody, pAb, Rabbit	WB, IF	Human*	100 µg	A00133
V-ATPase Subunit A Antibody, pAb, Rabbit	ELISA, WB	NA	200 µg 40 µg	A00938-200 A00938-40
V-ATPase Subunit B 2 Antibody, pAb, Rabbit	ELISA, WB	NA	200 µg 40 µg	A00960-200 A00960-40
Yeast Nuclear Pore Complex Antibody, mAb, Mouse	IF	All eukaryotes tested to date	100 µg	A00100
α-Actin-1 Antibody, pAb, Rabbit	WB	Human, Mouse, Rat, Cow, Pig, Rabbit	40 µg 200 µg	A00885-40 A00885-200
β-Galactosidase Antibody, pAb, Rabbit	ELISA, WB	NA	1 mg	A00633
GAD65+GAD67 Antibody, pAb, Rabbit	WB	Mouse, Rat*	40 µg	A01437-40
p35 Antibody, pAb, Rabbit	WB	Mouse, Rat*	200 µg 40 µg	A01423-200 A01423-40
Caspr2 Antibody, pAb, Rabbit	WB	Mouse, Rat*	200 µg 40 µg	A01426-200 A01426-40
Myelin Basic Protein Antibody, pAb, Rabbit	ELISA, WB	Mouse, Rat*	40 µg 200 µg	A01407-40 A01407-200
NCAM Antibody, pAb, Rabbit	ELISA, WB	Mouse, Rat*	40 µg	A01415-40
Neurofascin Antibody, pAb, Rabbit	ELISA, WB	Mouse, Rat*	200 µg 40 µg	A01377-200 A01377-40
Neurofilament-M Antibody, pAb, Rabbit	ELISA, WB	Mouse, Rat*	40 µg 200 µg	A01395-40 A01395-200
Creatine kinase M Antibody, pAb, Rabbit	WB	Mouse, Rat*	200 µg 40 µg	A01472-200 A01472-40
GAP-43 Antibody, pAb, Rabbit	ELISA, WB	Mouse, Rat*	40 µg 200 µg	A01414-40 A01414-200
GAP-43 Antibody, pAb, Rabbit	WB	Mouse, Rat*	200 µg 40 µg	A01441-200 A01441-40
Neuroserpin Antibody, pAb, Rabbit	WB	Mouse, Rat*	200 µg 40 µg	A01482-200 A01482-40
DARPP-32 Antibody, pAb, Rabbit	WB	Mouse, Rat*	200 µg 40 µg	A01424-200 A01424-40
Contactin 1 Antibody, pAb, Rabbit	WB	Mouse, Rat	40 µg 200 µg	A01657-40 A01657-200
DAZL antibody, pAb, Rabbit	WB	Mouse, Rat	40 µg 200 µg	A01618-40 A01618-200
Gα (i) Antibody, pAb, Rabbit	WB	Mouse, Rat	40 µg 200 µg	A01635-40 A01635-200
Gα (o) Antibody, pAb, Rabbit	WB	Mouse, Rat	40 µg 200 µg	A01616-40 A01616-200
MOG Antibody, pAb, Rabbit	WB	Mouse, Rat	40 µg 200 µg	A01660-40 A01660-200
PSD95 antibody, pAb, Rabbit	WB	Mouse, Rat	40 µg	A01501-40
Catalase Antibody, pAb, Rabbit	ELISA, WB	Mouse*	200 µg 40 µg	A01188-200 A01188-40
α1 Glycine Receptor Antibody, pAb, Rabbit	WB	Mouse	40 µg	A01636-40
BRCA2 antibody, pAb, Rabbit	WB, FACS	Mouse	200 µg 40 µg	A01594-200 A01594-40
CD90 Antibody (5A4D10), mAb, Rat	ELISA, FACS	Mouse	40 µg 200 µg	A01781-40 A01781-200
NMDAR1 Antibody, pAb, Rabbit	WB, FACS	Mouse	40 µg 200 µg	A01587-40 A01587-200
SRY Antibody, mAb, Mouse	ELISA, WB	Mouse	100 µg	A00094
H1N1 HA antibody, pAb, Rabbit	WB	Influenza A virus (H1N1)	40 µg	A01500-40
H1N1 HA Antibody, pAb, Rabbit	WB	Influenza A virus (H1N1)	40 µg	A01556-40
H1N1 HA Antibody, pAb, Rabbit	WB	Influenza A virus (H1N1)	200 µg	A01557-200



Product	Applications	Species Reactivity	Quantity	Cat. No.
H1N1 HA Antibody, pAb, Rabbit	WB	Influenza A virus (H1N1)	40 µg	A01557-40
H1N1 HA antibody, pAb, Rabbit	WB	Influenza A virus (H1N1)	100 µg	A01500-100
H1N1 NA (1E4G11), mAb, Mouse	WB	Influenza A virus (H1N1)	40 µg 200 µg	A01721-40 A01721-200
H1N1 NA (2F9B8), mAb, Mouse	WB	Influenza A virus (H1N1)	40 µg 200 µg	A01722-40 A01722-200
H1N1 NA (3F11D7), mAb, Mouse	WB	Influenza A virus (H1N1)	40 µg 200 µg	A01719-40 A01719-200
H1N1 NA (5A4D11), mAb, Mouse	WB	Influenza A virus (H1N1)	40 µg	A01723-40
H1N1 NA Antibody, pAb, Rabbit	WB	Influenza A virus (H1N1)	100 µg	A01553-100
H1N1 NP Antibody, pAb, Rabbit	WB	Influenza A virus (H1N1)	40 µg	A01506-40
H1N1 NS1 Antibody, pAb, Rabbit	WB	Influenza A virus (H1N1)	200 µg 40 µg	A01551-200 A01551-40
H1N1 NS2 antibody, pAb, Rabbit	WB	Influenza A virus (H1N1)	40 µg	A01499-40
H1N1 PA Antibody, pAb, Rabbit	WB	Influenza A virus (H1N1)	200 µg 40 µg	A01465-200 A01465-40
H1N1 PB1 antibody, pAb, Rabbit	WB	Influenza A virus (H1N1)	200 µg 40 µg	A01467-200 A01467-40
H1N1 PB2 Antibody, pAb, Rabbit	WB	Influenza A virus (H1N1)	40 µg	A01552-40
H1N1 PB2 Antibody, pAb, Rabbit	WB	Influenza A virus (H1N1)	40 µg	A01464-40
Peripherin Antibody, mAb, Mouse	WB, IF	Human, Rat, Rabbit, Cat, Mouse	100 µg	A00143
Peripherin Antibody, pAb, Rabbit	WB, ICC	Human, Rat, Rabbit, Cat, Mouse	100 µg	A00141
Fibrillarin Antibody, mAb, Mouse	WB, IF	Human, Rat, Plant, Drosophila, <i>C. elegans</i> , <i>S. pombe</i>	100 µg	A00153
Peripherin 1 Antibody, mAb, Mouse	WB, ICC	Human, Rat, Cat, Mouse	100 µg	A00142
GFAP Antibody, pAb, Rabbit	ELISA, WB, IHC	Human, Rat*	200 µg 40 µg	A01309-200 A01309-40
ERK1/2 Antibody (Phospho-Thr <sup>202</sup> /Tyr <sup>204</sup> ), pAb, Rabbit	ELISA, WB	Human, Rat	100 µg	A01386-100
FAK Antibody (Phospho-Tyr <sup>397</sup> ), pAb, Rabbit	WB, IF	Human, Rat	100 µg	A01142-100
MKK3 Antibody (Phospho-Ser <sup>189</sup> ), pAb, Rabbit	WB, IHC, IF	Human, Rat	100 µg	A00440-100
MKK6 Antibody (Phospho-Ser <sup>207</sup> ), pAb, Rabbit	WB, IHC, IF	Human, Rat	100 µg	A00443-100
GAPDH Antibody [Biotin], pAb, Goat	WB	Human, Mouse, Rat, Goat, Rabbit, Chicken, Hamster, Bovine, Swine, Fish, <i>E. coli</i>	40 µg 200 µg	A00915-40 A00915-200
GAPDH Antibody [HRP], pAb, Goat	WB	Human, Mouse, Rat, Goat, Rabbit, Chicken, Hamster, Bovine, Swine, Fish, <i>E. coli</i>	40 µg	A00192-40
Intermexin/NF66 1 Antibody, mAb, Mouse	WB, IF, ICC	Human, Mouse, Rat, Cat, other mammals	100 µg	A00147
Intermexin/NF66 2 Antibody, mAb, Mouse	WB, IHC, IF	Human, Mouse, Rat, Cat, other mammals	100 µg	A00148
Intermexin/NF66 Antibody, pAb, Chicken	WB, IF	Human, Mouse, Rat, Cat, other mammals	100 µg	A00150
Intermexin/NF66 Antibody, pAb, Rabbit	WB, IF	Human, Mouse, Rat, Cat, other mammals	100 µg	A00149
NF-M Antibody, mAb, Mouse	IF, Immunoblotting	Human, Mouse, Rat, Cat, Chicken	100 µg	A00145
NF-M Antibody, pAb, Chicken	WB, IF	Human, Mouse, Rat, Cat, Chicken	100 µg	A00146
NF-M Antibody, pAb, Rabbit	WB, IF, ICC	Human, Mouse, Rat, Cat, Chicken	100 µg	A00144
MAP2 Antibody, pAb, Chicken	WB, IF	Human, Mouse, Rat, bovine	100 µg	A00156
NSG1 Antibody, pAb, Rabbit	ELISA, WB, IP	Human, Mouse, Rat*	40 µg	A01442-40
SNAP25 Antibody, pAb, Rabbit	WB	Human, Mouse, Rat*	40 µg	A01445-40
Parvalbumin Antibody, pAb, Rabbit	ELISA, WB, IP	Human, Mouse, Rat*	40 µg	A01439-40
Alpha Intermexin Antibody, pAb, Rabbit	ELISA, WB	Human, Mouse, Rat*	40 µg 200 µg	A01397-40 A01397-200
ATP1A1 Antibody, pAb, Rabbit	WB	Human, Mouse, Rat*	200 µg 40 µg	A01483-200 A01483-40
Catalase Antibody, pAb, Rabbit	ELISA, WB	Human, Mouse, Rat*	40 µg 200 µg	A01202-40 A01202-200
CDK5 Antibody, pAb, Rabbit	WB	Human, Mouse, Rat*	200 µg 40 µg	A01438-200 A01438-40

Product	Applications	Species Reactivity	Quantity	Cat. No.
CHRNA7 Antibody, pAb, Rabbit	WB	Human, Mouse, Rat*	40 µg	A01420-40
CNPase Antibody, pAb, Rabbit	ELISA, WB	Human, Mouse, Rat*	200 µg 40 µg	A01308-200 A01308-40
Creatine kinase B Antibody, pAb, Rabbit	WB	Human, Mouse, Rat*	200 µg 40 µg	A01458-200 A01458-40
Creatine kinase MB Antibody, pAb, Rabbit	WB	Human, Mouse, Rat*	200 µg 40 µg	A01456-200 A01456-40
Doublecortin Antibody, pAb, Rabbit	ELISA, WB, IHC	Human, Mouse, Rat*	100 µg	A01303-100
ERK2 Antibody, pAb, Rabbit	ELISA, WB, FACS, IP	Human, Mouse, Rat*	40 µg	A01194-40
GAD67 Antibody, pAb, Rabbit	WB	Human, Mouse, Rat*	200 µg 40 µg	A01440-200 A01440-40
HSP70 Antibody, pAb, Rabbit	ELISA, WB	Human, Mouse, Rat*	200 µg 40 µg	A01242-200 A01242-40
NSE Antibody, pAb, Rabbit	ELISA, WB, IHC	Human, Mouse, Rat*	40 µg 200 µg	A01405-40 A01405-200
NSE Antibody, pAb, Rabbit	ELISA, WB, IHC, IP	Human, Mouse, Rat*	40 µg 200 µg	A01406-40 A01406-200
NSE Antibody, pAb, Rabbit	ELISA, WB, IHC	Human, Mouse, Rat*	200 µg 40 µg	A01412-200 A01412-40
Parkin Antibody, pAb, Rabbit	ELISA, WB, IHC	Human, Mouse, Rat*	200 µg 40 µg	A01250-200 A01250-40
Prohibitin Antibody, pAb, Rabbit	ELISA, WB	Human, Mouse, Rat*	200 µg 40 µg	A01238-200 A01238-40
Tau Antibody (Ser <sup>396</sup> ), pAb, Rabbit	ELISA, WB	Human, Mouse, Rat*	40 µg	A01387-40
TDP43 Antibody, pAb, Rabbit	ELISA, WB	Human, Mouse, Rat*	200 µg 40 µg	A01304-200 A01304-40
VDAC1 Antibody, pAb, Rabbit	ELISA, WB	Human, Mouse, Rat*	40 µg 200 µg	A01419-40 A01419-200
β-Tubulin III Antibody, pAb, Rabbit	ELISA, WB, IHC, FACS	Human, Mouse, Rat*	40 µg 200 µg	A01203-40 A01203-200
OLIG2 Antibody, pAb, Rabbit	WB	Human, Mouse, Rat*	40 µg	A01474-40
PDI Antibody, pAb, Rabbit	ELISA, WB	Human, Mouse, Rat*	40 µg	A01434-40
HtrA2 Antibody, pAb, Rabbit	WB	Human, Mouse, Rat*	200 µg 40 µg	A01427-200 A01427-40
14-3-3 ζ Antibody (Phospho-Ser <sup>68</sup> ), pAb, Rabbit	WB, IHC, IF	Human, Mouse, Rat	100 µg	A00919-100
4E-BP1 Antibody (Phospho-Thr <sup>45</sup> ), pAb, Rabbit	WB, IHC	Human, Mouse, Rat	100 µg	A00328-100
ADAM9 Antibody, pAb, Rabbit	ELISA, WB	Human, Mouse, Rat	200 µg 40 µg	A01313-200 A01313-40
AFX Antibody (Phospho-Ser <sup>197</sup> ), pAb, Rabbit	WB, IHC, IF	Human, Mouse, Rat	100 µg	A00372-100
AHA1 Antibody, pAb, Rabbit	ELISA, WB	Human, Mouse, Rat	40 µg	A01278-40
AHA1 Antibody, pAb, Rabbit	ELISA, WB	Human, Mouse, Rat	200 µg	A01278-200
Akt Antibody (Phospho-Ser <sup>473</sup> ), pAb, Rabbit	ELISA, WB	Human, Mouse, Rat	40 µg 200 µg	A00965-40 A00965-200
AKT1/AKT2/AKT3 Antibody (Ab-315/316/312), pAb, Rabbit	IHC	Human, Mouse, Rat	100 µg	A01227-100
Akt2 Antibody (Phospho-Ser <sup>474</sup> ), pAb, Rabbit	WB, IHC	Human, Mouse, Rat	100 µg	A00385-100
APP Antibody (Phospho-Thr <sup>668</sup> ), pAb, Rabbit	WB,	Human, Mouse, Rat	100 µg	A01026-100
ATF-2 Antibody (Phospho-Thr <sup>7153</sup> ), pAb, Rabbit	WB, IHC	Human, Mouse, Rat	100 µg	A00241-100
ATF-2 Antibody (Phospho-Thr <sup>7355</sup> ), pAb, Rabbit	IHC, IF	Human, Mouse, Rat	100 µg	A00475-100
BAD Antibody (Phospho-Ser <sup>112</sup> ), pAb, Rabbit	WB, IHC	Human, Mouse, Rat	100 µg	A00295-100
BAIAP2 Antibody, pAb, Rabbit	WB	Human, Mouse, Rat	40 µg 200 µg	A01675-40 A01675-200
BAP31 Antibody, pAb, Rabbit	WB	Human, Mouse, Rat	40 µg 200 µg	A01661-40 A01661-200
BIM Antibody (Phospho-Ser <sup>69</sup> ), pAb, Rabbit	IHC, IF	Human, Mouse, Rat	100 µg	A00566-100
CaMKII Antibody (Phospho-Thr <sup>286</sup> ), pAb, Rabbit	WB	Human, Mouse, Rat	100 µg	A00563-100
CDC2 Antibody (Phospho-Tyr <sup>15</sup> ), pAb, Rabbit	WB	Human, Mouse, Rat	100 µg	A00524-100

Product	Applications	Species Reactivity	Quantity	Cat. No.
cdc25A Antibody (Phospho-Ser <sup>76</sup> ), pAb, Rabbit	WB, IHC	Human, Mouse, Rat	100 µg	A00439-100
c-Jun Antibody (Phospho-Ser <sup>243</sup> ), pAb, Rabbit	WB, IHC	Human, Mouse, Rat	100 µg	A00237-100
c-Jun Antibody (Phospho-Thr <sup>239</sup> ), pAb, Rabbit	WB, IHC, IF	Human, Mouse, Rat	100 µg	A00236-100
c-Jun Antibody (Phospho-Thr <sup>91</sup> ), pAb, Rabbit	WB, IHC	Human, Mouse, Rat	100 µg	A00232-100
Cofilin Antibody (Phospho-Ser <sup>3</sup> ), pAb, Rabbit	WB, IHC, IF	Human, Mouse, Rat	100 µg	A00369-100
Connexin 32 Antibody, pAb, Rabbit	ELISA, WB	Human, Mouse, Rat	200 µg 40 µg	A01312-200 A01312-40
Connexin 43 Antibody (Phospho-Ser <sup>367</sup> ), pAb, Rabbit	WB, IHC	Human, Mouse, Rat	100 µg	A00541-100
EEA1 antibody, pAb, Rabbit	WB	Human, Mouse, Rat	200 µg 40 µg	A01514-200 A01514-40
EGFR Antibody (Phospho-Ser <sup>1070</sup> ), pAb, Rabbit	WB, IHC	Human, Mouse, Rat	100 µg	A00320-100
EGFR Antibody (Phospho-Thr <sup>678</sup> ), pAb, Rabbit	WB	Human, Mouse, Rat	100 µg	A00667-100
EGFR Antibody (Phospho-Thr <sup>693</sup> ), pAb, Rabbit	WB	Human, Mouse, Rat	100 µg	A00668-100
EGFR Antibody (Phospho-Tyr <sup>1092</sup> ), pAb, Rabbit	WB, IHC	Human, Mouse, Rat	100 µg	A00361-100
EGFR Antibody (Phospho-Tyr <sup>1110</sup> ), pAb, Rabbit	WB	Human, Mouse, Rat	100 µg	A00548-100
EGFR Antibody (Phospho-Tyr <sup>1197</sup> ), pAb, Rabbit	WB, IHC	Human, Mouse, Rat	100 µg	A00502-100
EGFR Antibody (Phospho-Tyr <sup>869</sup> ), pAb, Rabbit	WB	Human, Mouse, Rat	100 µg	A00271-100
Elk-1 Antibody (Phospho-Ser <sup>399</sup> ), pAb, Rabbit	IHC	Human, Mouse, Rat	100 µg	A00245-100
FAK Antibody (Phospho-Tyr <sup>861</sup> ), pAb, Rabbit	WB	Human, Mouse, Rat	100 µg	A00287-100
FEN-1 Antibody, pAb, Rabbit	WB	Human, Mouse, Rat	200 µg 40 µg	A01461-200 A01461-40
FKHR Antibody (Phospho-Ser <sup>319</sup> ), pAb, Rabbit	WB, IHC, IF	Human, Mouse, Rat	100 µg	A00373-100
G3BP-1 Antibody (Phospho-Ser <sup>232</sup> ), pAb, Rabbit	WB, IHC, IF	Human, Mouse, Rat	100 µg	A00364-100
GATA1 Antibody (Phospho-Ser <sup>310</sup> ), pAb, Rabbit	WB, IF	Human, Mouse, Rat	100 µg	A00248-100
GluR1 Antibody (Phospho-Ser <sup>649</sup> ), pAb, Rabbit	WB	Human, Mouse, Rat	100 µg	A01028-100
Glutamine Synthetase Antibody, pAb, Rabbit	ELISA, WB, IHC	Human, Mouse, Rat	200 µg	A01305-200
Glutamine Synthetase Antibody, pAb, Rabbit	ELISA, WB, IHC	Human, Mouse, Rat	40 µg	A01305-40
GSK3α Antibody (Phospho-Ser <sup>21</sup> ), pAb, Rabbit	WB, IHC	Human, Mouse, Rat	100 µg	A00216-100
HDAC2 Antibody (Phospho-Ser <sup>394</sup> ), pAb, Rabbit	WB, IHC, IF	Human, Mouse, Rat	100 µg	A01169-100
HDAC5 Antibody (Phospho-Ser <sup>498</sup> ), pAb, Rabbit	WB, IHC	Human, Mouse, Rat	100 µg	A00337-100
HER2 Antibody (Phospho-Tyr <sup>1248</sup> ), pAb, Rabbit	WB, IHC, IF	Human, Mouse, Rat	100 µg	A00318-100
HER2 Antibody (Phospho-Tyr <sup>877</sup> ), pAb, Rabbit	WB, IHC, IF	Human, Mouse, Rat	100 µg	A00313-100
Histone H3 antibody, pAb, Rabbit	WB	Human, Mouse, Rat	200 µg 40 µg	A01502-200 A01502-40
Histone H3.1 Antibody (Phospho-Ser <sup>10</sup> ), pAb, Rabbit	WB, IHC, IF	Human, Mouse, Rat	100 µg	A00339-100
HSP90B Antibody (Phospho-Ser <sup>254</sup> ), pAb, Rabbit	WB	Human, Mouse, Rat	100 µg	A00921-100
IGF-1R Antibody (Phospho-Tyr <sup>1165, 1166</sup> ), pAb, Rabbit	WB, IF	Human, Mouse, Rat	100 µg	A00376-100
IRS-1 Antibody (Phospho-Ser <sup>636</sup> ), pAb, Rabbit	WB, IHC	Human, Mouse, Rat	100 µg	A00503-100
IκB-α Antibody (Phospho-Tyr <sup>42</sup> ), pAb, Rabbit	IHC	Human, Mouse, Rat	100 µg	A00349-100
IκB-β Antibody (Phospho-Ser <sup>23</sup> ), pAb, Rabbit	IHC	Human, Mouse, Rat	100 µg	A01032-100
JAK2 Antibody (Phospho-Tyr <sup>1007</sup> ), pAb, Rabbit	WB, IHC	Human, Mouse, Rat	100 µg	A00360-100
JunB Antibody (Phospho-Ser <sup>79</sup> ), pAb, Rabbit	IHC, IF	Human, Mouse, Rat	100 µg	A00239-100
JunD Antibody (Phospho-Ser <sup>255</sup> ), pAb, Rabbit	WB, IHC	Human, Mouse, Rat	100 µg	A00472-100
MEK1 Antibody (Phospho-Ser <sup>221</sup> ), pAb, Rabbit	WB, IHC, IF	Human, Mouse, Rat	100 µg	A00351-100
MEK1 Antibody (Phospho-Thr <sup>291</sup> ), pAb, Rabbit	WB	Human, Mouse, Rat	100 µg	A00571-100
MEK2 Antibody (Phospho-Thr <sup>394</sup> ), pAb, Rabbit	WB, IHC, IF	Human, Mouse, Rat	100 µg	A00217-100
Merlin Antibody (Phospho-Ser <sup>518</sup> ), pAb, Rabbit	WB, IF	Human, Mouse, Rat	100 µg	A00549-100
Met Antibody (Phospho-Tyr <sup>1234</sup> ), pAb, Rabbit	WB	Human, Mouse, Rat	100 µg	A00321-100
Met Antibody (Phospho-Tyr <sup>1349</sup> ), pAb, Rabbit	WB	Human, Mouse, Rat	100 µg	A00507-100
mTOR Antibody (Phospho-Ser <sup>2448</sup> ), pAb, Rabbit	IHC, IF	Human, Mouse, Rat	100 µg	A00643-100
Muscleblind Antibody, mAb, Mouse	WB, IF, ICC	Human, Mouse, Rat	100 µg	A00154
Neuron specific β-Tubulin III Antibody, pAb, Rabbit	WB	Human, Mouse, Rat	40 µg	A01627-40
NF-κB p65 Antibody (Phospho-Ser <sup>629</sup> ), pAb, Rabbit	WB, IHC, IF	Human, Mouse, Rat	100 µg	A00330-100
NF-κB p65 Antibody (phospho-ser <sup>536</sup> ), pAb, Rabbit	WB, IHC, IF	Human, Mouse, Rat	100 µg	A00224-100
NFκB-p65 Antibody (Ab-505), pAb, Rabbit	IHC	Human, Mouse, Rat	100 µg	A01163-100
NFκB-p65 Antibody (Phospho-Thr <sup>505</sup> ), pAb, Rabbit	IHC	Human, Mouse, Rat	100 µg	A01159-100

Product	Applications	Species Reactivity	Quantity	Cat. No.
p38 MAPK Antibody (Phospho-Thr <sup>180</sup> ), pAb, Rabbit	IHC	Human, Mouse, Rat	100 µg	A00535-100
p38 MAPK Antibody (Phospho-Tyr <sup>182</sup> ), pAb, Rabbit	WB, IHC	Human, Mouse, Rat	100 µg	A00537-100
p39 antibody, pAb, Rabbit	WB	Human, Mouse, Rat	40 µg 200 µg	A01590-40 A01590-200
p44/42 MAP Kinase Antibody (Phospho-Tyr <sup>204</sup> ), pAb, Rabbit	WB, IHC, IF	Human, Mouse, Rat	100 µg	A00526-100
p62Dok Antibody (phospho-Tyr <sup>362</sup> ), pAb, Rabbit	WB, IHC	Human, Mouse, Rat	100 µg	A00647-100
p62Dok Antibody (Phospho-Tyr <sup>398</sup> ), pAb, Rabbit	WB, IHC	Human, Mouse, Rat	100 µg	A00648-100
p70 S6 Kinase Antibody (Phospho-Thr <sup>421</sup> ), pAb, Rabbit	WB, IHC, IF	Human, Mouse, Rat	100 µg	A00539-100
p73 Antibody (Phospho-Tyr <sup>99</sup> ), pAb, Rabbit	WB	Human, Mouse, Rat	100 µg	A00285-100
p90RSK Antibody (Phospho-Ser <sup>382</sup> ), pAb, Rabbit	WB	Human, Mouse, Rat	100 µg	A01171-100
p90RSK Antibody (Phospho-Thr <sup>348</sup> ), pAb, Rabbit	WB, IHC, IF	Human, Mouse, Rat	100 µg	A00487-100
PAK1/PAK2/PAK3 Antibody (Ab-423/402/421), pAb, Rabbit	IHC, IF	Human, Mouse, Rat	100 µg	A01040-100
PKD1 Antibody (Phospho-Ser <sup>241</sup> ), pAb, Rabbit	WB, IHC, IF	Human, Mouse, Rat	100 µg	A00207-100
PKCδ Antibody (Phospho-Ser <sup>645</sup> ), pAb, Rabbit	WB, IHC	Human, Mouse, Rat	100 µg	A00576-100
PKCθ Antibody (Phospho-Ser <sup>676</sup> ), pAb, Rabbit	WB, IHC, IF	Human, Mouse, Rat	100 µg	A00579-100
PKD/PKCγ Antibody (Phospho-Ser <sup>389</sup> ), pAb, Rabbit	WB, IF	Human, Mouse, Rat	100 µg 40 µg	A00481-100 A01521-40
PTF1A antibody, pAb, Rabbit	WB	Human, Mouse, Rat	200 µg	A01521-200
Rab5 Antibody, pAb, Rabbit	ELISA, WB	Human, Mouse, Rat	200 µg 40 µg	A01302-200 A01302-40
Rb Antibody (Phospho-Ser <sup>780</sup> ), pAb, Rabbit	WB, IHC, IF	Human, Mouse, Rat	100 µg	A00377-100
Rb Antibody (Phospho-Ser <sup>795</sup> ), pAb, Rabbit	WB, IHC, IF	Human, Mouse, Rat	100 µg	A00381-100
S6 Ribosomal Protein Antibody (Phospho-Ser <sup>236</sup> ), pAb, Rabbit	WB, IF	Human, Mouse, Rat	100 µg	A00315-100
SAP102 antibody, pAb, Rabbit	WB	Human, Mouse, Rat	40 µg 200 µg	A01597-40 A01597-200
SAPK/JNK Antibody (Phospho-Thr <sup>183</sup> ), pAb, Rabbit	WB, IHC	Human, Mouse, Rat	100 µg	A00532-100
SEK1/MKK4 Antibody (Phospho-Ser <sup>80</sup> ), pAb, Rabbit	WB, IHC, IF	Human, Mouse, Rat	100 µg	A00495-100
SEK1/MKK4 Antibody (Phospho-Thr <sup>281</sup> ), pAb, Rabbit	IHC, IF	Human, Mouse, Rat	100 µg	A00342-100
Smad1 Antibody (Phospho-Ser <sup>465</sup> ), pAb, Rabbit	WB	Human, Mouse, Rat	100 µg	A01036-100
Smad2 Antibody (Phospho-Ser <sup>467</sup> ), pAb, Rabbit	WB	Human, Mouse, Rat	100 µg	A01037-100
Smad2 Antibody (Phospho-Thr <sup>220</sup> ), pAb, Rabbit	WB	Human, Mouse, Rat	100 µg	A01214-100
Smad3 Antibody (Ab-208), pAb, Rabbit	IHC, IF	Human, Mouse, Rat	100 µg	A01224-100
Smad3 Antibody (Ab-425), pAb, Rabbit	IHC, IF	Human, Mouse, Rat	100 µg	A01225-100
Src Antibody (Phospho-Tyr <sup>629</sup> ), pAb, Rabbit	WB, IHC, IF	Human, Mouse, Rat	100 µg	A00358-100
STAT1 Antibody (Phospho-Ser <sup>727</sup> ), pAb, Rabbit	WB, IHC, IF	Human, Mouse, Rat	100 µg	A00347-100
STAT5A Antibody (Phospho-Tyr <sup>684</sup> ), pAb, Rabbit	WB, IHC	Human, Mouse, Rat	100 µg	A00253-100
Stathmin 1 Antibody (Phospho-Ser <sup>16</sup> ), pAb, Rabbit	IHC	Human, Mouse, Rat	100 µg	A00505-100
Stathmin 1 Antibody (Phospho-Ser <sup>38</sup> ), pAb, Rabbit	WB, IHC	Human, Mouse, Rat	100 µg	A00324-100
Synapsin Antibody (Phospho-Ser <sup>9</sup> ), pAb, Rabbit	WB, IF	Human, Mouse, Rat	100 µg	A00551-100
Synaptophysin Antibody, pAb, Rabbit	ELISA, WB, IHC	Human, Mouse, Rat	200 µg 40 µg	A01307-200 A01307-40
Tau Antibody (Ab-217), pAb, Rabbit	ELISA, WB	Human, Mouse, Rat	200 µg 40 µg	A00942-200 A00942-40
Tau Antibody (Ab-396), pAb, Rabbit	WB, IHC	Human, Mouse, Rat	100 µg	A00389-100
Tau Antibody (Phospho-Ser <sup>199</sup> ), pAb, Rabbit	ELISA, WB	Human, Mouse, Rat	40 µg 200 µg	A00894-40 A00894-200
Tau Antibody (Phospho-Ser <sup>282</sup> ), pAb, Rabbit	WB, IHC, IF	Human, Mouse, Rat	100 µg	A00489-100
Tau Antibody (Phospho-Ser <sup>396</sup> ), pAb, Rabbit	WB, IHC	Human, Mouse, Rat	100 µg	A00399-100
Tau Antibody (Phospho-Ser <sup>400</sup> ), pAb, Rabbit	ELISA, WB	Human, Mouse, Rat	200 µg	A00898-200
Tau Antibody (Phospho-Ser <sup>400</sup> ), pAb, Rabbit	ELISA, WB	Human, Mouse, Rat	40 µg	A00898-40
Tau Antibody (Phospho-Ser <sup>404</sup> ), pAb, Rabbit	WB, IHC, IF	Human, Mouse, Rat	100 µg	A00408-100
Tau Antibody (Phospho-Ser <sup>422</sup> ), pAb, Rabbit	WB	Human, Mouse, Rat	100 µg	A01148-100
Tau Antibody (Phospho-Thr <sup>81</sup> ), pAb, Rabbit	WB, IHC	Human, Mouse, Rat	100 µg	A00403-100
Tau Antibody (Phospho-Thr <sup>217</sup> ), pAb, Rabbit	ELISA, WB	Human, Mouse, Rat	200 µg 40 µg	A00896-200 A00896-40
Tau Antibody (Ser <sup>400</sup> ), pAb, Rabbit	ELISA, WB	Human, Mouse, Rat	200 µg	A01049-200

Product	Applications	Species Reactivity	Quantity	Cat. No.
Tau Antibody (Ser <sup>400</sup> ), pAb, Rabbit	ELISA, WB	Human, Mouse, Rat	40 µg	A01049-40
Torsin A Antibody, pAb, Rabbit	WB	Human, Mouse, Rat	40 µg 200 µg	A01659-40 A01659-200
TYK2 Antibody (Phospho-Tyr <sup>1054</sup> ), pAb, Rabbit	WB	Human, Mouse, Rat	100 µg	A01184-100
Vimentin Antibody, pAb, Chicken	IF	Human, Mouse, Rat	100 µg	A00152
Zap-70 Antibody (Phospho-Tyr <sup>493</sup> ), pAb, Rabbit	IHC	Human, Mouse, Rat	100 µg	A00492-100
α-Synuclein Antibody (Phospho-Ser <sup>129</sup> ), pAb, Rabbit	WB,	Human, Mouse, Rat	100 µg	A01144-100
β-Catenin Antibody (Phospho-Ser <sup>33</sup> ), pAb, Rabbit	WB, IHC	Human, Mouse, Rat	100 µg	A00499-100
β-Catenin Antibody (Phospho-Ser <sup>37</sup> ), pAb, Rabbit	WB, IHC	Human, Mouse, Rat	100 µg	A00500-100
58K Golgi protein Antibody, pAb, Rabbit	ELISA, WB	Human, Mouse*	40 µg 200 µg	A01433-40 A01433-200
5HT3A Antibody, pAb, Rabbit	ELISA, WB	Human, Mouse*	40 µg 200 µg	A01210-40 A01210-200
5HT5A Antibody, pAb, Rabbit	ELISA, WB	Human, Mouse*	200 µg 40 µg	A01209-200 A01209-40
Calcineurin A Antibody, pAb, Rabbit	ELISA, WB	Human, Mouse*	40 µg 200 µg	A01199-40 A01199-200
Calcineurin A Antibody, pAb, Rabbit	ELISA, WB	Human, Mouse*	40 µg 200 µg	A01200-40 A01200-200
Calnexin Antibody, pAb, Rabbit	ELISA, WB	Human, Mouse*	200 µg 40 µg	A01240-200 A01240-40
Catalase Antibody, pAb, Rabbit	ELISA, WB, IP	Human, Mouse*	200 µg 40 µg	A01187-200 A01187-40
Cofilin Antibody, pAb, Rabbit	ELISA, WB, IHC	Human, Mouse*	200 µg 40 µg	A01239-200 A01239-40
Cofilin Antibody, pAb, Rabbit	ELISA, WB	Human, Mouse*	200 µg 40 µg	A01277-200 A01277-40
COX IV Antibody, pAb, Rabbit	ELISA, WB	Human, Mouse*	40 µg 200 µg	A01396-40 A01396-200
COX IV Antibody, pAb, Rabbit	ELISA, WB	Human, Mouse*	40 µg 200 µg	A01402-40 A01402-200
CXCR4 Antibody, pAb, Rabbit	WB	Human, Mouse*	100 µg	A00995-100
DJ-1 Antibody, pAb, Rabbit	ELISA, WB	Human, Mouse*	200 µg 40 µg	A01208-200 A01208-40
FOXA1 Antibody, pAb, Rabbit	ELISA, WB	Human, Mouse*	40 µg 200 µg	A01389-40 A01389-200
HDAC1 Antibody, pAb, Rabbit	ELISA, WB	Human, Mouse*	200 µg 40 µg	A01279-200 A01279-40
HSP40 Antibody, pAb, Rabbit	WB	Human, Mouse*	200 µg 40 µg	A01241-200 A01241-40
HSP70 Antibody, pAb, Rabbit	ELISA, WB, FACS	Human, Mouse*	40 µg 200 µg	A01236-40 A01236-200
Lamin A+C Antibody, pAb, Rabbit	WB	Human, Mouse*	200 µg 40 µg	A01455-200 A01455-40
MELK Antibody, pAb, Rabbit	ELISA, WB	Human, Mouse*	40 µg	A01390-40
PGP9.5 Antibody, pAb, Rabbit	ELISA, WB	Human, Mouse*	40 µg 200 µg	A01398-40 A01398-200
PRMT1 Antibody, pAb, Rabbit	ELISA, WB	Human, Mouse*	40 µg 200 µg	A01401-40 A01401-200
Prohibitin Antibody, pAb, Rabbit	ELISA, WB	Human, Mouse*	40 µg 200 µg	A01195-40 A01195-200
Tau Antibody (Phospho-Ser <sup>235</sup> ), pAb, Rabbit	ELISA, WB	Human, Mouse*	200 µg 40 µg	A01096-200 A01096-40
Vimentin Antibody, pAb, Rabbit	ELISA, WB, IHC	Human, Mouse*	200 µg 40 µg	A01191-200 A01191-40
UBE3A antibody, pAb, Rabbit	WB, FACS	Human, Mouse	40 µg	A01603-40

Product	Applications	Species Reactivity	Quantity	Cat. No.
UBE3A antibody, pAb, Rabbit	WB, FACS	Human, Mouse	200 µg	A01603-200
5HT2A Receptor Antibody, pAb, Rabbit	ELISA, WB	Human, Mouse	40 µg 200 µg	A01177-40 A01177-200
Akt Antibody (Ser <sup>473</sup> ), pAb, Rabbit	ELISA, WB	Human, Mouse	200 µg 40 µg	A00959-200 A00959-40
Amyloid Precursor Protein Antibody (292-312), pAb, Rabbit	ELISA, WB	Human, Mouse	200 µg 40 µg	A00693-200 A00693-40
Amyloid Precursor Protein Antibody (44-63), pAb, Rabbit	ELISA, WB, IF	Human, Mouse	40 µg 200 µg	A00692-40 A00692-200
Amyloid Precursor Protein Antibody (653-662), pAb, Rabbit	ELISA, WB, IF	Human, Mouse	200 µg 40 µg	A00694-200 A00694-40
Amyloid Precursor Protein Antibody (671-685), pAb, Rabbit	ELISA, WB, IF	Human, Mouse	40 µg 200 µg	A00695-40 A00695-200
Amyloid Precursor Protein Antibody (747-761), pAb, Rabbit	ELISA, WB	Human, Mouse	200 µg 40 µg	A00696-200 A00696-40
APH1 Antibody, pAb, Rabbit	ELISA, WB	Human, Mouse	200 µg 40 µg	A00884-200 A00884-40
ASK1 Antibody (Phospho-Ser <sup>966</sup> ), pAb, Rabbit	WB, IHC	Human, Mouse	100 µg	A00340-100
Bcr Antibody (Phospho-Tyr <sup>177</sup> ), pAb, Rabbit	WB, IHC	Human, Mouse	100 µg	A00496-100
BIM Antibody (Ab-69), pAb, Rabbit	WB, IHC	Human, Mouse	100 µg	A00514-100
BiP Antibody, pAb, Rabbit	ELISA, FACS	Human, Mouse	40 µg	A01522-40
Caveolin-1 Antibody (Ab-14), pAb, Rabbit	WB	Human, Mouse	100 µg	A00413-100
CDX2 antibody, pAb, Rabbit	WB	Human, Mouse	200 µg 40 µg	A01604-200 A01604-40
Chk1 Antibody (Phospho-Ser <sup>296</sup> ), pAb, Rabbit	ELISA, WB	Human, Mouse	200 µg 40 µg	A00727-200 A00727-40
Cytochrome C Antibody, pAb, Rabbit	WB	Human, Mouse	200 µg 40 µg	A01507-200 A01507-40
DNA PKcs Antibody (Ab-2609), pAb, Rabbit	WB	Human, Mouse	100 µg	A00591-100
E-Cadherin antibody, pAb, Rabbit	WB, FACS	Human, Mouse	200 µg 40 µg	A01589-200 A01589-40
EndoG antibody, pAb, Rabbit	WB, FACS	Human, Mouse	200 µg 40 µg	A01588-200 A01588-40
EPHB4 antibody, pAb, Rabbit	WB	Human, Mouse	40 µg 200 µg	A01595-40 A01595-200
Estrogen Receptor-α Antibody (Phospho-Ser <sup>104</sup> ), pAb, Rabbit	IHC	Human, Mouse	100 µg	A00479-100
Estrogen Receptor-α Antibody (Phospho-Ser <sup>106</sup> ), pAb, Rabbit	WB, IHC, IF	Human, Mouse	100 µg	A00297-100
Estrogen Receptor-α Antibody (Phospho-Ser <sup>118</sup> ), pAb, Rabbit	WB, IHC, IF	Human, Mouse	100 µg	A00298-100
Ezrin Antibody (Phospho-Tyr <sup>353</sup> ), pAb, Rabbit	WB, IHC	Human, Mouse	100 µg	A00291-100
Gab1 Antibody (Phospho-Tyr <sup>627</sup> ), pAb, Rabbit	WB, IF	Human, Mouse	100 µg	A00568-100
Glucocorticoid Receptor Antibody, pAb, Rabbit	WB	Human, Mouse	40 µg 200 µg	A01656-40 A01656-200
GluR1 Antibody (Ab-849), pAb, Rabbit	WB	Human, Mouse	100 µg	A01043-100
HDAC4/HDAC5/HDAC9 Antibody (Ab-246/259/220), pAb, Rabbit	WB, IHC, IF	Human, Mouse	100 µg	A01257-100
HDAC4/HDAC5/HDAC9 Antibody (Phospho-Ser <sup>246/259/220</sup> ), pAb, Rabbit	WB, IHC	Human, Mouse	100 µg	A01271-100
HDAC5 Antibody (Ab-498), pAb, Rabbit	WB, IHC	Human, Mouse	100 µg	A00430-100
Histone H2B Antibody (Acetyl-K20), pAb, Rabbit	ELISA, WB	Human, Mouse	200 µg 40 µg	A01430-200 A01430-40
Histone H4 Antibody (Acetyl-K12), pAb, Rabbit	ELISA, WB	Human, Mouse	200 µg 40 µg	A01310-200 A01310-40
Huntingtin Antibody, mAb, Mouse	WB, IHC	Human, Mouse	100 µg	A00089
Integrin β3 Antibody (Phospho-Tyr <sup>773</sup> ), pAb, Rabbit	WB, IHC	Human, Mouse	100 µg	A00288-100
JAK2 Antibody (Ab-1007), pAb, Rabbit	WB	Human, Mouse	100 µg	A01185-100
LSD1 Antibody, pAb, Rabbit	WB, IP	Human, Mouse	200 µg 40 µg	A01533-200 A01533-40

Product	Applications	Species Reactivity	Quantity	Cat. No.
MARCKS Antibody (Ab-158), pAb, Rabbit	WB, IF	Human, Mouse	100 µg	A00511-100
MEF2A Antibody (Ab-312), pAb, Rabbit	WB, IHC	Human, Mouse	100 µg	A00642-100
Myc Antibody (Ab-373), pAb, Rabbit	WB	Human, Mouse	100 µg	A00265-100
nmt55/p54nrb Antibody, pAb, Rabbit	WB, FACS	Human, Mouse	200 µg 40 µg	A01460-200 A01460-40
PKA RIIB Antibody, pAb, Rabbit	ELISA, WB	Human, Mouse	200 µg 40 µg	A00949-200 A00949-40
PKCa Antibody, pAb, Rabbit	ELISA, WB	Human, Mouse	200 µg 40 µg	A00901-200 A00901-40
PKCa/β2 Antibody (Phospho-Thr <sup>638/641</sup> ), pAb, Rabbit	ELISA, WB	Human, Mouse	200 µg 40 µg	A00913-200 A00913-40
PKCa/β2 Antibody (Thr <sup>638/641</sup> ), pAb, Rabbit	ELISA, WB	Human, Mouse	200 µg 40 µg	A01052-200 A01052-40
PKCμ Antibody, pAb, Rabbit	ELISA, WB	Human, Mouse	200 µg 40 µg	A00909-200 A00909-40
Presenilin 1 Antibody, pAb, Rabbit	ELISA, WB	Human, Mouse	40 µg 200 µg	A00881-40 A00881-200
RelB Antibody (Phospho-Ser573), pAb, Rabbit	WB, IHC	Human, Mouse	100 µg	A00540-100
SCD1 Antibody, mAb, Mouse	ELISA, WB, IHC, IP	Human, Mouse	100 µg	A00093
SCF antibody, pAb, Rabbit	WB, IF	Human, Mouse	40 µg 200 µg	A01596-40 A01596-200
SEK1/MKK4 Antibody (Ab-80), pAb, Rabbit	WB, IHC	Human, Mouse	100 µg	A00424-100
Tau Antibody (Ab-235), pAb, Rabbit	WB	Human, Mouse	100 µg	A00393-100
Tau Antibody (Phospho-Thr <sup>205</sup> ), pAb, Rabbit	ELISA, WB	Human, Mouse	200 µg 40 µg	A01100-200 A01100-40
Tau Antibody (Ser <sup>262</sup> ), pAb, Rabbit	ELISA, WB	Human, Mouse	200 µg 40 µg	A01099-200 A01099-40
TrkB Antibody (Phospho-Tyr <sup>705</sup> ), pAb, Rabbit	WB	Human, Mouse	100 µg	A01186-100
VASP Antibody (Phospho-Ser <sup>239</sup> ), pAb, Rabbit	WB, IHC	Human, Mouse	100 µg	A00353-100
GAPDH Antibody, mAb, Mouse	WB, IF	Human, Cow, Pig, Rat, Other mammals, Avian	100 µg	A00084
Beta-1,3-GalTase 2 Antibody, pAb, Rabbit	ELISA, WB	Human, Bovine, Goat, Sheep, Chicken	200 µg 40 µg	A00918-200 A00918-40
LPL Antibody, mAb, Mouse	ELISA, WB	Human, Bovine	100 µg	A00090
ICAM-1 Antibody (Phospho-Tyr <sup>512</sup> ), pAb, Rabbit	WB	Human,	100 µg	A01020-100
FEN-1 Antibody, pAb, Rabbit	WB	Human*	200 µg 40 µg	A01421-200 A01421-40
AHA1 Antibody, pAb, Rabbit	ELISA, WB	Human*	40 µg	A01197-40
AHA1 Antibody, pAb, Rabbit	ELISA, WB	Human*	200 µg 40 µg	A01197-200 A01197-40
AHA1 Antibody, pAb, Rabbit	ELISA, WB	Human*	40 µg 200 µg	A01245-40 A01245-200
AKR1C2 Antibody, pAb, Rabbit	ELISA, WB	Human*	40 µg 200 µg	A01054-40 A01054-200
Annexin II Antibody, pAb, Rabbit	WB	Human*	200 µg 40 µg	A01471-200 A01471-40
AP2M1 Antibody, pAb, Rabbit	ELISA, WB	Human*	200 µg 40 µg	A01212-200 A01212-40
AP2M1 Antibody, pAb, Rabbit	ELISA, WB	Human*	200 µg 40 µg	A01247-200 A01247-40
APE1 Antibody, pAb, Rabbit	ELISA, WB	Human*	40 µg 200 µg	A01205-40 A01205-200
Calbindin Antibody, pAb, Rabbit	ELISA, WB, IHC	Human*	200 µg 40 µg	A01268-200 A01268-40
Calnexin Antibody, pAb, Rabbit	ELISA, WB	Human*	40 µg 200 µg	A01192-40 A01192-200
Calreticulin Antibody, pAb, Rabbit	WB	Human*	40 µg	A01443-40

Product	Applications	Species Reactivity	Quantity	Cat. No.
Caspase 10 Antibody, pAb, Rabbit	ELISA, WB	Human*	40 µg 200 µg	A01232-40 A01232-200
Caspase 10 Antibody, pAb, Rabbit	ELISA, WB	Human*	200 µg 40 µg	A01280-200 A01280-40
Chk1 Antibody (Ser <sup>280</sup> ), pAb, Rabbit	ELISA, WB	Human*	200 µg 40 µg	A01179-200 A01179-40
DJ-1 Antibody, pAb, Rabbit	ELISA, WB, IHC	Human*	200 µg 40 µg	A01207-200 A01207-40
ERAB Antibody, pAb, Rabbit	ELISA, WB	Human*	40 µg 200 µg	A01095-40 A01095-200
Fibrillarlin Antibody, pAb, Rabbit	WB	Human*	200 µg 40 µg	A01462-200 A01462-40
Geminin Antibody, pAb, Rabbit	ELISA, WB	Human*	200 µg 40 µg	A01246-200 A01246-40
Geminin Antibody, pAb, Rabbit	ELISA, WB	Human*	200 µg 40 µg	A01251-200 A01251-40
HDAC2 Antibody, pAb, Rabbit	ELISA, WB	Human*	200 µg 40 µg	A01178-200 A01178-40
Histone H2A Antibody, pAb, Rabbit	ELISA, WB	Human*	200 µg 40 µg	A01173-200 A01173-40
HSP70 Antibody, pAb, Rabbit	ELISA, WB	Human*	40 µg 200 µg	A01243-40 A01243-200
MEP50 Antibody, pAb, Rabbit	ELISA, WB	Human*	40 µg 200 µg	A01385-40 A01385-200
Nestin Antibody, pAb, Rabbit	ELISA, WB	Human*	200 µg 40 µg	A01413-200 A01413-40
PIN1 Antibody, pAb, Rabbit	ELISA, WB	Human*	200 µg 40 µg	A01090-200 A01090-40
TPMT Antibody, pAb, Rabbit	ELISA, WB	Human*	40 µg 200 µg	A01196-40 A01196-200
TPMT Antibody, pAb, Rabbit	ELISA, WB	Human*	40 µg 200 µg	A01248-40 A01248-200
TRF1 Antibody, pAb, Rabbit	ELISA, WB	Human*	40 µg 200 µg	A01198-40 A01198-200
TRF1 Antibody, pAb, Rabbit	ELISA, WB	Human*	40 µg 200 µg	A01237-40 A01237-200
TrkA Antibody, pAb, Rabbit	ELISA, WB	Human*	40 µg 200 µg	A01403-40 A01403-200
TrkA Antibody, pAb, Rabbit	ELISA, WB	Human*	40 µg 200 µg	A01404-40 A01404-200
Vimentin Antibody, pAb, Rabbit	ELISA, WB, IHC	Human*	200 µg 40 µg	A01189-200 A01189-40
Vimentin Antibody, pAb, Rabbit	ELISA, WB, IHC	Human*	200 µg 40 µg	A01193-200 A01193-40
β-Catenin Antibody, pAb, Rabbit	ELISA, WB	Human*	200 µg 40 µg	A01211-200 A01211-40
β-Catenin Antibody, pAb, Rabbit	ELISA, WB	Human*	200 µg 40 µg	A01235-200 A01235-40
AMPKγ1 Antibody, pAb, Rabbit	WB	Human	40 µg 200 µg	A01642-40 A01642-200
4E-BP1 Antibody (Ab-45), pAb, Rabbit	WB, IHC, IF	Human	100 µg	A00461-100
67kDa Laminin Receptor Antibody, pAb, Rabbit	WB, IP	Human	40 µg 200 µg	A01638-40 A01638-200
ACAT1 Antibody, mAb, Mouse	ELISA, WB	Human	100 µg	A00082
ACAT2 Antibody, mAb, Mouse	ELISA, WB	Human	100 µg	A00083
ADD1 Antibody (Ab-726), pAb, Rabbit	WB, IHC, IF	Human	100 µg	A00925-100

Product	Applications	Species Reactivity	Quantity	Cat. No.
AFX Antibody (Ab-197), pAb, Rabbit	WB, IHC	Human	100 µg	A00445-100
AKT1 Antibody (Ab-450), pAb, Rabbit	WB, IHC, IF	Human	100 µg	A01293-100
Akt2 Antibody (Ab-474), pAb, Rabbit	WB, IHC	Human	100 µg	A00441-100
Albumin Antibody, pAb, Goat	ELISA, WB	Human	100 µg	A00127
AMPKα1 Antibody (Phospho-Ser <sup>487</sup> ), pAb, Rabbit	WB, IHC, IF	Human	100 µg	A00345-100
AMPKα1 Antibody, pAb, Rabbit	WB	Human	40 µg 200 µg	A01623-40 A01623-200
AMPKα1/AMPKα2 Antibody (Ab-174/172), pAb, Rabbit	WB, IHC, IF	Human	100 µg	A00664-100
AMPKβ1 Antibody, pAb, Rabbit	WB	Human	40 µg 200 µg	A01649-40 A01649-200
AMPKβ2 Antibody, pAb, Rabbit	WB	Human	40 µg 200 µg	A01640-40 A01640-200
AMPKγ2 Antibody, pAb, Rabbit	WB	Human	40 µg 200 µg	A01624-40 A01624-200
AMPKγ3 Antibody, pAb, Rabbit	WB	Human	40 µg 200 µg	A01625-40 A01625-200
Amyloid Precursor Protein Antibody (Ab-730), pAb, Rabbit	ELISA, WB	Human	40 µg 200 µg	A00966-40 A00966-200
Apo A1 Antibody, pAb, Goat	ELISA, WB	Human	100 µg	A00117
Apo AII Antibody, pAb, Goat	ELISA, WB	Human	100 µg	A00113
Apo AII Antibody, pAb, Rabbit	ELISA, WB	Human	100 µg	A00114
Apo AII Antibody, pAb, Sheep	ELISA, WB	Human	100 µg	A00115
Apo B-100/48 Antibody, pAb, Goat	ELISA, WB	Human	100 µg	A00118
Apo CI Antibody, pAb, Goat	ELISA, WB	Human	100 µg	A00119
Apo CI Antibody, pAb, Rabbit	ELISA, WB	Human	100 µg	A00120
Apo CII Antibody, pAb, Goat	ELISA, WB	Human	100 µg	A00122
Apo CII Antibody, pAb, Rabbit	ELISA, WB	Human	100 µg	A00123
Apo CIII Antibody, pAb, Goat	ELISA, WB	Human	100 µg	A00124
Apo CIII Antibody, pAb, Rabbit	ELISA, WB	Human	100 µg	A00125
Apo E Antibody, pAb, Goat	ELISA, WB	Human	100 µg	A00126
ApoA5 Antibody (ab), mAb, Mouse	ELISA, WB	Human	40 µg	A00835
APP Antibody (Phospho-Tyr <sup>757</sup> ), pAb, Rabbit	ELISA, WB	Human	200 µg 40 µg	A00697-200 A00697-40
APP FM Antibody (339-348), pAb, Rabbit	ELISA, WB	Human	200 µg 40 µg	A00700-200 A00700-40
ASK1 Antibody (Ab-966), pAb, Rabbit	IHC, IF	Human	100 µg	A00425-100
ATF-2 Antibody (Ab-51/69), pAb, Rabbit	WB, IHC	Human	100 µg	A00258-100
ATF-2 Antibody (Ab-55/73), pAb, Rabbit	WB, IHC	Human	100 µg	A00260-100
ATF-2 Antibody (Ab-62/44), pAb, Rabbit	WB, IHC, IF	Human	100 µg	A00257-100
ATF-2 Antibody (Ab-71/53), pAb, Rabbit	WB, IHC, IF	Human	100 µg	A00259-100
ATF-2 Antibody (Ab-94/112), pAb, Rabbit	WB, IHC	Human	100 µg	A00261-100
ATF-4 Antibody (Phospho-Ser <sup>245</sup> ), pAb, Rabbit	IHC	Human	100 µg	A00269-100
ATR Antibody (Ab-428), pAb, Rabbit	IHC	Human	100 µg	A01253-100
AURKB Antibody, mAb, Mouse	ELISA, WB	Human	40 µg	A00780
BACE1 Antibody (26-45), pAb, Rabbit	ELISA, WB	Human	200 µg 40 µg	A00878-200 A00878-40
BACE1 Antibody (46-65), pAb, Rabbit	ELISA, WB	Human	200 µg	A00879-200
BACE1 Antibody (46-65), pAb, Rabbit	ELISA, WB	Human	40 µg	A00879-40
BACE1 Antibody (485-501), pAb, Rabbit	ELISA, WB	Human	200 µg 40 µg	A00880-200 A00880-40
BAD Antibody (Ab-112), pAb, Rabbit	WB, IHC	Human	100 µg	A00309-100
BAD Antibody (Ab-155), pAb, Rabbit	WB, IHC	Human	100 µg	A00311-100
Bcl-10 Antibody, mAb, Mouse	ELISA, WB, IHC	Human	40 µg	A00794
BCL-2 Antibody (Ab-56), pAb, Rabbit	WB, IHC, IF	Human	100 µg	A00306-100
BCL-2 Antibody (Ab-70), pAb, Rabbit	WB, IHC	Human	100 µg	A00307-100
Bcr Antibody (Ab-177), pAb, Rabbit	WB, IF	Human	100 µg	A00589-100

Product	Applications	Species Reactivity	Quantity	Cat. No.
BIN1 Antibody, pAb, Rabbit	WB	Human	40 µg 200 µg	A01708-40 A01708-200
BLBP Antibody, pAb, Rabbit	ELISA, WB	Human	200 µg 40 µg	A01422-200 A01422-40
Blimp-1 Antibody, pAb, Rabbit	WB	Human	40 µg	A01647-40
BMP-7 Antibody (2A5F3), mAb, Mouse	ELISA, WB	Human	200 µg 40 µg	A01285-200 A01285-40
BMP-7 Antibody (2C2F8), mAb, Mouse	ELISA, WB	Human	200 µg 40 µg	A01283-200 A01283-40
BMP-7 Antibody (4C3G8), mAb, Mouse	ELISA, WB	Human	200 µg 40 µg	A01284-200 A01284-40
BRAF Antibody, mAb, Mouse	ELISA, WB, IHC	Human	40 µg	A00774
BRCA1 Antibody (Ab-1423), pAb, Rabbit	WB, IHC	Human	100 µg	A00567-100
Calnexin Antibody, pAb, Rabbit	ELISA, WB	Human	200 µg 40 µg	A01234-200 A01234-40
CAMKIV Antibody, pAb, Rabbit	WB	Human	200 µg 40 µg	A01686-200 A01686-40
CARM1 Antibody (Ab-228), pAb, Rabbit	WB, IF	Human	100 µg	A00932-100
Catenin Antibody (Ab-33), pAb, Rabbit	WB, IHC, IF	Human	100 µg	A00584-100
c-Cbl Antibody (Phospho-Tyr <sup>700</sup> ), pAb, Rabbit	IHC, IF	Human	100 µg	A01276-100
CCR4 Antibody, pAb, Rabbit	ELISA, WB	Human	200 µg 40 µg	A00978-200 A00978-40
CD14 Antibody, mAb, Mouse	IHC	Human	40 µg	A00741
CD45 Antibody, pAb, Rabbit	WB	Human	200 µg 40 µg	A01655-200 A01655-40
CD8 Antibody, mAb, Mouse	ELISA, FACS, ICC	Human	100 µg	A01697-100
CDC2 Antibody (Ab-15), pAb, Rabbit	WB, IHC, IF	Human	100 µg	A00565-100
cdc2 Antibody (Ab-19), pAb, Rabbit	IHC	Human	100 µg	A01295-100
cdc25C Antibody (Ab-216), pAb, Rabbit	WB, IHC, IF	Human	100 µg	A00433-100
CDK6 Antibody (Ab-13), pAb, Rabbit	IHC, IF	Human	100 µg	A01264-100
CDK6 Antibody (Phospho-Tyr <sup>24</sup> ), pAb, Rabbit	IHC, IF	Human	100 µg	A01274-100
C-Fos Antibody, pAb, Rabbit	WB	Human	200 µg 40 µg	A01512-200 A01512-40
C-Fos Antibody, pAb, Rabbit	WB	Human	200 µg 40 µg	A01513-200 A01513-40
Chk1 Antibody (Ab-317), pAb, Rabbit	WB, IHC	Human	100 µg	A00608-100
Chk2 Antibody (Phospho-Ser <sup>616</sup> ), pAb, Rabbit	WB	Human	100 µg	A00365-100
CIB1 Antibody, mAb, Mouse	ELISA, WB, IHC	Human	40 µg	A00815
c-Jun Antibody (Ab-170), pAb, Rabbit	WB, IHC	Human	100 µg	A00587-100
c-Jun Antibody (Ab-243), pAb, Rabbit	WB, IHC	Human	100 µg	A00238-100
c-Jun Antibody (Ab-91), pAb, Rabbit	WB, IHC, IF	Human	100 µg	A00231-100
c-Jun Antibody (Ab-93), pAb, Rabbit	WB, IHC	Human	100 µg	A00233-100
CK1 Antibody, mAb, Mouse	ELISA, WB, IHC	Human	40 µg	A00814
Cofilin1/Cofilin2 Antibody (Ab-88), pAb, Rabbit	WB, IHC, IF	Human	100 µg	A01254-100
Connexin 43 Antibody (Ab-367), pAb, Rabbit	WB, IHC	Human	100 µg	A00544-100
cPLA2 Antibody, pAb, Rabbit	WB	Human	40 µg 200 µg	A01631-40 A01631-200
CPS1 Antibody, pAb, Rabbit	WB, FACS	Human	40 µg 200 µg	A01531-40 A01531-200
CREB Antibody (Ab-142), pAb, Rabbit	IHC	Human	100 µg 40 µg	A01182-100 A01529-40
CTCF antibody, pAb, Rabbit	WB	Human	200 µg	A01529-200
Degenerating Myelin Antibody, mAb, Mouse	WB	Human	100 µg	A00096
Desmin Antibody, mAb, Mouse	ELISA, WB, IHC	Human	40 µg	A00819
DNA PKcs Antibody (Phospho-Thr <sup>2609</sup> ), pAb, Rabbit	WB	Human	100 µg	A00494-100
Dysbindin antibody, pAb, Rabbit	WB	Human	40 µg	A01619-40

Product	Applications	Species Reactivity	Quantity	Cat. No.
Dysbindin antibody, pAb, Rabbit	WB	Human	200 µg	A01619-200
EB1 Antibody, pAb, Rabbit	WB	Human	200 µg	A00678-200
EB1 Antibody, pAb, Rabbit	WB	Human	40 µg	A00678-40
EGFR Antibody (Ab-1092), pAb, Rabbit	WB, IHC	Human	100 µg	A00346-100
EGFR Antibody (Ab-1172), pAb, Rabbit	WB	Human	100 µg	A00661-100
EGFR Antibody (Ab-1197), pAb, Rabbit	WB	Human	100 µg	A00578-100
EGFR Antibody (Ab-869), pAb, Rabbit	WB, IHC	Human	100 µg	A00577-100
eIF4G Antibody (Ab-1232), pAb, Rabbit	WB, IHC, IF	Human	100 µg	A01228-100
Elk-1 Antibody (Ab-389), pAb, Rabbit	IHC, IF	Human	100 µg	A00266-100
ENPP1 Antibody, pAb, Goat	WB	Human	200 µg	A01473-200
			40 µg	A01473-40
EphB6 Antibody, mAb, Mouse	ELISA, WB, IHC	Human	40 µg	A00749
Ephrin-B2 Antibody (Ab-330), pAb, Rabbit	WB, IF	Human	100 µg	A00670-100
ER Antibody, mAb, Mouse	ELISA, WB	Human	40 µg	A00850
Estrogen Receptor-α Antibody (Ab-104), pAb, Rabbit	WB, IHC	Human	100 µg	A00316-100
Estrogen Receptor-α Antibody (Ab-106), pAb, Rabbit	WB, IHC	Human	100 µg	A00317-100
Estrogen Receptor-α Antibody (Ab-118), pAb, Rabbit	WB, IHC	Human	100 µg	A00322-100
Estrogen Receptor-α Antibody (Ab-167), pAb, Rabbit	WB, IHC	Human	100 µg	A00323-100
Ezrin Antibody (Ab-353), pAb, Rabbit	WB	Human	100 µg	A00392-100
FAK Antibody (Ab-861), pAb, Rabbit	WB, IHC	Human	100 µg	A00350-100
FAK Antibody (Ab-925), pAb, Rabbit	WB, IHC, IF	Human	100 µg	A00434-100
FGF-17 Antibody (2C4G6), mAb, Mouse	ELISA	Human	40 µg	A01707-40
			200 µg	A01707-200
FGF-17 Antibody (3H5C7), mAb, Mouse	ELISA	Human	40 µg	A01705-40
			200 µg	A01705-200
FGF-17 Antibody (5F7H4), mAb, Mouse	ELISA	Human	40 µg	A01706-40
			200 µg	A01706-200
FGF-18 Antibody, mAb, Mouse	ELISA	Human	200 µg	A01494-200
			40 µg	A01494-40
FGF-acidic Antibody (1G8F11), mAb, Mouse	ELISA, WB	Human	40 µg	A01526-40
			200 µg	A01526-200
FGF-acidic Antibody (2B2E6), mAb, Mouse	ELISA, WB	Human	40 µg	A01527-40
			200 µg	A01527-200
FGF-acidic Antibody (3A11G5), mAb, Mouse	ELISA, WB	Human	200 µg	A01518-200
			40 µg	A01518-40
FGF-acidic Antibody (5A6G8), mAb, Mouse	ELISA, WB	Human	40 µg	A01528-40
			200 µg	A01528-200
FGF-basic Antibody (3B10F9), mAb, Mouse	ELISA	Human	40 µg	A01718-40
			200 µg	A01718-200
FKHR Antibody (Ab-256), pAb, Rabbit	WB, IHC, IF	Human	100 µg	A00427-100
G3BP-1 Antibody (Ab-232), pAb, Rabbit	WB, IHC	Human	100 µg	A00404-100
Gab1 Antibody (Ab-627), pAb, Rabbit	WB, IHC	Human	100 µg	A00512-100
GABRB1 Antibody (Ab-434), pAb, Rabbit	WB	Human	100 µg	A01231-100
GATA1 Antibody (Ab-142), pAb, Rabbit	WB, IHC, IF	Human	100 µg	A00270-100
GATA1 Antibody (Ab-310), pAb, Rabbit	WB	Human	100 µg	A00273-100
GnRHR Antibody, mAb, Mouse	WB	Human	100 µg	A00086
GPR30 Antibody, pAb, Rabbit	ELISA, WB, IHC	Human	200 µg	A01074-200
			40 µg	A01074-40
GRP94 Antibody, pAb, Rabbit	WB	Human	40 µg	A01510-40
			200 µg	A01510-200
GSK3α Antibody (Ab-21), pAb, Rabbit	WB, IHC, IF	Human	100 µg	A00210-100
HDAC4 Antibody (Ab-632), pAb, Rabbit	WB, IF	Human	100 µg	A00429-100
HEC1 Antibody, pAb, Rabbit	WB	Human	200 µg	A01504-200
			40 µg	A01504-40
HER2 Antibody (Ab-1221,1222), pAb, Rabbit	WB, IHC	Human	100 µg	A00327-100
HER2 Antibody (Ab-1248), pAb, Rabbit	WB, IHC	Human	100 µg	A00331-100

Product	Applications	Species Reactivity	Quantity	Cat. No.
HER3/ErbB3 Antibody (Ab-1328), pAb, Rabbit	WB, IHC, IF	Human	100 µg	A01255-100
Histone 2B Antibody, pAb, Rabbit	ELISA, WB	Human	40 µg	A01174-40
			200 µg	A01174-200
Histone H3.1 Antibody (Ab-10), pAb, Rabbit	WB, IF	Human	100 µg	A00426-100
hnRNP C1/C2 Antibody, pAb, Rabbit	WB	Human	200 µg	A01484-200
			40 µg	A01484-40
HPRT Antibody, mAb, Mouse	ELISA, WB	Human	40 µg	A00842
HS1 Antibody, pAb, Rabbit	WB	Human	40 µg	A01630-40
			200 µg	A01630-200
HSF1 Antibody (Ab-303), pAb, Rabbit	WB, IHC	Human	100 µg	A00610-100
HSF1 Antibody (Ab-307), pAb, Rabbit	WB, IHC	Human	100 µg	A00671-100
HSF1 Antibody (Phospho-Ser <sup>303</sup> ), pAb, Rabbit	WB, IHC	Human	100 µg	A00546-100
HSF1 Antibody (Phospho-Ser <sup>307</sup> ), pAb, Rabbit	WB, IF	Human	100 µg	A01164-100
HSP27 Antibody (Ab-15), pAb, Rabbit	WB, IHC	Human	100 µg	A00432-100
HSP27 Antibody (Ab-78), pAb, Rabbit	WB, IHC	Human	100 µg	A00560-100
HSP27 Antibody (Ab-82), pAb, Rabbit	WB, IHC	Human	100 µg	A00558-100
HSP27 Antibody (Phospho-Ser <sup>15</sup> ), pAb, Rabbit	WB, IHC, IF	Human	100 µg	A00343-100
			40 µg	A01378-40
HSP27 Antibody, pAb, Rabbit	ELISA, WB, FACS	Human	200 µg	A01378-200
			40 µg	A01378-40
Human beta-Amyloid 1-40 Antibody (4A4F2), mAb, Mouse	Dot Blot, ELISA, IHC	Human	100 µg	A01566
Human Apo (a) Antibody, pAb, Sheep	ELISA, WB	Human	100 µg	A00116
Human CT-1 Antibody (1C12C11), mAb, Mouse	ELISA, WB	Human	40 µg	A01535-40
Human CT-1 Antibody (1C12C11), mAb, Mouse	ELISA, WB	Human	200 µg	A01535-200
Human CT-1 Antibody (1H6D4), mAb, Mouse	ELISA, WB	Human	40 µg	A01539-40
			200 µg	A01539-200
Human CT-1 Antibody (2A3H7), mAb, Mouse	ELISA, WB	Human	40 µg	A01538-40
			200 µg	A01538-200
Human CT-1 Antibody (2A5D4), mAb, Mouse	ELISA, WB	Human	40 µg	A01537-40
			200 µg	A01537-200
Human CT-1 Antibody (2H3G9), mAb, Mouse	ELISA, WB	Human	40 µg	A01536-40
			200 µg	A01536-200
IFN-γ Antibody, mAb, Mouse	ELISA, WB	Human	40 µg	A00731
IFN-γ Antibody, mAb, Mouse	ELISA, WB	Human	200 µg	A01515-200
			40 µg	A01515-40
IGF-1R Antibody (Ab-1161), pAb, Rabbit	WB, IHC	Human	100 µg	A00380-100
IGF-1R Antibody (Ab-1346), pAb, Rabbit	WB, IHC	Human	100 µg	A00927-100
IGF-I Antibody, mAb, Mouse	ELISA, IHC	Human	200 µg	A01516-200
			40 µg	A01516-40
IgM Antibody, mAb, Mouse	ELISA, WB	Human	40 µg	A01108
IKKα Antibody (Ab-23), pAb, Rabbit	WB, IHC	Human	100 µg	A00421-100
IL-6 Antibody, mAb, Mouse	ELISA	Human	40 µg	A01517-40
IL-8 Antibody (1A7C8), mAb, Mouse	ELISA, WB	Human	40 µg	A01605-40
			200 µg	A01605-200
IL-8 Antibody (2A11D8), mAb, Mouse	ELISA, WB	Human	40 µg	A01607-40
			200 µg	A01607-200
IL-8 Antibody (2D11C10), mAb, Mouse	ELISA, WB	Human	40 µg	A01609-40
			200 µg	A01609-200
IL-8 Antibody (3B1A8), mAb, Mouse	ELISA, WB	Human	40 µg	A01611-40
			200 µg	A01611-200
IL-8 Antibody (3D4C3), mAb, Mouse	ELISA, WB	Human	40 µg	A01610-40
			200 µg	A01610-200
IL-8 Antibody (4H7C7), mAb, Mouse	ELISA, WB	Human	40 µg	A01606-40
			200 µg	A01606-200
IL-8 Antibody (4H8F8), mAb, Mouse	ELISA, WB	Human	40 µg	A01608-40
			200 µg	A01608-200
IL-8 Antibody, pAb, Goat	ELISA, WB	Human	40 µg	A00158-40
			200 µg	A00158-200

Product	Applications	Species Reactivity	Quantity	Cat. No.
Insulin Antibody (5A6A4), mAb, Mouse	ELISA	Human	100 µg	A01716-100
Insulin Antibody (6E9F1), mAb, Mouse	ELISA	Human	100 µg	A01715-100
IP-10 Antibody (1G12E6), mAb, Mouse	ELISA, WB	Human	40 µg 200 µg	A01561-40 A01561-200
IP-10 Antibody (1G8E2), mAb, Mouse	ELISA, WB	Human	40 µg 200 µg	A01564-40 A01564-200
IP-10 Antibody (1H7D6), mAb, Mouse	ELISA, WB	Human	40 µg 200 µg	A01563-40 A01563-200
IP-10 Antibody (2H11E8), mAb, Mouse	ELISA, WB	Human	40 µg 200 µg	A01562-40 A01562-200
IRS-1 Antibody (Ab-636), pAb, Rabbit	WB, IHC, IF	Human	100 µg	A00575-100
IRS-1 Antibody (Ab-639), pAb, Rabbit	WB, IF	Human	100 µg	A01042-100
JAK1 Antibody (Ab-1022), pAb, Rabbit	WB, IHC	Human	100 µg	A00418-100
Jak2 Antibody (Ab-570), pAb, Rabbit	IHC	Human	100 µg	A01259-100
JunB Antibody (Ab-259), pAb, Rabbit	WB, IHC	Human	100 µg	A00256-100
JunB Antibody (Ab-79), pAb, Rabbit	IHC, IF	Human	100 µg	A00255-100
JunD Antibody (Ab-255), pAb, Rabbit	WB, IHC, IF	Human	100 µg	A00590-100
KChIP2 antibody, pAb, Rabbit	WB	Human	200 µg 40 µg	A01691-200 A01691-40
Ki-67 Antibody, pAb, Rabbit	IHC	Human	40 µg	A01495-40
LSD1 Antibody, mAb, Mouse	ELISA, WB, IHC	Human	40 µg	A00802
MAPKAPK-2 Antibody (Phospho-Thr <sup>324</sup> ), pAb, Rabbit	WB, IHC, IF	Human	100 µg	A01034-100
MCL1 Antibody, mAb, Mouse	ELISA, WB	Human	100 µg	A00092
MDM2 Antibody (Ab-166), pAb, Rabbit	IHC, IF	Human	100 µg	A01267-100
MeCP2 antibody, pAb, Rabbit	WB	Human	40 µg 200 µg	A01617-40 A01617-200
MEK1 Antibody (Ab-217), pAb, Rabbit	WB, IHC, IF	Human	100 µg	A01041-100
MEK1 Antibody (Ab-221), pAb, Rabbit	WB, IHC	Human	100 µg	A00452-100
MEK1 Antibody (Ab-291), pAb, Rabbit	WB, IHC	Human	100 µg	A00510-100
MEK2 Antibody (Ab-394), pAb, Rabbit	WB, IHC	Human	100 µg	A00211-100
Merlin Antibody (Ab-518), pAb, Rabbit	WB, IHC	Human	100 µg	A00533-100
Met Antibody (Ab-1234), pAb, Rabbit	WB	Human	100 µg	A00464-100
Met Antibody (Ab-1349), pAb, Rabbit	WB	Human	100 µg	A00569-100
mGluR5 Antibody, pAb, Rabbit	WB	Human	200 µg 40 µg	A01493-200 A01493-40
MKK6 Antibody (Ab-207), pAb, Rabbit	WB, IHC, IF	Human	100 µg	A00438-100
MSK1 Antibody (Ab-376), pAb, Rabbit	WB	Human	100 µg	A00588-100
Myc Antibody (Ab-358), pAb, Rabbit	WB, IHC	Human	100 µg	A00264-100
Myosin Light Chain 2 Antibody (Ab-18), pAb, Rabbit	WB, IF	Human	100 µg	A00597
Neurogenin3 Antibody, pAb, Rabbit	WB	Human	40 µg 200 µg	A01523-40 A01523-200
Neurogenin3 Antibody, pAb, Rabbit	WB	Human	200 µg 40 µg	A01559-200 A01559-40
NF-κB p100/p52 Antibody (Ab-870), pAb, Rabbit	WB, IHC	Human	100 µg	A00225-100
NF-κB p105/p50 Antibody (Ab-337), pAb, Rabbit	IHC	Human	100 µg	A00585-100
NF-κB p105/p50 Antibody (Ab-893), pAb, Rabbit	WB, IHC	Human	100 µg	A00227-100
NF-κB p105/p50 Antibody (Ab-907), pAb, Rabbit	WB, IHC	Human	100 µg	A00228-100
NF-κB p105/p50 Antibody (Ab-932), pAb, Rabbit	WB, IHC	Human	100 µg	A00555-100
NF-κB p65 Antibody (Ab-254), pAb, Rabbit	IHC	Human	100 µg	A00581-100
NF-κB p65 Antibody (Ab-276), pAb, Rabbit	WB, IHC, IF	Human	100 µg	A00212-100
NF-κB p65 Antibody (Ab-311), pAb, Rabbit	WB, IHC	Human	100 µg	A00542-100
NF-κB p65 Antibody (Ab-468), pAb, Rabbit	WB, IHC	Human	100 µg	A00219-100
NF-κB p65 Antibody (Ab-536), pAb, Rabbit	WB, IHC	Human	100 µg	A00222-100
NF-κB p65 Antibody (Phospho-Thr <sup>254</sup> ), pAb, Rabbit	WB, IHC, IF	Human	100 µg	A00468-100
NFκB-p105/p50 Antibody (Ab-927), pAb, Rabbit	WB, IF	Human	100 µg	A00929-100
Niban Antibody, pAb, Rabbit	WB, IF	Human	100 µg	A00933-100

Product	Applications	Species Reactivity	Quantity	Cat. No.
Nicastrin Antibody, pAb, Rabbit	ELISA, WB	Human	200 µg 40 µg	A00883-200 A00883-40
NQO1 antibody, pAb, Rabbit	WB	Human	200 µg 40 µg	A01511-200 A01511-40
Nurr1 Antibody, pAb, Rabbit	WB	Human	40 µg 200 µg	A01425-40 A01425-200
P11 Antibody, mAb, Mouse	ELISA, FACS, IF, WB	Human	40 µg	A01116
p44/42 MAP Kinase Antibody (Ab-202), pAb, Rabbit	WB	Human	100 µg	A00564-100
p53 Antibody (2D2G6), mAb, Mouse	ELISA, WB, FACS	Human	40 µg 200 µg	A01768-40 A01768-200
p53 Antibody (2G5F7), mAb, Mouse	ELISA, WB, FACS	Human	40 µg 200 µg	A01771-40 A01771-200
p53 Antibody (5E8A3), mAb, Mouse	ELISA, WB, FACS	Human	40 µg 200 µg	A01769-40 A01769-200
p53 Antibody (5H7B9), mAb, Mouse	ELISA, WB, FACS	Human	40 µg	A01767-40
p53 Antibody (6F2D3), mAb, Mouse	ELISA, WB, FACS	Human	40 µg 200 µg	A01770-40 A01770-200
p53 Antibody (Ab-315), pAb, Rabbit	WB	Human	100 µg	A00598-100
p53 Antibody (Ab-46), pAb, Rabbit	WB	Human	100 µg	A00596-100
p53 Antibody (Ab-9), pAb, Rabbit	WB	Human	100 µg	A01162-100
p53 Antibody (Phospho-Ser <sup>315</sup> ), pAb, Rabbit	WB, IHC, IF	Human	100 µg	A00485-100
p53 Antibody (Phospho-Ser <sup>37</sup> ), pAb, Rabbit	WB, IF	Human	100 µg	A01213-100
p53 Antibody (Phospho-Ser <sup>46</sup> ), pAb, Rabbit	WB, IF	Human	100 µg	A00484-100
p62Dok Antibody (Ab-362), pAb, Rabbit	WB, IHC	Human	100 µg	A01044-100
p70 S6 Kinase Antibody (Ab-411), pAb, Rabbit	WB, IHC, IF	Human	100 µg	A00527
p70 S6 Kinase Antibody (Ab-421), pAb, Rabbit	WB, IHC	Human	100 µg	A00550-100
p70 S6 Kinase Antibody (Ab-424), pAb, Rabbit	WB, IHC, IF	Human	100 µg	A00516-100
p73 Antibody (Ab-99), pAb, Rabbit	WB	Human	100 µg	A00348-100
p90RSK Antibody (Ab-348), pAb, Rabbit	WB, IF	Human	100 µg	A00603-100
p90RSK Antibody (Ab-352), pAb, Rabbit	WB, IHC	Human	100 µg	A00601-100
PAK1 Antibody (Phospho-Thr <sup>12</sup> ), pAb, Rabbit	WB, IHC, IF	Human	100 µg	A00650-100
Paxillin Antibody (Ab-118), pAb, Rabbit	WB, IHC	Human	100 µg	A00409-100
Paxillin Antibody (Ab-31), pAb, Rabbit	WB, IHC	Human	100 µg	A00456-100
Paxillin Antibody (Phospho-Tyr <sup>31</sup> ), pAb, Rabbit	WB	Human	100 µg	A00335-100
PDK1 Antibody (Ab-241), pAb, Rabbit	WB, IHC, IF	Human	100 µg	A00208-100
PI3 Kinase p85 alpha antibody, pAb, Rabbit	WB, FACS	Human	40 µg	A01524-40
PKA RIα Antibody, pAb, Rabbit	WB	Human	200 µg 40 µg	A00948-200 A00948-40
PKA RIβ Antibody, pAb, Rabbit	ELISA, WB	Human	200 µg 40 µg	A00947-200 A00947-40
PKCβ2 Antibody, pAb, Rabbit	ELISA, WB	Human	200 µg 40 µg	A00903-200 A00903-40
PKCδ Antibody (Ab-645), pAb, Rabbit	WB, IHC, IF	Human	100 µg	A00509-100
PKCδ Antibody, pAb, Rabbit	ELISA, WB	Human	200 µg 40 µg	A00905-200 A00905-40
PKCζ Antibody, pAb, Rabbit	ELISA, WB	Human	40 µg 200 µg	A00908-40 A00908-200
PKCη Antibody, pAb, Rabbit	ELISA, WB	Human	200 µg 40 µg	A00906-200 A00906-40
PKCθ Antibody (Ab-695), pAb, Rabbit	WB, IHC	Human	100 µg	A00656-100
PKCi/λ Antibody, pAb, Rabbit	ELISA, WB	Human	200 µg 40 µg	A00910-200 A00910-40
PKD/PKCμ Antibody (Ab-910), pAb, Rabbit	WB	Human	100 µg	A00605-100
PKG-2 Antibody, pAb, Rabbit	ELISA, WB	Human	200 µg 40 µg	A01070-200 A01070-40
PKR Antibody (Phospho-Thr <sup>451</sup> ), pAb, Rabbit	IHC	Human	100 µg	A01030-100

Product	Applications	Species Reactivity	Quantity	Cat. No.
Plasminogen Antibody, pAb, Sheep	ELISA, WB	Human	100 µg	A00128
PLCy1 Antibody (Ab-783), pAb, Rabbit	WB	Human	100 µg	A01039-100
PLCy2 Antibody (Ab-753), pAb, Rabbit	WB, IF	Human	100 µg	A00658-100
PLC-γ2 Antibody (Phospho-Tyr <sup>1217</sup> ), pAb, Rabbit	IHC	Human	100 µg	A01219-100
PP2A-α Antibody, pAb, Rabbit	WB	Human	100 µg	A01226-100
Progesterone Receptor Antibody (Ab-190), pAb, Rabbit	WB, IF	Human	100 µg	A01165-100
Progesterone Receptor Antibody (Phospho-Ser <sup>190</sup> ), pAb, Rabbit	WB, IHC	Human	100 µg	A00312-100
PTEN Antibody (Ab-380, 382, 383), pAb, Rabbit	WB, IHC	Human	100 µg	A00302-100
PU.1 Antibody, pAb, Rabbit	WB	Human	200 µg	A01692-200
PU.1 Antibody, pAb, Rabbit	WB	Human	40 µg	A01692-40
Pyk2 Antibody (Ab-402), pAb, Rabbit	WB, IHC, IF	Human	100 µg	A00586-100
Rac1 Antibody (Ab-71), pAb, Rabbit	WB, IF	Human	100 µg	A00660-100
Raf1 Antibody (Ab-338), pAb, Rabbit	WB, IHC	Human	100 µg	A01153-100
Rb Antibody (Ab-795), pAb, Rabbit	WB	Human	100 µg	A00410-100
RNA polymerase II CTD repeat Antibody (Phospho-Ser <sup>2</sup> ), pAb, Rabbit	WB	Human	40 µg 200 µg	A01633-40 A01633-200
RNA Polymerase II CTD Repeat Antibody (Phospho-Ser <sup>5</sup> ), pAb, Rabbit	WB	Human	40 µg 200 µg	A01634-40 A01634-200
RPA70 Antibody, pAb, Rabbit	WB	Human	40 µg 200 µg	A01688-40 A01688-200
RPA70 Antibody, pAb, Rabbit	WB	Human	200 µg 40 µg	A01689-200 A01689-40
S6 Ribosomal Protein Antibody (Ab-235), pAb, Rabbit	WB, IHC, IF	Human	100 µg	A00465-100
SCF Antibody(1B10F8), mAb, Mouse	ELISA, WB	Human	40 µg 200 µg	A01548-40 A01548-200
SCF Antibody(1B11E9), mAb, Mouse	ELISA, WB	Human	40 µg 200 µg	A01519-40 A01519-200
SCF Antibody(1H10E5), mAb, Mouse	ELISA, WB	Human	200 µg 40 µg	A01549-200 A01549-40
SCF Antibody(1H4D9), mAb, Mouse	ELISA, WB	Human	40 µg 200 µg	A01520-40 A01520-200
SCF Antibody(3H6C8), mAb, Mouse	ELISA, WB	Human	40 µg 200 µg	A01547-40 A01547-200
SEK1/MKK4 Antibody (Ab-261), pAb, Rabbit	IHC, IF	Human	100 µg	A00423-100
Shc1 Antibody (Ab-427), pAb, Rabbit	WB, IHC, IF	Human	100 µg	A00930-100
Shc1 Antibody (Phospho-Tyr <sup>427</sup> ), pAb, Rabbit	WB, IHC, IF	Human	100 µg	A01035-100
SHP-1 Antibody (Ab-536), pAb, Rabbit	WB, IHC, IF	Human	100 µg	A00970-100
Smad2 Antibody (Ab-220), pAb, Rabbit	WB, IHC	Human	100 µg	A01223-100
SMC1 Antibody (Ab-957), pAb, Rabbit	WB, IHC	Human	100 µg	A00455-100
SMURF 2 Antibody, pAb, Rabbit	WB	Human	200 µg 40 µg	A01654-200 A01654-40
SNAI 1/2 Antibody, pAb, Rabbit	WB	Human	40 µg 200 µg	A01641-40 A01641-200
SNCG Antibody, mAb, Mouse	ELISA, WB, IHC	Human	40 µg	A00812
SP3 Antibody, pAb, Rabbit	WB, FACS	Human	40 µg 200 µg	A01532-40 A01532-200
SSTR2 antibody, pAb, Rabbit	WB, FACS	Human	200 µg 40 µg	A01591-200 A01591-40
Stat2 Antibody (Ab-690), pAb, Rabbit	WB, IHC	Human	100 µg	A01263-100
STAT5A Antibody (Ab-694), pAb, Rabbit	WB, IHC	Human	100 µg	A00280-100
STAT6 Antibody (Ab-641), pAb, Rabbit	WB, IHC	Human	100 µg	A00282-100
STAT6 Antibody (Ab-645), pAb, Rabbit	WB, IHC	Human	100 µg	A00284-100
STAT6 Antibody (Phospho-Thr <sup>645</sup> ), pAb, Rabbit	IHC	Human	100 µg	A00478-100
STAT6 Antibody (Phospho-Tyr <sup>641</sup> ), pAb, Rabbit	WB, IHC	Human	100 µg	A00263-100
Stathmin 1 Antibody (Ab-16), pAb, Rabbit	WB, IHC	Human	100 µg	A00573-100
Stathmin 1 Antibody (Ab-25), pAb, Rabbit	WB, IHC, IF	Human	100 µg	A00462-100

Product	Applications	Species Reactivity	Quantity	Cat. No.
Stathmin 1 Antibody (Ab-38), pAb, Rabbit	WB, IHC	Human	100 µg	A00463-100
Syk Antibody (Ab-323), pAb, Rabbit	IHC, IF	Human	100 µg	A01266-100
Syk Antibody (Phospho-Tyr <sup>323</sup> ), pAb, Rabbit	IHC, IF	Human	100 µg	A01275-100
Tau Antibody (Ab-205), pAb, Rabbit	WB	Human	100 µg	A00398-100
Tau Antibody (Ab-404), pAb, Rabbit	WB	Human	100 µg	A00401-100
Tau Antibody (Phospho-Ser <sup>409</sup> ), pAb, Rabbit	ELISA, WB	Human	200 µg 40 µg	A00899-200 A00899-40
Tau Antibody (Phospho-Ser <sup>422</sup> ), pAb, Rabbit	ELISA, WB	Human	200 µg 40 µg	A00900-200 A00900-40
Tau Antibody (Ser <sup>356</sup> ), pAb, Rabbit	ELISA, WB	Human	200 µg 40 µg	A01048-200 A01048-40
Tau Antibody (Ser <sup>409</sup> ), pAb, Rabbit	ELISA, WB	Human	200 µg 40 µg	A01050-200 A01050-40
Tau Antibody (Ser <sup>422</sup> ), pAb, Rabbit	ELISA, WB	Human	200 µg 40 µg	A01051-200 A01051-40
TSH Antibody (1H4G9), mAb, Mouse	ELISA	Human	40 µg 200 µg	A01709-40 A01709-200
TSH Antibody (26A7D2), mAb, Mouse	ELISA	Human	40 µg 200 µg	A01712-40 A01712-200
TSH Antibody (28F7B8), mAb, Mouse	ELISA	Human	40 µg 200 µg	A01713-40 A01713-200
TSH Antibody (2B9H4), mAb, Mouse	ELISA	Human	40 µg 200 µg	A01711-40 A01711-200
TSH Antibody (2D10F6), mAb, Mouse	ELISA	Human	40 µg 200 µg	A01710-40 A01710-200
TSH Antibody (3B12D11), mAb, Mouse	ELISA	Human	40 µg 200 µg	A01714-40 A01714-200
TYK2 Antibody (Ab-1054), pAb, Rabbit	IHC	Human	100 µg	A00416-100
Tyro3 Antibody, mAb, Mouse	ELISA, WB	Human	40 µg	A00763
VASP Antibody (Ab-157), pAb, Rabbit	WB, IF	Human	100 µg	A00458-100
Vav Antibody (Ab-174), pAb, Rabbit	WB	Human	100 µg	A00448-100
VEGFR2 Antibody (Ab-1175), pAb, Rabbit	IHC	Human	100 µg	A00352-100
Vimentin Antibody, mAb, Mouse	ELISA, WB, IHC	Human	40 µg	A00824
WISP2 Antibody, mAb, Mouse	ELISA, WB	Human	200 µg 40 µg	A01012-200 A01012-40
Zap-70 Antibody (Ab-493), pAb, Rabbit	IHC	Human	100 µg	A00593-100
α-Catenin Antibody (Ab-641), pAb, Rabbit	WB	Human	100 µg	A00931-100
α-Catenin Antibody (Phospho-Ser <sup>641</sup> ), pAb, Rabbit	WB	Human	100 µg	A00923-100
β-Amyloid Antibody (1-17), pAb, Rabbit	ELISA, WB, IF	Human	40 µg	A00685-40
β-Amyloid Antibody (1-40), pAb, Rabbit	ELISA, WB, IF	Human	40 µg 200 µg	A00688-40 A00688-200
β-amyloid Antibody (1-42), mAb, Mouse	Dot Blot, ELISA, IHC	Human	40 µg	A01567-40
β-Amyloid Antibody (25-35), pAb, Rabbit	ELISA, WB	Human	200 µg 40 µg	A00687-200 A00687-40
β-Amyloid Antibody (32-40), pAb, Rabbit	ELISA, WB, IF	Human	40 µg	A00689
UL94 Antibody, mAb, Mouse	WB	Cytomegalovirus	100 µg	A00095
GFAP Antibody, mAb, Mouse	WB, IF	Cow, Human, Mouse, Pig, Rat, all other mammalian, avian species tested	100 µg	A00085
ABCA1 Antibody, mAb, Mouse	ELISA, WB, IHC, IP	Chicken, Human, Mouse	100 µg	A00121
NF-H Antibody, pAb, Chicken	ELISA, WB, IF	Cat, Chicken, Human, Mouse, Rat	100 µg	A00136
NF-L Antibody, mAb, Mouse	WB, IF	Cat, Chicken, Human, Mouse, Rat	100 µg	A00139
NF-L Antibody, pAb, Chicken	WB, IF	Cat, Chicken, Human, Mouse, Rat	100 µg	A00140

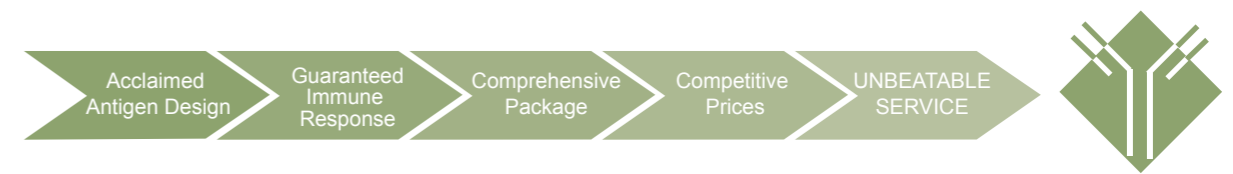


## Custom Antibody Services

A reliable immunological assay demands reliable antibodies. GenScript provides a one-stop solution to match our customers' antibody needs. Our custom antibody development services include recombinant protein expression, peptide design and synthesis, polyclonal and monoclonal antibody development, affinity purification, conjugation, fragmentation, and immunoassay development. GenScript offers you the best guarantee for antibody services in the market. All antibodies are generated from our **AAALAC International accredited** and **OLAW assured animal facilities**.

### Our Guarantees:

- Polyclonal antibody produced in any host will have an ELISA titer of **1:32,000** or better when peptide antigens are designed, synthesized, and conjugated at GenScript.
- For monoclonal antibodies, we provide you at least two clones with positive **ELISA** results from any chosen host, when peptide antigens are designed, synthesized, and conjugated by GenScript, or when the provided protein antigens are **at least 50% pure** in a minimum quantity of 2 mg. In case of failure, clients only need to pay a **\$800** set up fee.



Product	Applications	Species Reactivity	Quantity	Cat. No.
NF-L Antibody, pAb, Rabbit	WB, IF, ICC	Cat, Chicken, Human, Mouse, Rat	100 µg	A00138
Nop1p/Fibrillarin Antibody, mAb, Mouse	WB, IF	<i>C elegans</i> , <i>Drosophila</i> , Human, Plant, Rat, <i>S pombe</i>	100 µg	A00104
β-tubulin Antibody (2G7D4), mAb, Mouse	WB, FACS	Bovine, Chicken, Fish, Goat,	40 µg	A01717-40
		Human, Monkey, Mouse, Rabbit, Rat, Swine	200 µg	A01717-200
GAPDH Antibody, pAb, Goat	ELISA, WB	Bovine, Chicken, <i>E coli</i> , Fish,	100 µg	A00191-100
		Goat, Hamster, Human, Mouse, Rat, Rabbit, Swine	40 µg	A00191-40
NF-H Antibody, mAb, Mouse	WB, IF	A variety of species	100 µg	A00137
NF-H Antibody, pAb, Rabbit	ELISA, WB, IF	A variety of species	100 µg	A00135

\* This product has not been tested with reactivity to other species

## Secondary Antibodies

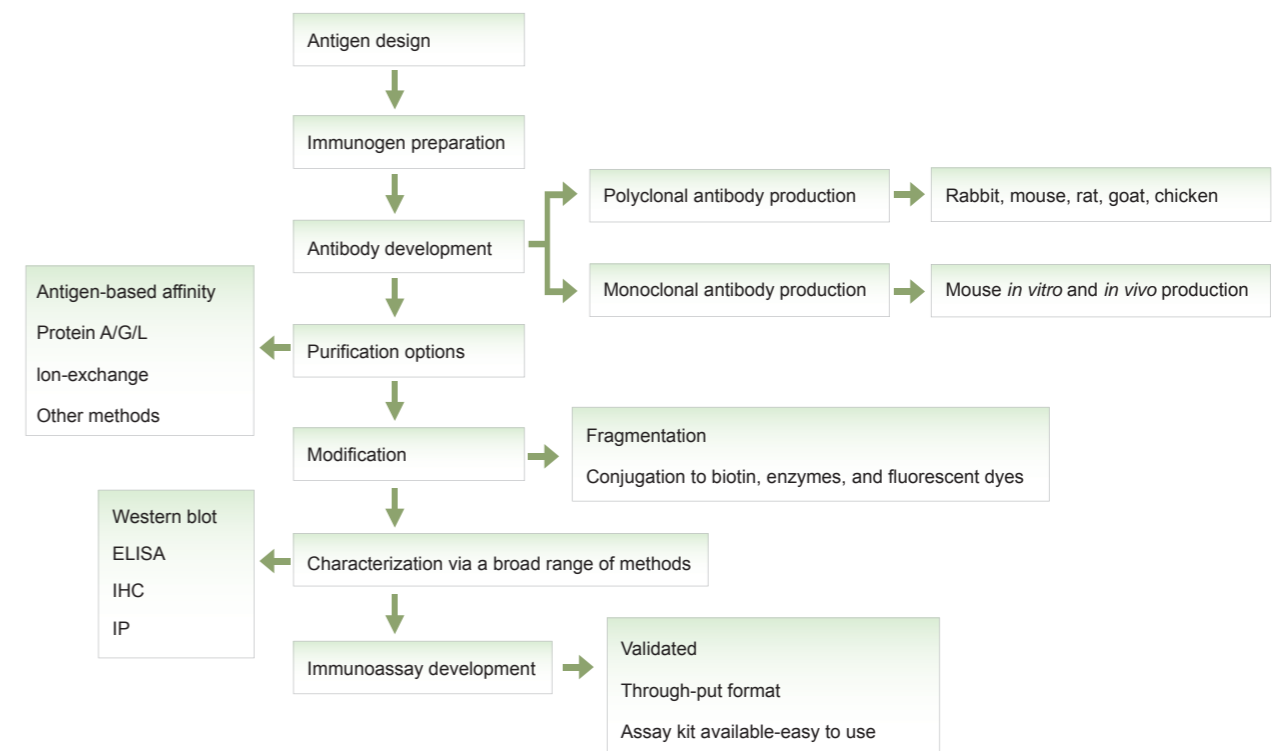
In GenScript, secondary antibodies are purified from the serum of several hosts, such as goat, human, mouse, rabbit, and rat. They are available with specificity for whole Ig molecules or antibody fragments such as the Fc or Fab regions. The conjugated secondary antibodies can be generally used for

various of immunology analysis and protein assay. According to your source of the primary antibodies and conditions, freely choose the suitable secondary antibodies labeled.

### Product Overview:

Product	Applications	Species Reactivity	Quantity	Cat. No.
Donkey Anti-Goat IgG Antibody (H&L) [HRP], pAb	ELISA, WB, Dot blot, IHC	Goat	1 mg	A00178
Goat Anti-Chicken IgY Antibody (H&L) [HRP], pAb	ELISA, WB, Dot blot, IHC	Chicken	1 mg	A00165
Goat Anti-Human IgG Antibody (H&L) [HRP], pAb	ELISA, WB, Dot blot, IHC	Human	1 mg	A00166
Goat Anti-Mouse IgG Antibody (H&L) [FITC], pAb	ICC, FACS	Mouse	1 mg	A01318
Goat Anti-Mouse IgG Antibody (H&L) [HRP], pAb	ELISA, WB, Dot blot, IHC	Mouse	1 mg	A00160
Goat Anti-Rabbit IgG Antibody (H&L) [HRP], pAb	ELISA, WB, Dot blot, IHC	Rabbit	1 mg	A00098
Goat Anti-Rabbit IgG Antibody (H&L), pAb	ELISA, WB, Dot blot, IHC	Rabbit	1 mg	A00131
Goat Anti-Rat IgG (H&L) [HRP] Antibody, pAb	ELISA, WB, Dot blot, IHC	Rat	1 mg	A00167

\*: This product has not been tested with reactivity to other species.  
NA: Not Available.



## Competitive Advantages

Feature	GenScript	Competitors
Advanced antigen design (OptimumAntigen™)	Yes	No
Nanotechnology for antigen preparation	Yes	No
T-Max™ adjuvant	Yes	No
Antibody lyophilization	Yes	No
Guaranteed immune response	Guaranteed Western (Western-GUARANTEED peptide polyclonal antibody package) Immune 1:32,000 ELISA titer (polyclonal antibody) Two ELISA positive clones (monoclonal antibody)	Rare
Express immunization protocol	PolyExpress™ Antibody Service pAb service in 28 days with ELISA titer of 1 :32,000 guaranteed MonoExpress™ mAb service in 45 days with 2 ELISA positive clones guaranteed MonoExpress™ Western Guaranteed mAbs service in 45 days with positive Western Blot result	Rare
Prices	Polyclonal starts at \$250.00 Monoclonal starts at \$3,800.00	30% or higher

### Advanced Antigen Design

GenScript's OptimumAntigen™ Antigen Design Tool combines the advanced algorithms with GenScript's time-tested expertise to provide peptide antigens that produce quality antibodies.

### Nanotechnology for Antigen Preparation

Unlike those of many other antibody production companies, GenScript antigen mixtures are processed down to nanoparticles to maximize immunization efficiency and boost immune response.

### T-Max™ Adjuvant

T-Max™ adjuvant is significantly more potent in inducing the immune reaction than the standard Freund's adjuvant, which ensures high specificity and high affinity of the produced antibodies.

### Antibody Lyophilization

Lyophilization extends the shelf life of your antibodies, eliminates leaking problems, loosens up stringent temperature requirement during shipping, and reduces the overall weight of antibodies to be shipped. All antisera or purified antibodies are provided as lyophilized form except special requirements.

### Guaranteed Immune Response

We use Western-GUARANTEED peptide polyclonal antibody package to satisfy your need for quality antibodies that generate positive Western blot results. For polyclonal antibody projects that use peptide antigens designed, synthesized, and conjugated by GenScript, we guarantee a final antibody product with an ELISA titer of 1:32,000 or better.

### Express immunization protocol

It's a challenge to achieve high quality antibody through fast immunization. Our Express antibody services address this challenge to provide you superior quality antibodies. Especially, our MonoExpress™ Western Guaranteed Antibody Services can generate mAb in 45 days that guarantee positive Western blot results for endogenously expressed proteins.

### Competitive Prices

Our polyclonal antibody service starts as low as \$250.00. Our monoclonal antibody service starts as low as \$3,800.00.

### Comprehensive Package

GenScript's one-stop antibody services are tailored to each customer's unique needs. For example, the process of antigen design by OptimumAntigen™ design tool and carrier protein selection are dictated in part by the customer's intended final application. In addition, we adjust the immunization dosage and number of booster immunizations according to the titer of initial antisera from each animal.

## Quotations and Ordering

Quotations and orders may be placed by email, phone, or fax with either a formal PO (Purchase Order) or credit card. Please choose the most convenient ordering method.

 <b>Quotation Form:</b> Obtainable on our website
 <b>Email:</b> <a href="mailto:antibody@genscript.com">antibody@genscript.com</a>
 <b>Phone:</b> 1-877-436-7274 (Toll-Free); 1-732-885-9188
 <b>Fax:</b> 1-732-210-0262; 1-732-885-5878
 <b>Secured Web Server:</b> <a href="https://www.genscript.com/ssl-bin/secure_data">https://www.genscript.com/ssl-bin/secure_data</a>



## Chapter 5 Peptides

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## Overview

GenScript has a comprehensive collection of pharmaceutical peptides including  $\beta$ -amyloid peptides and cosmetic peptides, etc. We have a worldwide customer base in the cosmetic and pharmaceutical industries along with academic institutions. GenScript can provide a variety of reliable cGMP peptides capable of increasing the speed and accuracy for your research.

All GenScript's peptides come equipped with QC data, including HPLC and MS profiles. There are over 1,500 different peptides with several quantity scales available. All the peptides in our

catalog are offered at over 95% purity. Let GenScript's state-of-the-art peptide synthesis technology and experienced peptide chemists to be your partners toward your success. If your peptide is not listed in our catalog, GenScript can synthesize any quantity of cGMP or research grade peptides for your study.

GenScript constantly launches new peptide products and continually updates its website. Prices or other information presented here may differ from that of the website. Please refer to the website for the most updated information.

## $\beta$ -Amyloid Peptides

Advanced FlexPeptide™ technology is applied to synthesize the comprehensive array of human and rat  $\beta$ -amyloid peptide fragments.


$\beta$ -amyloid is a peptide that forms amyloid plaques in the brains of Alzheimer's disease (AD) patients.  $\beta$ -amyloid peptide consists of 43 amino acids. It is formed via the enzymatic digestion of amyloid precursor protein (APP) by  $\beta$ -secretase and  $\gamma$ -secretase. It then forms insoluble fibrous aggregates,

causing amyloidosis and neurodegenerative diseases such as AD. Due to  $\beta$ -amyloid's involvement in the pathogenic process of AD, it has become one of the most investigated molecules in AD research projects.

### Product Overview:

Product	Purity	Quantity	Cat. No.
$\beta$ -Amyloid (10-20)	>95%	0.5 mg	RP20174
$\beta$ -Amyloid (10-35)	>95%	1 mg	RP20163
$\beta$ -amyloid (1-11)	>95%	1 mg	RP20106
$\beta$ -amyloid (11-22)	>95%	0.5 mg	RP20102
$\beta$ -Amyloid (1-15)	>95%	1 mg	RP20141
$\beta$ -amyloid (1-16)	>95%	0.5 mg	RP20103
$\beta$ -Amyloid (1-17)	>95%	1 mg	RP20161
$\beta$ -Amyloid (1-20)	>95%	1 mg	RP20162
$\beta$ -Amyloid (12-20)	>95%	1mg	RP20175
$\beta$ -amyloid (12-28)	>95%	0.5 mg	RP20104
$\beta$ -Amyloid (1-28)	>95%	0.5 mg	RP10002
$\beta$ -Amyloid (13-27)	>95%	1 mg	RP20170
$\beta$ -amyloid (1-33)	>95%	0.5 mg	RP20101
$\beta$ -Amyloid (1-34)	>95%	0.5 mg	RP20140
$\beta$ -Amyloid (1-40)	>95%	0.5 mg	RP10004
$\beta$ -Amyloid (1-40) Binding Peptide	>95%	1 mg	RP20166
$\beta$ -Amyloid (1-40), rat	>95%	0.5 mg	RP10016
$\beta$ -Amyloid (1-42), human	>95%	0.5 mg	RP10017
$\beta$ -Amyloid (1-42), rat	>95%	0.5 mg	RP10013
$\beta$ -Amyloid (15-21)	>95%	1 mg 5 mg	RP20171 -1 RP20171 -5
$\beta$ -Amyloid (16-20)	>95%	1 mg 5 mg	RP20172 -1 RP20172 -5
$\beta$ -Amyloid (16-23)	>95%	1 mg	RP20152
$\beta$ -Amyloid (16-26)	>95%	1 mg	RP20154
$\beta$ -Amyloid (17-24)	>95%	1 mg	RP20148

Product	Purity	Quantity	Cat. No.
$\beta$ -Amyloid (18-28)	>95%	1 mg	RP20105
$\beta$ -Amyloid (1-9)	>95%	1 mg	RP20160
$\beta$ -Amyloid (22-35)	>95%	1 mg 5 mg	RP20130-1 RP20130-5
$\beta$ -Amyloid (22-40)	>95%	1 mg	RP20150
$\beta$ -Amyloid (25-35)	>95%	1 mg 5 mg	RP10008-1 RP10008-5
$\beta$ -Amyloid (29-40)	>95%	1 mg 5 mg	RP20178-1 RP20178-5
$\beta$ -Amyloid (30-34)	>95%	1 mg	RP20143
$\beta$ -Amyloid (31-35)	>95%	1 mg 5 mg	RP20184-1 RP20184-5
$\beta$ -Amyloid (32-35)	>95%	1 mg 5 mg	RP20177-1 RP20177-5
$\beta$ -Amyloid (33-40)	>95%	1 mg	RP20144
$\beta$ -Amyloid (35-25)	>95%	0.5 mg 1 mg	RP20185-0.5 RP20185-1
$\beta$ -Amyloid (35-42)	>95%	1 mg	RP20145
$\beta$ -Amyloid (37-43)	>95%	1 mg	RP20186
$\beta$ -Amyloid (4-10)	>95%	5 mg 1 mg	RP20173-5 RP20173-1
$\beta$ -Amyloid (42-1)	>95%	0.5 mg	RP10034
$\beta$ -Amyloid (7-22)	>95%	1 mg	RP20192
$\beta$ -Amyloid A4 Protein Precursor (740-770), APP (C31)	>95%	1 mg	RP20165
$\beta$ -Amyloid Protein Precursor(657-676)	>95%	0.5 mg	RP20195
$\beta$ -Amyloid Protein Precursor 770 (135-155)	>95%	1 mg 5 mg	RP20196-1 RP20196-5

 For more information on  $\beta$ -Amyloid Peptides, visit [http://www.genscript.com/beta\\_amyloid\\_peptide.html](http://www.genscript.com/beta_amyloid_peptide.html)

# Cosmetic Peptides

Research- and cGMP-grade cosmetic peptides for extra specification

- **Quantity**—Batch sizes range from mg to kg with purity level up to 98%. Purity levels can be tailored to specific customer needs
- **Modification**—We provide an array of peptide modification options that can improve the skin permeating, anti-aging, and anti-wrinkle properties of each peptide
- **Consistency**—Batch-to-batch consistency is guaranteed
- **Applicability**—GenScript provides custom and generic research- and cGMP-grade cosmetic peptides for a range of pharmaceutical and biotechnology applications
- **Content**—Our cosmetic peptides are sold by net peptide weight as determined by amino acid analysis and/or UV
- **Price**—GenScript provides large scale production of cosmetic peptides at highly competitive prices

The intrinsic properties of peptides, particularly their ability to mediate key biological functions, have attracted the most technologically advanced companies in the cosmetic industry. Cosmetic peptides are the new weapon in the battle against skin aging and the latest addition to the ranks of cosmeceuticals and dermaticals being developed by skin care companies all over the world. By employing the most advanced peptide synthesis techniques and instrumentations available, GenScript can manufacture research- and cGMP-grade cosmetic peptides to each client's exact specifications. GenScript's technical expertise and stringent QC, together with our dedication to innovation and quality, ensure a strong partnership for success.

## Product Overview:

Product	Cat. No.
Acetyl Hexapeptide-3	RP20002
GHK-Cu	RP20125
PAL-GHK	RP20128
Palmitoyl Pentapeptide	RP20045
Palmitoyl Tetrapeptide-3	RP20100

# Pharmaceuticals

## Product Overview:

Product	Cas No.	Purity	Quantity	Cat. No.
BKC	8001-54-5	≥99%	100 g	C01683
Cetrimide	8044-71-1	≥99%	100 g	C01684
DIMESNA	16208-51-8	≥99%	100 g	C01687
MESNA	19767-45-4	≥99%	100 g	C01686

# Peptide Building Blocks

## Product Overview:

Product	Cas No.	Purity	Quantity	Cat. No.
2-Br-Z-Osu	128611-93-8	NA	100 g	C01514-100
			500 g	C01514-500
2-Cl-(Trt)-Cl Resin	42074-68-0	≥97%	25 g	C01515-25
			100 g	C01515-100
			500 g	C01515-500
2-Cl-Z-Osu	65853-65-8	NA	100 g	C01516-100
			500 g	C01516-500
3-Tritylmercapto Propionic acid	27144-18-9	≥98%	25 g	C01517-25
			100 g	C01517-100
			500 g	C01517-500

Product	Cas No.	Purity	Quantity	Cat. No.
9-fluorenylmethanol	24324-17-2	≥98%	500 g	C01518
BOP-Reagent	56602-33-6	≥99%	100 g	C01519-100
			500 g	C01519-500
CDI	530-62-1	≥97%	100 g	C01520-100
			500 g	C01520-500
DMAP	1122-58-3	NA	100 g	C01521-100
			500 g	C01521-500
DMT-Cl	40615-36-9	≥98.2%	100 g	C01522-100
			500 g	C01522-500
EDC·HCl	25952-53-8	≥98.5%	100 g	C01523-100
			500 g	C01523-500
Fmoc-Acp-OH	88574-06-5	≥98%	25 g	C01524-25
			100 g	C01524-100
Fmoc-D-Ala-OH	79990-15-1	≥98%	5 g	C01525-5
			25 g	C01525-25
			100 g	C01525-100
Fmoc-D-Arg(pbf)-OH	187618-60-6	≥97%	5 g	C01526-5
			25 g	C01526-25
			100 g	C01526-100
Fmoc-D-Asn(Trt)-OH	180570-71-2	≥98%	5 g	C01527-5
			25 g	C01527-25
			100 g	C01527-100
Fmoc-D-Asp(OtBu)-OH	112883-39-3	≥98%	5 g	C01528-5
			25 g	C01528-25
			100 g	C01528-100
Fmoc-D-Cys(Trt)-OH	167015-11-4	≥98%	5 g	C01529-5
			25 g	C01529-25
			100 g	C01529-100
Fmoc-D-Gln(Trt)-OH	200623-62-7	≥98%	5 g	C01530-5
			25 g	C01530-25
			100 g	C01530-100
Fmoc-D-Glu(OtBu)-OH	104091-08-9	≥98%	5 g	C01531-5
			25 g	C01531-25
			100 g	C01531-100
Fmoc-D-His(Trt)-OH	135610-90-1	≥98%	5 g	C01532-5
			25 g	C01532-25
			100 g	C01532-100
Fmoc-D-Ile-OH	143688-83-9	≥98.5%	5 g	C01533-5
			25 g	C01533-25
			100 g	C01533-100
Fmoc-D-Leu-OH	114360-54-2	≥98%	5 g	C01534-5
			25 g	C01534-25
			100 g	C01534-100
Fmoc-D-Lys(Boc)-OH	92122-45-7	≥98%	5 g	C01535-5
			25 g	C01535-25
			100 g	C01535-100
Fmoc-D-Met-OH	112883-40-6	≥98%	5 g	C01536-5
			25 g	C01536-25
			100 g	C01536-100
Fmoc-D-Phe-OH	86123-10-6	≥98%	5 g	C01537-5
			25 g	C01537-25
			100 g	C01537-100
Fmoc-D-Pro-OH	101555-62-8	≥98%	5 g	C01538-5
			25 g	C01538-25
			100 g	C01538-100

Product	Cas No.	Purity	Quantity	Cat. No.
Fmoc-D-Ser(tBu)-OH	128107-47-1	≥98%	5 g	C01539-5
			25 g	C01539-25
			100 g	C01539-100
Fmoc-D-Thr(tBu)-OH	138797-71-4	≥98%	5 g	C01540-5
			25 g	C01540-25
			100 g	C01540-100
Fmoc-D-Trp(Boc)-OH	163619-04-3	≥95%	5 g	C01541-5
			25 g	C01541-25
			100 g	C01541-100
Fmoc-D-Trp-OH	86123-11-7	≥98%	5 g	C01542-5
			25 g	C01542-25
			100 g	C01542-100
Fmoc-D-Tyr(tBu)-OH	118488-18-9	≥98%	5 g	C01543-5
			25 g	C01543-25
			100 g	C01543-100
Fmoc-D-Val-OH	84624-17-9	≥98%	5 g	C01544-5
			25 g	C01544-25
			100 g	C01544-100
Fmoc-L-Ala-OH	35661-39-3	≥98%	100 g	C01545-100
			500 g	C01545-500
Fmoc-L-Arg(pbf)-OH	154445-77-9	≥98%	25 g	C01546-25
			100 g	C01546-100
			500 g	C01546-500
Fmoc-L-Asn(Trt)-OH	132388-59-1	≥98%	25 g	C01547-25
			100 g	C01547-100
			500 g	C01547-500
Fmoc-L-Asp(OtBu)-OH	71989-14-5	≥98%	25 g	C01548-25
			100 g	C01548-100
			500 g	C01548-500
Fmoc-L-Cys(Trt)-OH	103213-32-7	≥98%	25 g	C01549-25
			100 g	C01549-100
			500 g	C01549-500
Fmoc-L-Gln(Trt)-OH	132327-80-1	≥98%	25 g	C01550-25
			500 g	C01550-500
Fmoc-L-Glu(OtBu)-OH	71989-18-9	≥98.5%	25 g	C01551-25
			100 g	C01551-100
			500 g	C01551-500
Fmoc-L-Gly-OH	29022-11-5	≥98%	100 g	C01588-100
			500 g	C01588-500
Fmoc-L-His(Trt)-OH	109425-51-6	≥98%	25 g	C01552-25
			100 g	C01552-100
			500 g	C01552-500
Fmoc-L-Ile-OH	71989-23-6	≥98%	100 g	C01553-100
			500 g	C01553-500
Fmoc-L-Leu-OH	35661-60-0	≥98.5%	25 g	C01554-25
			100 g	C01554-100
			500 g	C01554-500
Fmoc-L-Lys(Boc)-OH	71989-26-9	≥98%	25 g	C01555-25
			100 g	C01555-100
			500 g	C01555-500
Fmoc-L-Met-OH	71989-28-1	≥98%	100 g	C01556-100
			500 g	C01556-500
Fmoc-L-Phe-OH	35661-40-6	≥98%	100 g	C01557-100
			500 g	C01557-500

Product	Cas No.	Purity	Quantity	Cat. No.
Fmoc-L-Pro-OH	71989-31-6	≥98%	100 g	C01558-100
			500 g	C01558-500
Fmoc-L-Ser(tBu)-OH	71989-33-8	≥98%	25 g	C01559-25
			100 g	C01559-100
			500 g	C01559-500
Fmoc-L-Thr(tBu)-OH	71989-35-0	≥98%	25 g	C01560-25
			100 g	C01560-100
			500 g	C01560-500
Fmoc-L-Trp(Boc)-OH	143824-78-6	≥95%	25 g	C01561-25
			100 g	C01561-100
			500 g	C01561-500
Fmoc-L-Tyr(tBu)-OH	71989-38-3	≥98%	25 g	C01562-25
			100 g	C01562-100
			500 g	C01562-500
Fmoc-L-Val-OH	68858-20-8	≥98%	100 g	C01563-100
			500 g	C01563-500
Fmoc-Orn(Boc)-OH	109425-55-0	≥98%	25 g	C01564-25
			100 g	C01564-100
			500 g	C01564-500
Fmoc-Osu	82911-69-1	≥98%	100 g	C01565-100
			500 g	C01565-500
HATU	148893-10-1	NA	25 g	C01566-25
			100 g	C01566-100
			500 g	C01566-500
HBTU	94790-37-1	≥98%	100 g	C01567-100
			500 g	C01567-500
HOAT	39968-33-7	≥99%	25 g	C01568-25
			100 g	C01568-100
			500 g	C01568-500
HOSu	6066-82-6	≥99%	100 g	C01570-100
			500 g	C01570-500
Merrifield Resin	55844-94-5	NA	25 g	C01571-25
			100 g	C01571-100
			500 g	C01571-500
PyBOP	128625-52-5	≥97%	25 g	C01572-25
			100 g	C01572-100
			500 g	C01572-500
Rink Amide AM Resin	NA	NA	25 g	C01573-25
			100 g	C01573-100
Rink Amide Linker	145069-56-3	≥99%	25 g	C01574-25
			100 g	C01574-100
Tert- Butyldimethylsilyl Chloride	18162-48-6	≥98%	500 g	C01575
Wang Resin	201058-08-4	NA	25 g	C01576-25
			100 g	C01576-100
			500 g	C01576-500

NA: Not available

# Other Peptides

Peptides with reliable quality and low cost are supplied by GenScript for your research.

## Product Overview:

Product	Purity	Quantity	Cat. No.
[Arg <sup>3,14</sup> ]-CTX IV (3-14)	>95%	1 mg	RP17304
[Arg <sup>8</sup> ]-Vasotocin	>95%	1 mg	RP10061
[Asp <sup>371</sup> ]-Tyrosinase (369-377), human	>95%	1 mg	RP10270
[D-Ala <sup>2</sup> ]-Deltorphin I	>95%	1 mg 5 mg	RP10433 -1 RP10433 -5
[Des-Arg <sup>9</sup> ]-Bradykinin	>95%	5 mg	RP13625
[Des-Asp <sup>1</sup> ]-Angiotensin I, human	>95%	5 mg	RP13717
[D-Phe <sup>7</sup> ]-Bradykinin	>95%	1 mg	RP11140
[D-Trp <sup>11</sup> ]-Neurotensin	>95%	5 mg	RP11887
[Gln <sup>4</sup> ]-Neurotensin	>95%	1 mg	RP10447
[Gln <sup>6,9</sup> ]-Helodermin	>95%	0.5 mg	RP10633
[Gln <sup>6</sup> ]-C517 (LH-RH), chicken	>95%	1 mg	RP10689
[Hyp <sup>3</sup> ]-Bradykinin	>95%	0.5 mg	RP13626
[Ile <sup>7</sup> ]-Angiotensin III	>95%	5 mg	RP11267
[Leu <sup>5</sup> ]-Enkephalin	>95%	25 mg	RP10884
[Leu <sup>5</sup> ]-Enkephalin, amide	>95%	5 mg	RP10885
[Lys <sup>8</sup> ]-Vasopressin	>95%	1 mg	RP10069
[Met <sup>128</sup> ]-HA (126-138)	>95%	1 mg	RP20241
[Met <sup>6</sup> ]-Enkephalin	>95%	25 mg	RP10886
[Met <sup>6</sup> ]-Enkephalin, amide	>95%	10 mg	RP10887
[Nle <sup>11</sup> ]-Substance P	>95%	1 mg	RP10207
[Nle <sup>4</sup> , D-Phe <sup>7</sup> ]-α-Melanocyte Stimulating Hormone (MSH), amide	>95%	1 mg 5 mg	RP10658 -1 RP10658 -5
[Pro <sup>9</sup> ]-Substance P	>95%	0.5 mg	RP10208
[Sar <sup>1</sup> , Ile <sup>8</sup> ]-Angiotensin II	>95%	5 mg	RP13720
[Sar <sup>1</sup> ]-Angiotensin II	>95%	5 mg	RP11270
[Sar <sup>9</sup> ]-Substance P	>95%	1 mg	RP10210
[Ser <sup>140</sup> ]-Myelin Proteolipid Protein (139-151) (depalmitoylated), bovine, dog, human, mouse, rat	>95%	0.5 mg	RP10550
[Thr <sup>1</sup> -Ala <sup>2</sup> -Pro <sup>3</sup> -Arg <sup>4</sup> ]-Atrial Natriuretic Peptide (ANP) (Urodilatin), human	>95%	0.5 mg	RP11926
[Tyr <sup>1</sup> ]-MIF-1	>95%	5 mg	RP13116
[Tyr <sup>1</sup> ]-Somatostatin	>95%	1 mg	RP10244
[Tyr <sup>1</sup> ]-W-MIF-1	>95%	5 mg	RP10477
[Tyr <sup>11</sup> ]-Somatostatin	>95%	1 mg	RP10242
[Tyr <sup>4</sup> ]-Bombesin	>95%	1 mg 5 mg	RP11164 -1 RP11164 -5
[Tyr <sup>5,12</sup> , Lys <sup>7</sup> ]-Polyphemusin II	>95%	0.1 mg	RP10057
[Tyr <sup>9</sup> ]-Bradykinin	>95%	5 mg	RP11151
[Tyr <sup>9</sup> ]-Substance P	>95%	1 mg	RP10213
[Val <sup>5</sup> ]-Angiotensin II, human	>95%	5 mg	RP11273
Eledoisin	>95%	1 mg	RP10456
2B-(A)	>95%	1 mg 5 mg	RP11391 -1 RP11391 -5
2B-(S)	>95%	1 mg 5 mg	RP11392 -1 RP11392 -5
A-779	>95%	1 mg	RP11249
Abl Cytosolic Substrate	>95%	0.5 mg	RP19985
Abz-FR-K (Dnp)-P-OH	>95%	1 mg	RP20115
Achatina Cardio-Excitatory Peptide-1 (ACEP-1)	>95%	1 mg	RP20304

Product	Purity	Quantity	Cat. No.
Adipokinetic Hormone (AKH) II, <i>Locusta migratoria</i>	>95%	1 mg	RP17300
Adipokinetic Hormone (AKH) II, <i>Schistocera gregaria</i>	>95%	1 mg	RP13768
Adipokinetic Hormone (AKH), <i>Heliothis Zea</i>	>95%	1 mg	RP11316
Adipokinetic Hormone (AKH), locust	>95%	1 mg	RP11319
Adrenocorticotrophic Hormone (ACTH) (1-10), human	>95%	5 mg	RP11299
Adrenocorticotrophic Hormone (ACTH) (1-13), human	>95%	0.5 mg	RP11300
Adrenocorticotrophic Hormone (ACTH) (1-14)	>95%	1 mg	RP12908
Adrenocorticotrophic Hormone (ACTH) (1-16), human	>95%	0.5 mg	RP11301
Adrenocorticotrophic Hormone (ACTH) (1-17), human	>95%	0.5 mg	RP11302
Adrenocorticotrophic Hormone (ACTH) (1-24), human	>95%	0.5 mg	RP11303
Adrenocorticotrophic Hormone (ACTH) (1-39), human	>95%	0.5 mg	RP11304
Adrenocorticotrophic Hormone (ACTH) (1-39), rat	>95%	0.5 mg	RP11305
Adrenocorticotrophic Hormone (ACTH) (1-4)	>95%	5 mg	RP12907
Adrenocorticotrophic Hormone (ACTH) (18-39), human	>95%	1 mg 5 mg	RP11307 -1 RP11307 -5
Adrenocorticotrophic Hormone (ACTH) (4-10), human	>95%	5 mg	RP11308
Adrenomedullin (AM) (13-52), human	>95%	0.5 mg	RP11291
Adrenomedullin (AM) (1-52), human	>95%	0.5 mg	RP11288
Adrenomedullin (AM) (22-52), human	>95%	0.5 mg	RP11293
Adrenomedullin (AM), canine	>95%	0.1 mg	RP13758
Adrenorphin	>95%	1 mg 5 mg	RP10421 -1 RP10421 -5
Agouti Related Protein AGRP (87-132), human	>95%	0.1 mg 0.5 mg	RP12906 RP12906
Ala-Gly-Asp-Val	>95%	5 mg	RP10827
Ala-Leu-Ala-Leu	>95%	1 mg	RP10128
Ala-Lys-Arg-Arg-Arg-Leu-Ser-Ser-Leu-Arg-Ala	>95%	1 mg 5 mg	RP11604 -1 RP11604 -5
Allatostatin I	>95%	1 mg 5 mg	RP11281 -1 RP11281 -5
Alytesin	>95%	1 mg 5 mg	RP10451 -1 RP10451 -5
Amylin (8-37), amide, rat	>95%	0.5 mg	RP11277
Amylin (8-37), human	>95%	0.5 mg	RP11276
Amylin, amide, rat	>95%	0.5 mg	RP11280
Amylin, feline	>95%	0.5 mg	RP13732
Amylin, human, amide	>95%	0.5 mg	RP11278
Angiotensin Converting Enzyme Inhibitor	>95%	5 mg	RP11321
Angiotensin I Converting Enzyme Inhibitor ([Des-Pro <sup>2</sup> ]-Bradykinin)	>95%	5 mg	RP11324
Angiotensin I Converting Enzyme Inhibitor (Bradykinin Potentiator C)	>95%	5 mg	RP11323
Angiotensin I, human	>95%	5 mg	RP11251
Angiotensin I-Converting Enzyme Inhibitor (Bradykinin Potentiator B)	>95%	5 mg	RP11322
Angiotensin II (1-4), human	>95%	5 mg	RP11252
Angiotensin II (3-8), human	>95%	5 mg	RP11253
Angiotensin II (4-8), human	>95%	5 mg	RP11254
Angiotensin II, human	>95%	5 mg	RP11257
Angiotensin III, human	>95%	5 mg	RP11259
Angiotensin, canine, rat	>95%	5 mg	RP11260
Angiotensinogen (1-14), human	>95%	1 mg 5 mg	RP10253 -1 RP10253 -5
Anorexigenic Peptide	>95%	1 mg	RP10556
Antagonist G	>95%	0.5 mg	RP10174

Product	Purity	Quantity	Cat. No.
Antiestrogen	>95%	0.5 mg	RP10558
Apamin	>95%	0.5 mg	RP11002
Apelin-13, bovine, human	>95%	0.5 mg	RP11221
Apelin-36, bovine	>95%	0.1 mg	RP13713
Apelin-36, human	>95%	0.1 mg	RP13714
Arg-Arg-Arg-Asp-Asp-Asp-Ser-Asp-Asp-Asp	>95%	0.5 mg	RP10318
Arg-Gly-Asp-Cys	>95%	5 mg	RP10860
Arg-Gly-Asp-Ser	>95%	5 mg	RP10861
Arg-Gly-Asp-Val	>95%	5 mg	RP10864
Arg-Gly-Glu-Ser	>95%	0.5 mg	RP13448
Arg-Gly-Tyr-Ser-Leu-Gly	>95%	1 mg	RP10266-1
		5 mg	RP10266-5
Arg-Lys-Arg-Ser-Arg-Ala-Glu	>95%	1 mg	RP10268-1
		5 mg	RP10268-5
Arg-Phe, amide	>95%	5 mg	RP13655
Arg-Phe-Asp-Ser	>95%	0.5 mg	RP13449
Arg-Ser-Arg	>95%	1 mg	RP10614-1
		5 mg	RP10614-5
Asp-Asp-Asp-Asp-Asp	>95%	1 mg	RP10575
Asp-Asp-Asp-Asp-Asp-Asp	>95%	1 mg	RP10576
Astressin	>95%	0.5 mg	RP10980
Atrial Natriuretic Peptide (ANP) (1-11), rat	>95%	1 mg	RP11190
Atrial Natriuretic Peptide (ANP) (1-28), human, porcine	>95%	0.5 mg	RP11927
Atrial Natriuretic Peptide (ANP) (1-28), rat	>95%	0.5 mg	RP11195
Atrial Natriuretic Peptide (ANP) (1-30), frog	>95%	0.5 mg	RP11191
Atrial Natriuretic Peptide (ANP), eel	>95%	0.2 mg	RP13544
Atriopeptin I, rat	>95%	0.5 mg	RP11201
Atriopeptin II, rat	>95%	0.5 mg	RP11202
Atriopeptin III, rat	>95%	0.5 mg	RP11203
Auriculin A	>95%	0.5 mg	RP11204
Auriculin B	>95%	0.5 mg	RP11205
Autocamtide 2	>95%	1 mg	RP10271
Bactenecin, bovine	>95%	1 mg	RP11235-1
		5 mg	RP11235-5
BAM-12P	>95%	1 mg	RP10422
BAM-22P	>95%	1 mg	RP10424
Binin(102-120), <i>Strongylocentrotus Purpuratus</i>	>95%	0.5 mg	RP19984
BINP	>95%	1 mg	RP17301
Bombesin	>95%	1 mg	RP11157-1
		5 mg	RP11157-5
Bradykinin	>95%	10 mg	RP11129
Bradykinin (1-3)	>95%	5 mg	RP11130
Bradykinin (1-5)	>95%	5 mg	RP11131-5
		25 mg	RP11131-25
Bradykinin (1-6)	>95%	5 mg	RP11132-5
		25 mg	RP11132-25
Bradykinin (1-7)	>95%	5 mg	RP11133-5
		25 mg	RP11133-25
Bradykinin (2-9)	>95%	5 mg	RP11135-5
		25 mg	RP11135-25
Brain Natriuretic Peptide (BNP) (1-32), human	>95%	0.5 mg	RP11119
Brain Natriuretic Peptide (BNP) (1-32), rat	>95%	0.5 mg	RP11121

Product	Purity	Quantity	Cat. No.
Buccalin	>95%	1 mg	RP10452
Bursin	>95%	5 mg	RP10564
Calcineurin Autoinhibitory Peptide	>95%	0.5 mg	RP10272
Calcineurin Substrate	>95%	1 mg	RP10139
Calcitonin (8-32), salmon	>95%	0.2 mg	RP13606
Calcitonin Gene Related Peptide (CGRP) (8-37), human	>95%	0.5 mg	RP11089
Calcitonin Gene Related Peptide (CGRP) (8-37), rat	>95%	0.5 mg	RP11090
Calcitonin Gene Related Peptide (CGRP) II, rat	>95%	0.5 mg	RP11092
Calcitonin Gene Related Peptide (CGRP), chicken	>95%	0.5 mg	RP11093
Calcitonin Gene Related Peptide (CGRP), rat	>95%	0.5 mg	RP11095
Calcitonin, chicken	>95%	0.5 mg	RP11096
Calcitonin, eel	>95%	1 mg	RP12786-1
		5 mg	RP12786-5
Calcitonin, rat	>95%	0.5 mg	RP11098
Calcitonin, salmon	>95%	0.5 mg	RP11099
Calmodulin Binding Peptide 1	>95%	0.02 mg	RP13247
Cardiotoxin Analog (CTX) IV (6-12)	>95%	1 mg	RP17303
Casein Kinase Substrates 1	>95%	1 mg	RP20212-1
		5 mg	RP20212-5
Catch-Relaxing Peptide (CARP)	>95%	1 mg	RP13656
CAYHRLRRC	>95%	1 mg	RP20098
CDK5 Substrate (Phospho-Thr <sup>3</sup> )	>95%	0.5 mg	RP20107
Cecropin B	>95%	0.5 mg	RP11225
CEF1, Influenza Matrix Protein M1 (58 - 66)	>95%	0.5 mg	RP19978
CEF10	>95%	1 mg	RP11772
CEF11	>95%	1 mg	RP11773
CEF20	>95%	1 mg	RP11781
CEF21	>95%	1 mg	RP11782
CEF25	>95%	1 mg	RP11786
CEF3	>95%	1 mg	RP11765
CEF4	>95%	1 mg	RP11766
CEF6	>95%	1 mg	RP11768
Cerebellin	>95%	1 mg	RP10453
Chemerin-9 (149-157)	>95%	1 mg	RP20248
Chromostatin, bovine	>95%	0.5 mg	RP10400
c-Kit Ligand (KL)-1	>95%	1 mg	RP11739-1
		5 mg	RP11739-5
CKS-17	>95%	0.5 mg	RP10281
c-Myc Peptide	>95%	1 mg	RP11731-1
		5 mg	RP11731-5
Colivelin	>95%	1 mg	RP20167
Collagen-Binding Fragment	>95%	1 mg	RP10828
Connective Tissue Activating Peptide (CTAP)	>95%	0.5 mg	RP10218
Constrained Octapeptide	>95%	1 mg	RP20222-1
		5 mg	RP20222-5
Corazonin	>95%	1 mg	RP10454-1
		5 mg	RP10454-5
Corticotropin Releasing Factor, bovine	>95%	0.5 mg	RP10981
Corticotropin Releasing Factor, human, rat	>95%	0.5 mg	RP10982
Corticotropin Releasing Factor, ovine	>95%	0.5 mg	RP10983
Cortistatin 14, human, rat	>95%	0.5 mg	RP10972
C-Peptide (3-33), human	>95%	0.5 mg	RP11116



Product	Purity	Quantity	Cat. No.
C-Peptide, dog	>95%	0.5 mg	RP11115
CREBtide	>95%	1 mg	RP10142 -1
		5 mg	RP10142 -5
Crosstide	>95%	5 mg	RP20200
Crustacean Cardioactive Peptide (CCAP)	>95%	1 mg	RP10572
Crystalline	>95%	1 mg	RP10425
C-telopeptide	>95%	0.5 mg	RP10566
C-Type Natriuretic Peptide (CNP) (1-22), human	>95%	0.5 mg	RP11110
C-Type Natriuretic Peptide (CNP), chicken	>95%	0.5 mg	RP11112
C-Type Natriuretic Peptide (CNP), frog	>95%	0.2 mg	RP13529
Cyclic peptide 1	>95%	1 mg	RP20270
Cyclic peptide 2	>95%	1 mg	RP20264
Cys Containing $\beta$ -Amyloid (1-40) Binding Peptide	>95%	1 mg	RP20168
Cystatin C (40-54)	>95%	1 mg	RP20238
Dermaseptin	>95%	0.5 mg	RP11228
Dermenkephalin	>95%	1 mg	RP10881 -1
		5 mg	RP10881 -5
Dermorphin	>95%	5 mg	RP10427
Dermorphin Analog	>95%	0.5 mg	RP13522
DYKDDDDK Peptide	>95%	1 mg	RP10586
EGF Receptor Substrate 2 (Phospho-Tyr <sup>6</sup> )	>95%	0.5 mg	RP20109
EGFR (988-993) (Phospho-Tyr <sup>6</sup> )	>95%	0.5 mg	RP20108
Egg Laying Hormone, aplysia	>95%	0.5 mg	RP10583
Eledoisin Related Peptide	>95%	5 mg	RP10457
Endokinin A/B	>95%	1 mg	RP20302 -1
		5 mg	RP20302 -5
Endomorphin-1	>95%	5 mg	RP10925
Endomorphin-2	>95%	5 mg	RP10926
Endonuclease Antigenic Site	>95%	1 mg	RP17306
Endothelin 1, human, porcine	>95%	0.25 mg	RP12758 -0.25
		1 mg	RP12758 -1
Enfuvirtide (T-20)	>95%	1 mg	RP17307
Enterostatin (Ala-Pro-Gly-Pro-Arg), human, mouse, rat	>95%	0.5 mg	RP13462
Enterostatin (Val-Pro-Asp-Pro-Arg)	>95%	5 mg	RP10629
Epithelial Membrane Protein (EMP)-1	>95%	0.1 mg	RP13257
Eptifibatide	>95%	10 mg	RP17308
Erktide	>95%	1 mg	RP20197
Erythromycin Resistance Peptide	>95%	5 mg	RP17309
Exendin (9-39)	>95%	0.5 mg	RP10872
Exendin-3	>95%	0.5 mg	RP10873
Exendin-4	>95%	0.5 mg	RP10874 -0.5
		100 mg	RP10874 -100
Fibrinogen Binding Inhibitor Peptide	>95%	1 mg	RP10832 -1
		5 mg	RP10832 -5
Fibrinogen-Binding Peptide	>95%	5 mg	RP17310
Fibrinolysis Inhibiting Factor	>95%	1 mg	RP10834 -1
		5 mg	RP10834 -5
Fibrinopeptide A, human	>95%	1 mg	RP10835 -1
		5 mg	RP10835 -5
Fibrinopeptide B, human	>95%	1 mg	RP10836 -1
		5 mg	RP10836 -5

Product	Purity	Quantity	Cat. No.
Fibronectin CS1 Peptide	>95%	1 mg	RP10838 -1
		5 mg	RP10838 -5
Fibronectin Fragment (Arg-Gly-Asp)	>95%	0.5 mg	RP13450
Fibronectin-Binding Protein	>95%	0.5 mg	RP10840
Flagelin22	>95%	0.5 mg	RP19986
FYQLALT	>95%	1 mg	RP20117
Galanin Receptor Ligand M35	>95%	0.5 mg	RP10808
Galanin Receptor Ligand M40	>95%	0.5 mg	RP10809
Galanin, bovine	>95%	0.2 mg	RP13446
Galanin, human	>95%	0.5 mg	RP10801
Galanin, porcine	>95%	0.5 mg	RP10802
Galanin, rat	>95%	1 mg	RP10803
Galanin-Like Peptide, human	>95%	0.1 mg	RP13435
Galanin-Like Peptide, rat	>95%	0.1 mg	RP13439
Galantide	>95%	0.5 mg	RP10804
Gastric Inhibitory Peptide (GIP), human	>95%	0.5 mg	RP10795
Gastrin Releasing Peptide, porcine	>95%	0.5 mg	RP10792
Gastrin, chicken	>95%	0.5 mg	RP10793
Gastrin-1, human	>95%	0.5 mg	RP12740
Gastrin-1, rat	>95%	0.5 mg	RP12742
Gastrin-Releasing Peptide, human	>95%	0.5 mg	RP10791
Ghrelin, canine	>95%	0.1 mg	RP13416
Ghrelin, human	>95%	0.1 mg	RP13422
		1 mg	RP10781 -1
Ghrelin, rat	>95%	5 mg	RP10781 -5
		0.5 mg	RP10772
Glucagon (1-29), Human, Hydrochloride Salt	>95%	0.5 mg	RP10772
Glucagon (19-29), human	>95%	1 mg	RP10770 -1
		5 mg	RP10770 -5
Glucagon-Like Peptide (GLP) I (7-36), amide, human	>95%	0.5 mg	RP10773
Glucagon-Like Peptide (GLP) I (7-37)	>95%	0.5 mg	RP12738
Glucagon-Like Peptide (GLP) II, human	>95%	0.5 mg	RP10769
Glucagon-Like Peptide (GLP) II, rat	>95%	0.5 mg	RP10775
Glucagon-Like Peptide (GLP) II-Arg, human	>95%	0.5 mg	RP10774
Gly-Ala-Tyr	>95%	5 mg	RP10589
Gly-Arg-Gly-Asp-Asn-Pro	>95%	1 mg	RP10847
Gly-Arg-Gly-Asp-Ser	>95%	1 mg	RP10848 -1
		5 mg	RP10848 -5
Glycoprotein (276-286)	>95%	0.5 mg	RP19983
Gly-Gln	>95%	5 mg	RP13263
Gly-Phe-Arg	>95%	20 mg	RP10590
Gly-Pro-Arg	>95%	5 mg	RP10843
GnRH-I	>95%	1 mg	RP20303 -1
		5 mg	RP20303 -5
		25 mg	RP20303 -25
GP (33-41)	>95%	1 mg	RP20091
GP (92-101)	>95%	1 mg	RP20243
gp100 (476-485)	>95%	1 mg	RP20203
gp38	>95%	1 mg	RP11942 -1
		5 mg	RP11942 -5
Granuliberin R	>95%	1 mg	RP10459
Group A Streptococcal C5a Peptidase (SCPA)	>95%	1 mg	RP10716 -1
		5 mg	RP10716 -5

Product	Purity	Quantity	Cat. No.
Growth Hormone Releasing Factor (GHRF) (1-44), human	>95%	0.5 mg	RP10734
Growth Hormone Releasing Factor (GHRF), bovine	>95%	0.5 mg	RP10735
Growth Hormone Releasing Factor (GHRF), mouse	>95%	0.5 mg	RP10736
Growth Hormone Releasing Factor (GHRF), ovine	>95%	0.5 mg	RP10737
Growth Hormone Releasing Factor (GHRF), rat	>95%	0.5 mg	RP10739
Growth Hormone Releasing Factor (GHRF)-2	>95%	0.5 mg	RP10740
Growth Hormone Releasing Factor (GHRF)-6	>95%	1 mg	RP10741
Guanylin, mouse, rat	>95%	0.5 mg	RP10722
HA Peptide	>95%	1 mg	RP11735 -1
		5 mg	RP11735 -5
HABP52	>95%	1 mg	RP20246
Growth Hormone Releasing Factor (GHRF)-2	>95%	0.5 mg	RP10740
Growth Hormone Releasing Factor (GHRF)-6	>95%	1 mg	RP10741
Guanylin, mouse, rat	>95%	0.5 mg	RP10722
HA Peptide	>95%	1 mg	RP11735 -1
		5 mg	RP11735 -5
HABP52	>95%	1 mg	RP20246
HEL (46-61)	>95%	1 mg	RP11736
Helodermin	>95%	0.5 mg	RP10591
Helospectin I	>95%	1 mg	RP10592
Helospectin II	>95%	1 mg	RP10593
Hemopressin, human	>95%	0.2 mg	RP20204
Hemopressin, rat, mouse, pig	>95%	0.2 mg	RP20205
Hemorphin-7	>95%	1 mg	RP17312
Heparin Binding Peptide	>95%	0.5 mg	RP13456
Hepatitis B Virus Core (128-140)	>95%	1 mg	RP17313
Hepatitis C Virus NS3 Protease Inhibitor 1	>95%	1 mg	RP11670 -1
		5 mg	RP11670 -5
HER2/neu (654-662) GP2	>95%	1 mg	RP17314
Hexa-His	>95%	1 mg	RP11737 -1
		5 mg	RP11737 -5
Hexarelin	>95%	1 mg	RP17315
Histatin 5	>95%	0.5 mg	RP11240
HIV Integrase Protein Inhibitor(1)	>95%	1 mg	RP17317
HIV p17 Gag (77-85)	>95%	1 mg	RP17316
HIV Protease Substrate	>95%	1 mg	RP17318
HIV-I TAT Protein Peptide	>95%	0.5 mg	RP10129
Hsp70-derived octapeptide	>95%	1 mg	RP20220 -1
		5 mg	RP20220 -5
HSV-gB2 (498-505)	>95%	0.5 mg	RP19992
Human Follicular Gonadotropin-Releasing Peptide (Hf-GRP)	>95%	1 mg	RP17319
Human Papillomavirus (HPV) E7 protein (49 - 57)	>95%	1 mg	RP20249
HYAb Dby	>95%	1 mg	RP20229
HYDb Smcy	>95%	1 mg	RP20233
HYDb Uty	>95%	1 mg	RP20231
HYDk Smcy	>95%	1 mg	RP20232
HYEK Dby	>95%	1 mg	RP20230
Indolicidin	>95%	0.5 mg	RP11242
Influenza Hemagglutinin (307-319)	>95%	1 mg	RP20087
Interleukin (IL)-6 Receptor	>95%	1 mg	RP11738 -1
		5 mg	RP11738 -5
Interphotoreceptor Retinoid-Binding Protein (1-20)	>95%	1 mg	RP11841 -1
		5 mg	RP11841 -5

Product	Purity	Quantity	Cat. No.
IRL-1038	>95%	0.2 mg	RP13496
IRL-1620	>95%	0.2 mg	RP13497
Joining Peptide, rat	>95%	0.2 mg	RP13668
Kallikrein Inhibitor	>95%	1 mg	RP10161 -1
		5 mg	RP10161 -5
Kassinin	>95%	1 mg	RP10461
Katacalcin	>95%	0.5 mg	RP11102
Kemptide	>95%	1 mg	RP10287
Kemptide (Phospho-Ser <sup>6</sup> )	>95%	0.5 mg	RP20111
Ketolide Resistance Peptide	>95%	1 mg	RP17320
Kinetensin	>95%	1 mg	RP10462
KLKL5KLLK	>95%	1 mg	RP20088
Leucokinin I	>95%	1 mg	RP10692
Leucokinin VIII	>95%	1 mg	RP10698
Leucomyosuppressin (LMS)	>95%	0.5 mg	RP13326
Leuprolide Acetate	>95%	10 mg	RP17321
Levitide	>95%	1 mg	RP10463
Litorin	>95%	1 mg	RP10464
LL37 (Human)	>95%	0.2 mg	RP13323
L-Selectin	>95%	1 mg	RP11740 -1
		5 mg	RP11740 -5
LSKL, Inhibitor of Thrombospondin (TSP-1)	>95%	1 mg	RP19990
Luteinizing Hormone Releasing Hormone (LH-RH), human	>95%	5 mg	RP11937
Luteinizing Hormone Releasing Hormone (LH-RH), salmon	>95%	1 mg	RP10673
Lys-Arg-Gln-His-Pro-Gly	>95%	0.5 mg	RP12972
Lys-Gly-Asp-Ser	>95%	1 mg	RP10855 -1
		5 mg	RP10855 -5
Magainin 1	>95%	0.5 mg	RP12814
Magainin 2	>95%	0.5 mg	RP11232
MAGE-3 (271-279), human	>95%	1 mg	RP10641
Malantide	>95%	1 mg	RP10289
MAPKAPK2 peptide	>95%	1 mg	RP20289
Mas17	>95%	1 mg	RP10601
Mas7	>95%	1 mg	RP10602
Mas8	>95%	0.5 mg	RP13314
Mast Cell Degranulating Peptide	>95%	0.5 mg	RP10663
Mastoparan	>95%	1 mg	RP10465
Mastoparan X	>95%	1 mg	RP10466
Mca-SEVNLDAEFR-K(Dnp)-RR, amide	>95%	0.5 mg	RP20114
Melanin Concentrating Hormone, rat	>95%	0.5 mg	RP10661
Melanin Concentrating Hormone, salmon	>95%	0.5 mg	RP10662
Melanostatin, frog	>95%	0.5 mg	RP10467
Melanotan (MT)-II	>95%	5 mg	RP17323
Melanotan (MT)-II, Locusta migratoria	>95%	1 mg	RP17305
Melittin	>95%	0.5 mg	RP10290 -0.5
		1 mg	RP10290 -1
Men 10376	>95%	0.5 mg	RP10468
Minigastrin	>95%	0.2 mg	RP13431
Moth Cytochrome C (MCC) (88-103)	>95%	1 mg	RP12808 -1
		5 mg	RP12808 -5
Motilin, canine	>95%	0.5 mg	RP10526
Motilin, human, porcine	>95%	0.5 mg	RP10527

Product	Purity	Quantity	Cat. No.
MUC5AC	>95%	1 mg	RP20290
Mycobacterium tuberculosis Protein Ag85A	>95%	1 mg	RP20202
Myelin Basic Protein (MBP) (1-11), human	>95%	1 mg	RP11629
Myelin Basic Protein (MBP) (68-82), guinea pig	>95%	1 mg	RP10605
Myelin Basic Protein (MBP) (87-99), human	>95%	1 mg	RP11641
Myelin Basic Protein (MBP) (synthetic)	>95%	1 mg	RP10314-1
		5 mg	RP10314-5
Myelin Oligodendrocyte Glycoprotein Peptide (35-55), mouse, rat	>95%	1 mg	RP10245
			RP10245
Myomodulin	>95%	1 mg	RP10606-1
		5 mg	RP10606-5
N-Acetyl-Asp-Glu	>95%	5 mg	RP10553
N-Acetyl-Ser-Asp-Lys-Pro	>95%	5 mg	RP10555
N-Acetyl- $\alpha$ -Endorphin	>95%	1 mg	RP11333
Naltriben (NTB)	>95%	0.5 mg	RP10221
N-Boc-Phe-Leu-Phe-Leu-Phe	>95%	5 mg	RP12950
N-Cbz-Asp-Glu-Val-Asp-AMC	>95%	5 mg	RP11730
N-Cbz-Phe-Arg-AMC	>95%	10 mg	RP11385
N-Cbz-Pro-D-Leu	>95%	10 mg	RP13118
N-Dansyl-Tyr-Val-Gly	>95%	25 mg	RP10144
Neurokinin A (4-10)	>95%	1 mg	RP10516
Neurokinin B	>95%	1 mg	RP10517
Neuromedin B	>95%	1 mg	RP10507
Neuromedin C	>95%	1 mg	RP10508
Neuromedin N	>95%	1 mg	RP10509
Neuromedin U, rat	>95%	1 mg	RP10510-1
		5 mg	RP10510-5
Neuropeptide F (NPF)	>95%	1 mg	RP11610-1
		5 mg	RP11610-5
Neuropeptide FF Morphine Modulating Neuropeptide	>95%	1 mg	RP10470
Neuropeptide K, porcine	>95%	0.5 mg	RP10471
Neuropeptide Y (13-36), human	>95%	0.5 mg	RP10488-0.5
		5 mg	RP10488-5
Neuropeptide Y (3-36), human	>95%	0.5 mg	RP10491
Neuropeptide Y, human	>95%	0.5 mg	RP10492
Neurotensin	>95%	1 mg	RP10439
Neurotensin (1-11)	>95%	1 mg	RP10440
Neurotensin (8-13)	>95%	5 mg	RP10442
Neurotensin (9-13)	>95%	5 mg	RP12913
Neurotensin, frog	>95%	0.5 mg	RP12914
Neurotensin, guinea pig	>95%	1 mg	RP10444
Neutrophil Activating Peptide (NAP)	>95%	0.5 mg	RP13271
N-Formyl-Met-Ala-Ser	>95%	1 mg	RP10587
N-Formyl-Met-Leu-Phe	>95%	5 mg	RP12956
N-Formyl-Met-Leu-Phe-Lys	>95%	5 mg	RP12958
N-Formyl-Nle-Leu-Phe-Nle-Tyr-Lys	>95%	5 mg	RP12959
NIVRKKK	>95%	1 mg	RP20116
Nocistatin	>95%	0.5 mg	RP10472
NP (396-404)	>95%	1 mg	RP20090
NY-BR-1 p904 (A2)	>95%	0.5 mg	RP19987
Octaneuropeptide	>95%	1 mg	RP17326
Octreotide (SMS 201-995)	>95%	5 mg	RP10222

Product	Purity	Quantity	Cat. No.
Opioid Receptor Antagonist	>95%	1 mg	RP17327
Orexin B, canine	>95%	0.5 mg	RP10414
Orexin B, human	>95%	0.5 mg	RP10415
Orexin B, rat, mouse	>95%	0.5 mg	RP10416
Orphanin FQ/Nociceptin, human, mouse, ox, rat	>95%	0.5 mg	RP13084
OVA Peptide (257-264)	>95%	1 mg	RP10611
		1 mg	RP10610-1
OVA Peptide (323-339)	>95%	5 mg	RP10610-5
Oxytocin	>95%	5 mg	RP10407
P1	>95%	0.5 mg	RP13275
P16 Peptide 6 (84-103)	>95%	1 mg	RP17328
p2Ca	>95%	0.5 mg	RP19988
P55-TNFR	>95%	1 mg	RP11806-1
		5 mg	RP11806-5
P75-TNFR	>95%	1 mg	RP11807-1
		5 mg	RP11807-5
PA (224-233), Influenza	>95%	0.5 mg	RP19991
PACAP (1-27), human, ovine, rat	>95%	0.5 mg	RP10334-0.5
		5 mg	RP10334-5
PACAP (1-38), human, ovine, rat	>95%	0.5 mg	RP10335-0.5
		5 mg	RP10335-5
PACAP (6-27), human, ovine, rat	>95%	0.5 mg	RP10337
PACAP (6-38), human, ovine, rat	>95%	0.5 mg	RP10338-0.5
		5 mg	RP10338-5
PACAP 38, frog	>95%	0.5 mg	RP10339-0.5
		5 mg	RP10339-5
PACAP-Related Peptide (PRP), human	>95%	0.5 mg	RP10341
PACAP-Related Peptide (PRP), rat	>95%	0.5 mg	RP10342
Pancreastatin, porcine	>95%	0.5 mg	RP10403
Pancreatic Polypeptide, avian	>95%	0.5 mg	RP10397
Pancreatic Polypeptide, human	>95%	0.5 mg	RP10398
Pancreatic Polypeptide, rat	>95%	0.5 mg	RP10399
Panx1	>95%	1 mg	RP20093
Papain Inhibitor	>95%	5 mg	RP10170
PAR-1 agonist peptide	>95%	1 mg	RP19979
PAR-1-Derived Peptide	>95%	1 mg	RP11819-1
		5 mg	RP11819-5
PAR-4 Agonist Peptide, amide	>95%	1 mg	RP11529-1
		5 mg	RP11529-5
Parasin I	>95%	0.5 mg	RP11233
Parathyroid Hormone (PTH) (1-34), bovine	>95%	0.5 mg	RP10364
PB1-F2 (62-70)	>95%	1 mg	RP20086
Pentagastrin	>95%	1 mg	RP13432
Pep 4AK	>95%	1 mg	RP11668-1
		5 mg	RP11668-5
Pep-1 (uncapped)	>95%	1 mg	RP10130
Pep27	>95%	0.1 mg	RP13276
Pepducin P4pal-10	>95%	1 mg	RP20293
Peptide B, bovine	>95%	0.5 mg	RP10431
Peptide F, bovine	>95%	1 mg	RP10432
Peptide F-9	>95%	0.2 mg	RP13337
Peptide II Amide	>95%	1 mg	RP20295

Product	Purity	Quantity	Cat. No.
Peptide LT	>95%	1 mg	RP20221 -1
		5 mg	RP20221 -5
Peptide Standard 1	>95%	0.5 mg	RP11747
Peptide T	>95%	5 mg	RP13035
Peptide YY (PYY) (3-36), human	>95%	0.5 mg	RP10354
Peptide YY (PYY), human	>95%	1 mg	RP10355
Peptide YY (PYY), porcine	>95%	0.5 mg	RP10356
PGLa	>95%	1 mg	RP17329
Phe-Met-Arg-Phe	>95%	5 mg	RP10814
Phe-Met-Arg-Phe Like Peptide, Snail Helix aspersa	>95%	1 mg	RP13660
Phe-Met-Arg-Phe, amide	>95%	10 mg	RP10818
PHI (PHI-27), porcine	>95%	0.5 mg	RP10077
PHI (PHI-27), rat	>95%	0.5 mg	RP10078
Phosphate Acceptor Peptide	>95%	1 mg	RP10299 -1
		5 mg	RP10299 -5
Phyllostin	>95%	0.5 mg	RP12926
Phyllomedusin	>95%	1 mg	RP10473
Physalaemin	>95%	1 mg	RP10474
PKG Substrate	>95%	0.5 mg	RP20112
PKG Substrate (Phospho-Ser <sup>4</sup> )	>95%	0.5 mg	RP20113
Plasminogen Activator Inhibitor (PAI)-1	>95%	0.5 mg	RP13279
PR-19	>95%	0.2 mg	RP13281
PR-39	>95%	0.2 mg	RP13282
Prepro Enkephalin B (226-254) (Leumorphin), human	>95%	0.2 mg	RP13473
Prepro Thyrotropin-Releasing Hormone (TRH) (160-169)	>95%	1 mg	RP10108
Prepro Thyrotropin-Releasing Hormone (TRH) (178-199)	>95%	1 mg	RP10109
Pressinoic Acid	>95%	1 mg	RP10408
Proctolin	>95%	1 mg	RP10475
Prolactin Releasing Peptide (12-31), human	>95%	0.5 mg	RP11864
Prolactin Releasing Peptide (1-31), human	>95%	0.5 mg	RP11861 -0.5
		5 mg	RP11861 -5
Protease-Activated Receptor-2 Activating Peptide	>95%	1 mg	RP19975
Protein Kinase C Peptide Substrate	>95%	5 mg	RP20198
QL9	>95%	1 mg	RP20092
Rad16-II	>95%	1 mg	RP20097
Ranatensin	>95%	1 mg	RP10476
Ranatensin R	>95%	1 mg	RP17330
RC-160 (Vapreotide)	>95%	0.5 mg	RP10224
Renin Inhibitor Peptide	>95%	5 mg	RP12817
RFRP-1, human	>95%	0.5 mg	RP13686
RGD-4C	>95%	1 mg	RP12818 -1
		5 mg	RP12818 -5
Rigin	>95%	5 mg	RP10615
RR-SRC	>95%	5 mg	RP10315
S6-1	>95%	1 mg	RP10320 -1
		5 mg	RP10320 -5
SAMs Peptide	>95%	0.5 mg	RP10172
Sarafotoxin 6c	>95%	0.5 mg	RP12761
Sauvagine	>95%	0.5 mg	RP11750
Scyliorhinin I, amide, dogfish	>95%	1 mg	RP20301 -1
		5 mg	RP20301 -5
		25 mg	RP20301 -25

Product	Purity	Quantity	Cat. No.
SEB-BPI	>95%	1 mg	RP20223 -1
		5 mg	RP20223 -5
SEB-BPII	>95%	1 mg	RP20224 -1
		5 mg	RP20224 -5
SEB-BPIII	>95%	1 mg	RP20225 -1
		5 mg	RP20225 -5
Secretin, canine	>95%	0.2 mg	RP12943
Secretin, chicken	>95%	0.2 mg	RP12944
Secretin, human	>95%	1 mg	RP10249
Secretin, mouse	>95%	0.2 mg	RP12945
Secretin, porcine	>95%	0.5 mg	RP10247
Secretin, rat	>95%	0.5 mg	RP10248
Secretoneurin, rat	>95%	0.2 mg	RP13702
Serum Thymic Factor	>95%	1 mg	RP10618
SHU 9119	>95%	0.2 mg	RP13311
Simian Immunodeficiency Virus (SIV) mac239-1, macaque	>95%	1 mg	RP12462
Simian Immunodeficiency Virus (SIV) mac239-2, macaque	>95%	1 mg	RP12463
SIYRY	>95%	1 mg	RP20234
SLLK, Control Peptide for TSP1 Inhibitor	>95%	1 mg	RP19989
Small Cardioactive Peptide B (SCPb)	>95%	1 mg	RP10717 -1
		5 mg	RP10717 -5
Somatostatin	>95%	5 mg	RP10226
Somatostatin 25	>95%	0.5 mg	RP10227
Somatostatin 28	>95%	0.5 mg	RP10228
Somatostatin 28 (1-12)	>95%	1 mg	RP10229
Somatostatin 28 (1-14)	>95%	1 mg	RP10230
Speract	>95%	1 mg	RP10620
Spinorphin, bovine	>95%	5 mg	RP10889
Stresscopin, human	>95%	0.5 mg	RP10214
Substance P	>95%	5 mg	RP10178
Substance P (1-4)	>95%	1 mg	RP10179
Substance P (1-7)	>95%	1 mg	RP10180
Substance P (1-9)	>95%	1 mg	RP10181
Substance P (7-11)	>95%	1 mg	RP10182
Substance P, Free Acid	>95%	5 mg	RP10185
Substance P, Methyl Ester	>95%	5 mg	RP10184
Syntide 2	>95%	1 mg	RP10322 -1
		5 mg	RP10322 -5
Systemin	>95%	0.5 mg	RP10622
TAT	>95%	0.5 mg	RP12784 -0.5
		5 mg	RP12784 -5
TAT 2-4	>95%	0.5 mg	RP10131
Tetanus toxin (830-843)	>95%	0.5 mg	RP19980
Thrombin Receptor Agonist	>95%	1 mg	RP10623 -1
		5 mg	RP10623 -5
Thymopentin	>95%	5 mg	RP10119 -5
		100 mg	RP10119 -100
Thymosin α1	>95%	0.5 mg	RP10123
Thymus Factor	>95%	1 mg	RP10126
Thyrotropin-Releasing Hormone (TRH)	>95%	5 mg	RP10112

## Related Biology Reagents

Product	Purity	Quantity	Cat. No.
Thyrotropin-Releasing Hormone (TRH), Free Acid	>95%	5 mg	RP10114
TLQP-30	>95%	1 mg	RP20245
TP508	>95%	1 mg	RP20095
Trp-Lys-Tyr-Met-Val-Met, amide	>95%	0.5 mg	RP12960
Tuftsins	>95%	5 mg	RP10624
Tyrosine Kinase Peptide 1	>95%	1 mg 5 mg	RP11594-1 RP11594-5
ubiquitin (65-76)	>95%	0.5 mg	RP19981
Uperolein	>95%	1 mg	RP10478
Urocortin II, human	>95%	0.5 mg	RP10098
Urocortin II, mouse	>95%	0.5 mg	RP10099
Urocortin III, human	>95%	0.5 mg	RP10100
Urocortin III, mouse	>95%	0.5 mg	RP10101
Urocortin, human	>95%	0.5 mg	RP10103
Urocortin, rat	>95%	0.5 mg	RP10104
Urotensin I	>95%	0.5 mg	RP10094
Urotensin II, frog	>95%	0.5 mg	RP12919
Urotensin II, human	>95%	0.5 mg	RP10096
Urotensin II, mouse	>95%	0.1 mg	RP12920
V14	>95%	1 mg	RP20094
Vanilloid Receptor Subtype 1 (VR1)	>95%	1 mg 5 mg	RP11755-1 RP11755-5
VIP, guinea pig	>95%	0.5 mg	RP10084
VIP, human, ovine, porcine, rat	>95%	0.5 mg	RP10085
Xenin	>95%	0.5 mg	RP10404
Xenopsin	>95%	1 mg	RP10479
$\alpha$ -Endorphin	>95%	1 mg	RP11328
$\alpha$ -Melanocyte-Stimulating Hormone (MSH), amide	>95%	1 mg 5 mg	RP10644-1 RP10644-5
$\beta$ -Casomorphin, human	>95%	5 mg 25 mg	RP11056-5 RP11056-25
$\beta$ -Endorphin, camel	>95%	1 mg	RP11343
$\beta$ -Endorphin, equine	>95%	0.2 mg	RP13506
$\beta$ -Endorphin, human	>95%	1 mg	RP11344
$\beta$ -Endorphin, rat	>95%	1 mg	RP11346
$\beta$ -Melanocyte Stimulating Hormone (MSH), human	>95%	1 mg	RP10648
$\gamma$ -1-Melanocyte Stimulating Hormone (MSH), amide	>95%	1 mg	RP10650
$\gamma$ -3-Melanocyte-Stimulating Hormone (MSH)	>95%	1 mg	RP17325
$\gamma$ -Neuropeptide, rabbit	>95%	0.5 mg	RP10458
$\delta$ -Sleep Inducing Peptide	>95%	1 mg	RP10580

Product	Cas No.	Purity	Category	Quantity	Cat. No.
ACES	7365-82-4	$\geq 99\%$	Biological Buffers	100 g	C01609 -100
				500 g	C01609 -500
				5000 g	C01609 -5000
				25000 g	C01609 -25000
ACES Ultra	7365-82-4	$\geq 99\%$	Biological Buffers	100 g	C01610 -100
				500 g	C01610 -500
				5000 g	C01610 -5000
				25000 g	C01610 -25000
ADA	26239-55-4	$\geq 99\%$	Biological Buffers	100 g	C01605 -100
				500 g	C01605 -500
				5000 g	C01605 -5000
				25000 g	C01605 -25000
ADA Disodium salt	41689-31-0	$\geq 99\%$	Biological Buffers	100 g	C01608 -100
				500 g	C01608 -500
				5000 g	C01608 -5000
				25000 g	C01608 -25000
ADA Monosodium salt	7415-22-7	$\geq 99\%$	Biological Buffers	100 g	C01607 -100
				500 g	C01607 -500
				5000 g	C01607 -5000
				25000 g	C01607 -25000
ADA Ultra	26239-55-4	$\geq 99\%$	Biological Buffers	100 g	C01606 -100
				500 g	C01606 -500
				5000 g	C01606 -5000
				25000 g	C01606 -25000
BES	10191-18-1	$\geq 99\%$	Biological Buffers	100 g	C01611 -100
				500 g	C01611 -500
				5000 g	C01611 -5000
				25000 g	C01611 -25000
BES Ultra	10191-18-1	$\geq 99\%$	Biological Buffers	100 g	C01612 -100
				500 g	C01612 -500
				5000 g	C01612 -5000
				25000 g	C01612 -25000
CAPS	1135-40-6	$\geq 99\%$	Biological Buffers	100 g	C01613 -100
				500 g	C01613 -500
				5000 g	C01613 -5000
				25000 g	C01613 -25000
CAPS Ultra	1135-40-6	$\geq 99\%$	Biological Buffers	100 g	C01614 -100
				500 g	C01614 -500
				5000 g	C01614 -5000
				25000 g	C01614 -25000
CAPSO	73463-39-5	$\geq 99\%$	Biological Buffers	100 g	C01615 -100
				500 g	C01615 -500
				5000 g	C01615 -5000
				25000 g	C01615 -25000
CAPSO Sodium salt	102601-34-3	$\geq 99\%$	Biological Buffers	100 g	C01617 -100
				500 g	C01617 -500
				5000 g	C01617 -5000
				25000 g	C01617 -25000

Product	Cas No.	Purity	Category	Quantity	Cat. No.
CAPSO Ultra	73463-39-5	≥99%	Biological Buffers	100 g	C01616-100
				500 g	C01616-500
				5000 g	C01616-5000
CHES	103-47-9	≥99%	Biological Buffers	100 g	C01618-100
				500 g	C01618-500
				5000 g	C01618-5000
				25000 g	C01618-25000
CHES Ultra	103-47-9	≥99%	Biological Buffers	100 g	C01619-100
				500 g	C01619-500
				5000 g	C01619-5000
				25000 g	C01619-25000
HEPBS	161308-36-7	≥99%	Biological Buffers	100 g	C01620-100
				500 g	C01620-500
				5000 g	C01620-5000
				25000 g	C01620-25000
HEPES	7365-45-9	≥99%	Biological Buffers	100 g	C01621-100
				500 g	C01621-500
				5000 g	C01621-5000
				25000 g	C01621-25000
HEPES Hemisodium salt	103404-87-1	≥99%	Biological Buffers	100 g	C01623-100
				500 g	C01623-500
				5000 g	C01623-5000
				25000 g	C01623-25000
HEPES Sodium salt	75277-39-3	≥99%	Biological Buffers	100 g	C01624-100
				500 g	C01624-500
				5000 g	C01624-5000
				25000 g	C01624-25000
HEPES Sodium salt Ultra	75277-39-3	≥99%	Biological Buffers	100 g	C01625-100
				500 g	C01625-500
				5000 g	C01625-5000
				25000 g	C01625-25000
HEPES Ultra	7365-45-9	≥99%	Biological Buffers	100 g	C01622-100
				500 g	C01622-500
				5000 g	C01622-5000
				25000 g	C01622-25000
HEPPS	16052-06-5	≥99%	Biological Buffers	100 g	C01626-100
				500 g	C01626-500
				5000 g	C01626-5000
				25000 g	C01626-25000
MES free water	4432-31-9	≥99%	Biological Buffers	100 g	C01629-100
				500 g	C01629-500
				5000 g	C01629-5000
				25000 g	C01629-25000
MES Hemisodium salt	117961-21-4	≥99%	Biological Buffers	100 g	C01630-100
				500 g	C01630-500
				5000 g	C01630-5000
				25000 g	C01630-25000

Product	Cas No.	Purity	Category	Quantity	Cat. No.
MES Monohydrate	145224-94-8	≥99%	Biological Buffers	100 g	C01627-100
				500 g	C01627-500
				5000 g	C01627-5000
				25000 g	C01627-25000
MES Monohydrate Ultra	145224-94-8	≥99%	Biological Buffers	100 g	C01628-100
				500 g	C01628-500
				5000 g	C01628-5000
				25000 g	C01628-25000
MES Potassium salt	39946-25-3	≥99%	Biological Buffers	100 g	C01632-100
				500 g	C01632-500
				5000 g	C01632-5000
				25000 g	C01632-25000
MES Sodium salt	71119-23-8	≥99%	Biological Buffers	100 g	C01631-100
				500 g	C01631-500
				5000 g	C01631-5000
				25000 g	C01631-25000
MOPS	1132-61-2	≥99%	Biological Buffers	100 g	C01633-100
				500 g	C01633-500
				5000 g	C01633-5000
				25000 g	C01633-25000
MOPS Hemisodium salt	117961-20-3	≥99%	Biological Buffers	100 g	C01635-100
				500 g	C01635-500
				5000 g	C01635-5000
				25000 g	C01635-25000
MOPS Sodium salt	71119-22-7	≥99%	Biological Buffers	100 g	C01636-100
				500 g	C01636-500
				5000 g	C01636-5000
				25000 g	C01636-25000
MOPS Sodium salt Ultra	71119-22-7	≥99%	Biological Buffers	100 g	C01637-100
				500 g	C01637-500
				5000 g	C01637-5000
				25000 g	C01637-25000
MOPS Ultra	1132-61-2	≥99%	Biological Buffers	100 g	C01634-100
				500 g	C01634-500
				5000 g	C01634-5000
				25000 g	C01634-25000
MOPSO	68399-77-9	≥99%	Biological Buffers	100 g	C01638-100
				500 g	C01638-500
				5000 g	C01638-5000
				25000 g	C01638-25000
MOPSO Sodium salt	79803-73-9	≥99%	Biological Buffers	100 g	C01639-100
				500 g	C01639-500
				5000 g	C01639-5000
				25000 g	C01639-25000
MOPSO Sodium salt Ultra	79803-73-9	≥99%	Biological Buffers	100 g	C01640-100
				500 g	C01640-500
				5000 g	C01640-5000
				25000 g	C01640-25000

Product	Cas No.	Purity	Category	Quantity	Cat. No.
PIPES	5625-37-6	≥99%	Biological Buffers	100 g	C01641-100
				500 g	C01641-500
				5000 g	C01641-5000
				25000 g	C01641-25000
PIPES Dipotassium salt	108321-27-3	≥99%	Biological Buffers	100 g	C01646-100
				500 g	C01646-500
				5000 g	C01646-5000
				25000 g	C01646-25000
PIPES Dipotassium salt	76836-02-7	≥99%	Biological Buffers	100 g	C01644-100
PIPES Monosodium salt	10010-67-0	≥99%	Biological Buffers	100 g	C01643-100
				500 g	C01643-500
				5000 g	C01643-5000
				25000 g	C01643-25000
PIPES Sesquisodium salt	100037-69-2	≥99%	Biological Buffers	100 g	C01645-100
				500 g	C01645-500
				5000 g	C01645-5000
				25000 g	C01645-25000
PIPES Ultra	5625-37-6	≥99%	Biological Buffers	100 g	C01642-100
				500 g	C01642-500
				5000 g	C01642-5000
				25000 g	C01642-25000
TAPS	29915-38-6	≥99%	Biological Buffers	100 g	C01647-100
				500 g	C01647-500
				5000 g	C01647-5000
				25000 g	C01647-25000
TAPS Ultra	29915-38-6	≥99%	Biological Buffers	100 g	C01648-100
				500 g	C01648-500
				5000 g	C01648-5000
				25000 g	C01648-25000
Tris HCl	1185-53-1	≥99%	Biological Buffers	100 g	C01650-100
				500 g	C01650-500
				5000 g	C01650-5000
dATP (100 mM) ≥99% HPLC	1927-31-7	≥99%	dNTP	1 ml	C01577-1
				10 ml	C01577-10
				50 ml	C01577-50
				250 ml	C01577-250
dCTP (100 mM) ≥99% HPLC	102783-51-7	≥99%	dNTP	1 ml	C01579-1
				10 ml	C01579-10
				50 ml	C01579-50
				250 ml	C01579-250
dGTP (100 mM) ≥99% HPLC	93919-41-6	≥99%	dNTP	1 ml	C01578-1
				10 ml	C01578-10
				50 ml	C01578-50
				250 ml	C01578-250
dNTP (10 mM each) ≥99% HPLC	NA	≥99%	dNTP	1 ml	C01582-1
				10 ml	C01582-10
				50 ml	C01582-50
				250 ml	C01582-250

Product	Cas No.	Purity	Category	Quantity	Cat. No.
dNTP (25 mM each) ≥99% HPLC	NA	≥99%	dNTP	1 ml	C01581-1
				10 ml	C01581-10
				50 ml	C01581-50
				250 ml	C01581-250
dTTP (100 mM) ≥99% HPLC	18423-43-3	≥99%	dNTP	1 ml	C01580-1
				10 ml	C01580-10
				50 ml	C01580-50
				250 ml	C01580-250
Stabilized dNTP Mix, 10 mM each	NA	≥99%	dNTP	0.5 ml	C01689-0.5
ADOS	82692-96-4	≥99%	Diagnostic Chromogens	10 g	C01592-10
				100 g	C01592-100
				500 g	C01592-500
ADPS	82611-88-9	≥99%	Diagnostic Chromogens	10 g	C01591-10
				100 g	C01591-100
				500 g	C01591-500
ALPS	82611-85-6	≥99%	Diagnostic Chromogens	10 g	C01600-10
				100 g	C01600-100
				500 g	C01600-500
DAOS	83777-30-4	≥99%	Diagnostic Chromogens	10 g	C01595-10
				100 g	C01595-100
				500 g	C01595-500
DTNB	69-78-3	≥99%	Diagnostic Chromogens	10 g	C01604-10
				100 g	C01604-100
				500 g	C01604-500
HDAOS	82692-88-4	≥99%	Diagnostic Chromogens	10 g	C01596-10
				100 g	C01596-100
				500 g	C01596-500
MADB	209518-16-1	≥99%	Diagnostic Chromogens	10 g	C01597-10
				100 g	C01597-100
				500 g	C01597-500
MAOS	82692-97-5	≥99%	Diagnostic Chromogens	10 g	C01598-10
				100 g	C01598-100
				500 g	C01598-500
TBHBA	14348-40-4	≥99%	Diagnostic Chromogens	10 g	C01590-10
				100 g	C01590-100
				500 g	C01590-500
TMB	54827-17-7	≥99%	Diagnostic Chromogens	10 g	C01601-10
				100 g	C01601-100
				500 g	C01601-500
TMB HCl	64285-73-0	≥99%	Diagnostic Chromogens	10 g	C01602-10
				100 g	C01602-100
				500 g	C01602-500
TODB	NA	≥99%	Diagnostic Chromogens	10 g	C01599-10
				100 g	C01599-100
				500 g	C01599-500
TOOS	82692-93-1	≥99%	Diagnostic Chromogens	10 g	C01594-10
				100 g	C01594-100
				500 g	C01594-500

Product	Cas No.	Purity	Category	Quantity	Cat. No.
TOPS	40567-80-4	≥99%	Diagnostic Chromogens	10 g	C01593-10
				100 g	C01593-100
				500 g	C01593-500
103B	2082-84-0	≥99%	Quaternary Ammonium Salts	100 g	C01652-100
				500 g	C01652-500
				20000 g	C01652-20000
103C	10108-87-9	≥99%	Quaternary Ammonium Salts	100 g	C01651-100
				500 g	C01651-500
				20000 g	C01651-20000
BETAB	2758-6-7	≥99%	Quaternary Ammonium Salts	100 g	C01670-100
				500 g	C01670-500
				20000 g	C01670-20000
BPTAB	3779-42-8	≥99%	Quaternary Ammonium Salts	100 g	C01671-100
				500 g	C01671-500
				20000 g	C01671-20000
CTAB	57-09-0	≥99%	Quaternary Ammonium Salts	100 g	C01658-100
				500 g	C01658-500
				20000 g	C01658-20000
CTAC	112-02-7	≥99%	Quaternary Ammonium Salts	100 g	C01657-100
				500 g	C01657-500
				20000 g	C01657-20000
DDAB	3282-73-3	≥99%	Quaternary Ammonium Salts	100 g	C01667-100
				500 g	C01667-500
				20000 g	C01667-20000
DSAB	3700-67-2	≥99%	Quaternary Ammonium Salts	100 g	C01669-100
				500 g	C01669-500
				20000 g	C01669-20000
DTAB	1119-94-4	≥99%	Quaternary Ammonium Salts	100 g	C01654-100
				500 g	C01654-500
				20000 g	C01654-20000
DTAC	112-00-5	≥99%	Quaternary Ammonium Salts	100 g	C01653-100
				500 g	C01653-500
				20000 g	C01653-20000
EDDAB	68207-00-1	≥99%	Quaternary Ammonium Salts	100 g	C01661-100
				500 g	C01661-500
				20000 g	C01661-20000
EHDAB	124-03-8	≥99%	Quaternary Ammonium Salts	100 g	C01662-100
				500 g	C01662-500
				20000 g	C01662-20000
HDBAC	122-18-9	≥99%	Quaternary Ammonium Salts	100 g	C01664-100
				500 g	C01664-500
				20000 g	C01664-20000
Octyltrimethylammonium chloride	10108-86-8	≥99%	Quaternary Ammonium Salts	100 g	C01665-100
				500 g	C01665-500
				20000 g	C01665-20000
STAB	1120-02-1	≥99%	Quaternary Ammonium Salts	100 g	C01660-100
				500 g	C01660-500
				20000 g	C01660-20000

Product	Cas No.	Purity	Category	Quantity	Cat. No.
STAC	112-03-8	≥99%	Quaternary Ammonium Salts	100 g	C01659-100
				500 g	C01659-500
				20000 g	C01659-20000
TTAB	1119-97-7	≥99%	Quaternary Ammonium Salts	100 g	C01656-100
				500 g	C01656-500
				20000 g	C01656-20000
TTAC	4574-4-3	≥99%	Quaternary Ammonium Salts	100 g	C01655-100
				500 g	C01655-500
				20000 g	C01655-20000
Ultra C14-alkylbenzyltrimethylammonium chloride	139-08-2	≥99%	Quaternary Ammonium Salts	100 g	C01663-100
				500 g	C01663-500
				20000 g	C01663-20000
MTT	2348-71-2	≥99%	Tetrazolium Salts	1 g	C01678-1
				10 g	C01678-10
WST-1	150849-52-8	≥99%	Tetrazolium Salts	1 g	C01672-1
				10 g	C01672-10
WST-3	161617-45-4	≥99%	Tetrazolium Salts	1 g	C01673-1
				10 g	C01673-10
WST-8	193149-74-5	≥99%	Tetrazolium Salts	1 g	C01675-1
				10 g	C01675-10
XTT	111072-31-2	≥99%	Tetrazolium Salts	1 g	C01676-1
				10 g	C01676-10

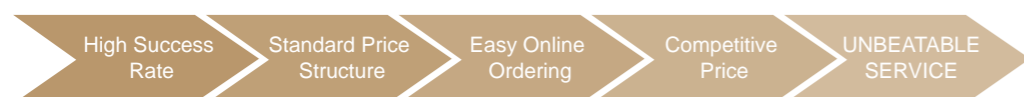


# Custom Peptide Services

GenScript's proprietary FlexPeptide™ platform provides custom peptides of up to 200 residues in length and a capacity of 6,000 peptides per month. With a scale ranging from milligrams to kilograms, comprehensive labeling and modification options, and rapid high-throughput peptide library synthesis, this platform is an ideal choice for peptide synthesis, and peptide library services. GenScript also offers cosmetic peptides and

large-scale GMP-grade peptide production services.

GenScript's secure and simple online quotation/ordering systems offer easy access to our peptide synthesis services, and our collection of catalog peptides. In addition, GenScript offers the most competitive prices in the peptide synthesis industry.



## FlexPeptide™ Ensures Delivery and Quality!

### GenScript's FlexPeptide™ Technology Includes

- Combined Platforms: Flexible choices of LPPS and SPPS, achieved highest synthesis success rate
- Microwave Technologies: High yield synthesis of peptides in an efficient and smart way
- Ligation Technology: Long peptides up to 200 AA can be synthesized

### Advantages of GenScript's FlexPeptide™ Technology

GenScript's peptide synthesis offers researchers the following benefits:

- High Success Rate Delivery: The technological platform with flexible choices of LPPS, SPPS, microwave technology, and proprietary ligation technology allows us to produce peptides as short as 2 AA and as long as 200 AA.
- High Efficiency: The use of microwave heating in peptide synthesis can markedly reduce the time required to complete each cycle of coupling and deprotection.
- Improved Peptide Yield: Microwave energy can improve peptide yield by preventing unwanted aggregation.
- Decreased Cost: Microwave technology significantly decreases the cost of peptide synthesis by enhancing the chemical reaction rate and reducing the quantity of chemicals required for synthesis.

### Services List

#### Peptide Synthesis

GenScript offers quality peptides at very competitive prices in the industry, starting at \$3.20 per amino acid. GenScript

FlexPeptide™ technology can synthesize peptides as long as 200 amino acids, which is a remarkable achievement in the industry.

#### Peptide Modifications

GenScript offers a wide range of peptide modification services including isotope labeling (<sup>2</sup>H, <sup>15</sup>N, and <sup>13</sup>C), PEGylation, multiple disulfide bonds, multiple phosphorylations, KLH, BSA, ovalbumin, amidation, acetylation, biotin, FITC, etc.

#### Peptide Library Service

GenScript has developed a rapid high-throughput parallel peptide synthesis platform, providing custom libraries of unbound peptides of 5-20 mers at very competitive prices.

#### Cosmetic Peptide Service

GenScript manufactures research- and cGMP-grade cosmetic peptides to each customer's exact specifications. We guarantee the best available quality for all cosmetic peptides.

#### Click Peptide Service

GenScript's featured click peptide service is designed to handle the low water-solubility and aggregative nature of hydrophobic peptides.

#### Recombinant Peptides

GenScript's recombinant peptide technology was developed to complement our chemical peptide synthesis service. The combination of the two technologies enables GenScript to provide its customers with peptides of any length and sequence, on any scale.

#### GMP Peptides

GenScript provides a large-scale GMP peptide service with a capacity of up to kilograms per project. Our comprehensive experience in synthesizing GMP-grade peptides for therapeutic and diagnostic applications gives us an edge over the competition. Consistency, viability, and delivery are guaranteed.

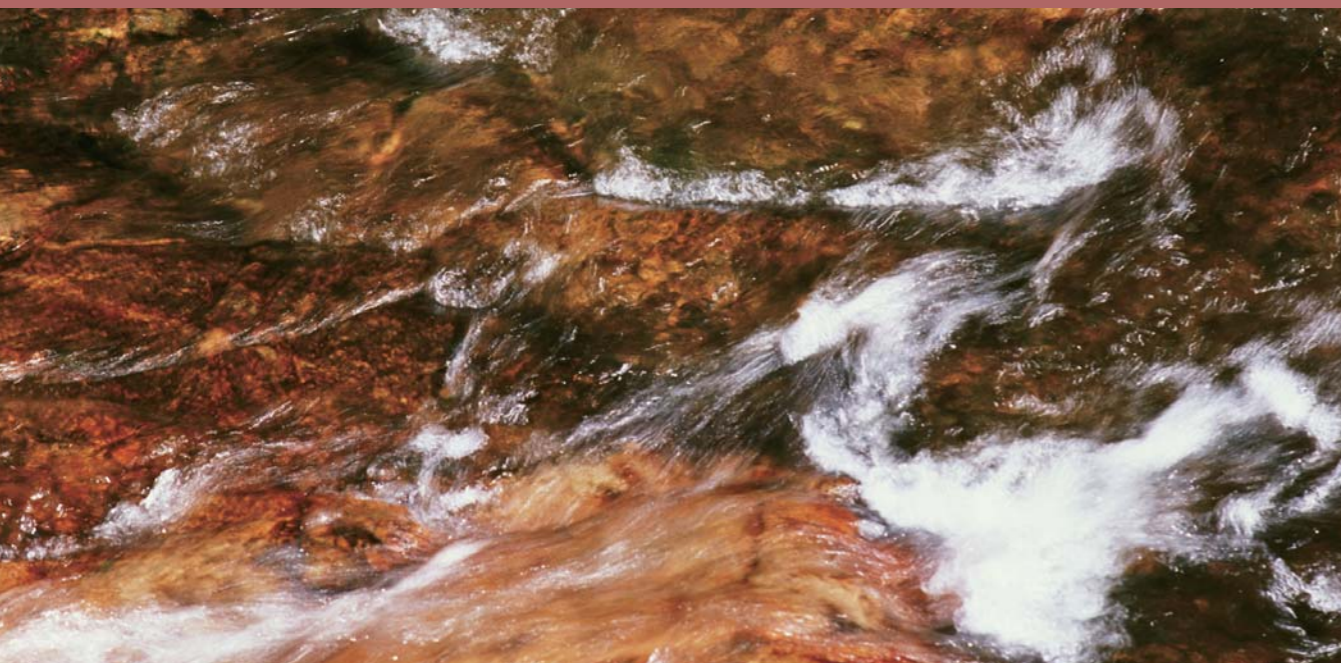
### Applications

- Monoclonal and polyclonal antibody production
- Identification/synthesis of posttranslational modifications
- New techniques for separation by chromatography or electrophoresis
- Enzyme specificity and enzymatic mechanism studies
- Antibody-antigen interactions
- Biological effects of defined peptides
- Immunization and quantitative receptor-ligand interactions
- Immunization and quantitative receptor-ligand interactions
- Blocking and competition protease assay
- ELISA standards for measuring antibody titer
- Non-quantitative enzyme-substrate studies
- Non-quantitative peptide blocking studies
- Structure, dynamics, and folding of peptides and proteins via NMR
- Epitope mapping

### Quotations and Ordering

Quotations and orders may be placed by email, phone, or fax with either a formal PO (Purchase Order) or credit card. Please choose the most convenient ordering method.

	<b>Secured Online Quotation:</b> <a href="https://www.genscript.com/ssl-bin/order_peptide_chemical">https://www.genscript.com/ssl-bin/order_peptide_chemical</a>
	<b>Quotation Form:</b> Obtainable on our website
	<b>Email:</b> <a href="mailto:peptide@genscript.com">peptide@genscript.com</a>
	<b>Phone:</b> 1-877-436-7274 (Toll-Free); 1-732-885-9188
	<b>Fax:</b> 1-732-210-0262; 1-732-885-5878
	<b>Secured Web Server:</b> <a href="https://www.genscript.com/ssl-bin/secure_data">https://www.genscript.com/ssl-bin/secure_data</a>



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## Amino Acids Table

Amino Acid	Three-Letter Code	Single-Letter Code	Formula	FW	Charge at pH 6.0-7.0	Structure
Alanine	Ala	A	C <sub>3</sub> H <sub>7</sub> NO <sub>2</sub>	89.1	Neutral	
Arginine	Arg	R	C <sub>6</sub> H <sub>14</sub> N <sub>4</sub> O <sub>2</sub>	174.2	Basic (+ve)	
Asparagine	Asn	N	C <sub>4</sub> H <sub>8</sub> N <sub>2</sub> O <sub>3</sub>	132.1	Neutral	
Aspartic Acid	Asp	D	C <sub>4</sub> H <sub>7</sub> NO <sub>4</sub>	133.1	Acidic (-ve)	
Cysteine	Cys	C	C <sub>3</sub> H <sub>7</sub> NO <sub>2</sub> S	121.2	Neutral	
Glutamic Acid	Glu	E	C <sub>5</sub> H <sub>9</sub> NO <sub>4</sub>	147.1	Acidic (-ve)	
Glutamine	Gln	Q	C <sub>5</sub> H <sub>10</sub> N <sub>2</sub> O <sub>3</sub>	146.1	Neutral	
Glycine	Gly	G	C <sub>2</sub> H <sub>5</sub> NO <sub>2</sub>	75.1	Neutral	
Histidine	His	H	C <sub>6</sub> H <sub>9</sub> N <sub>3</sub> O <sub>2</sub>	155.2	Basic (+ve)	
Isoleucine	Ile	I	C <sub>6</sub> H <sub>13</sub> NO <sub>2</sub>	131.2	Neutral	
Leucine	Leu	L	C <sub>6</sub> H <sub>13</sub> NO <sub>2</sub>	131.2	Neutral	
Lysine	Lys	K	C <sub>6</sub> H <sub>14</sub> N <sub>2</sub> O <sub>2</sub>	146.2	Basic (+ve)	
Methionine	Met	M	C <sub>5</sub> H <sub>11</sub> NO <sub>2</sub> S	149.2	Neutral	
Phenylalanine	Phe	F	C <sub>9</sub> H <sub>11</sub> NO <sub>2</sub>	165.2	Neutral	
Proline	Pro	P	C <sub>5</sub> H <sub>9</sub> NO <sub>2</sub>	115.1	Neutral	
Serine	Ser	S	C <sub>3</sub> H <sub>7</sub> NO <sub>3</sub>	105.1	Neutral	
Threonine	Thr	T	C <sub>4</sub> H <sub>9</sub> NO <sub>3</sub>	119.1	Neutral	
Tryptophan	Trp	W	C <sub>11</sub> H <sub>12</sub> N <sub>2</sub> O <sub>2</sub>	204.2	Neutral	
Tyrosine	Tyr	Y	C <sub>9</sub> H <sub>11</sub> NO <sub>3</sub>	181.2	Neutral	
Valine	Val	V	C <sub>5</sub> H <sub>11</sub> NO <sub>2</sub>	117.1	Neutral	

Amino Acid	Formula	FW	Middle Unit Residue (-H <sub>2</sub> O)		Charge at pH 6.0-7.0	Hydrophobic (non-polar)	Uncharged (polar)	Hydrophilic (polar)
			Formula	FW				
Alanine	C <sub>3</sub> H <sub>7</sub> NO <sub>2</sub>	89.1	C <sub>3</sub> H <sub>5</sub> NO	71.1	Neutral	+		
Arginine	C <sub>6</sub> H <sub>14</sub> N <sub>4</sub> O <sub>2</sub>	174.2	C <sub>6</sub> H <sub>12</sub> N <sub>4</sub> O	156.2	Basic (+ve)			+
Asparagine	C <sub>4</sub> H <sub>8</sub> N <sub>2</sub> O <sub>3</sub>	132.1	C <sub>4</sub> H <sub>6</sub> N <sub>2</sub> O <sub>2</sub>	114.1	Neutral		+	
Aspartic Acid	C <sub>4</sub> H <sub>7</sub> NO <sub>4</sub>	133.1	C <sub>4</sub> H <sub>5</sub> NO <sub>3</sub>	115.1	Acidic (-ve)			+
Cysteine	C <sub>3</sub> H <sub>7</sub> NO <sub>2</sub> S	121.2	C <sub>3</sub> H <sub>5</sub> NOS	103.2	Neutral		+	
Glutamic Acid	C <sub>5</sub> H <sub>9</sub> NO <sub>4</sub>	147.1	C <sub>5</sub> H <sub>7</sub> NO <sub>3</sub>	129.1	Acidic (-ve)			+
Glutamine	C <sub>5</sub> H <sub>10</sub> N <sub>2</sub> O <sub>3</sub>	146.1	C <sub>5</sub> H <sub>8</sub> N <sub>2</sub> O <sub>2</sub>	128.1	Neutral		+	
Glycine	C <sub>2</sub> H <sub>5</sub> NO <sub>2</sub>	75.1	C <sub>2</sub> H <sub>3</sub> NO	57.1	Neutral		+	
Histidine	C <sub>6</sub> H <sub>9</sub> N <sub>3</sub> O <sub>2</sub>	155.2	C <sub>6</sub> H <sub>7</sub> N <sub>3</sub> O	137.2	Basic (+ve)			+
Isoleucine	C <sub>6</sub> H <sub>13</sub> NO <sub>2</sub>	131.2	C <sub>6</sub> H <sub>11</sub> NO	113.2	Neutral	+		
Leucine	C <sub>6</sub> H <sub>13</sub> NO <sub>2</sub>	131.2	C <sub>6</sub> H <sub>11</sub> NO	113.2	Neutral	+		
Lysine	C <sub>6</sub> H <sub>14</sub> N <sub>2</sub> O <sub>2</sub>	146.2	C <sub>6</sub> H <sub>12</sub> N <sub>2</sub> O	128.2	Basic (+ve)			+
Methionine	C <sub>5</sub> H <sub>11</sub> NO <sub>2</sub> S	149.2	C <sub>5</sub> H <sub>9</sub> NOS	131.2	Neutral	+		
Phenylalanine	C <sub>9</sub> H <sub>11</sub> NO <sub>2</sub>	165.2	C <sub>9</sub> H <sub>9</sub> NO	147.2	Neutral	+		
Proline	C <sub>5</sub> H <sub>9</sub> NO <sub>2</sub>	115.1	C <sub>5</sub> H <sub>7</sub> NO	97.1	Neutral	+		
Serine	C <sub>3</sub> H <sub>7</sub> NO <sub>3</sub>	105.1	C <sub>3</sub> H <sub>5</sub> NO <sub>2</sub>	87.1	Neutral		+	
Threonine	C <sub>4</sub> H <sub>9</sub> NO <sub>3</sub>	119.1	C <sub>4</sub> H <sub>7</sub> NO <sub>2</sub>	101.1	Neutral		+	
Tryptophan	C <sub>11</sub> H <sub>12</sub> N <sub>2</sub> O <sub>2</sub>	204.2	C <sub>11</sub> H <sub>10</sub> N <sub>2</sub> O	186.2	Neutral	+		
Tyrosine	C <sub>9</sub> H <sub>11</sub> NO <sub>3</sub>	181.2	C <sub>9</sub> H <sub>9</sub> NO <sub>2</sub>	163.2	Neutral		+	
Valine	C <sub>5</sub> H <sub>11</sub> NO <sub>2</sub>	117.1	C <sub>5</sub> H <sub>9</sub> NO	99.1	Neutral	+		

## Atomic Weights of the Elements

Element	Symbol	Atomic Number	Atomic Weight
Actinium	Ac	89	227.02
Aluminium	Al	13	26.98
Americium	Am	95	(243.06)
Antimony	Sb	51	121.75
Argon	Ar	18	39.94
Arsenic	As	33	74.92
Astatine	At	85	(209.98)
Barium	Ba	56	137.32
Berkelium	Bk	97	(247.07)
Beryllium	Be	4	9.01
Bismuth	Bi	83	208.98
Boron	B	5	10.81
Bromine	Br	35	79.90
Cadmium	Cd	48	112.41
Calcium	Ca	20	40.07
Californium	Cf	98	(251.07)
Carbon	C	6	12.01
Cerium	Ce	58	140.11
Cesium	Cs	55	132.90
Chlorine	Cl	17	35.45
Chromium	Cr	24	51.99
Cobalt	Co	27	58.93
Copper	Cu	29	63.54

Element	Symbol	Atomic Number	Atomic Weight
Curium	Cm	96	(247.07)
Dysprosium	Dy	66	162.50
Einsteinium	Es	99	(252.08)
Erbium	Er	68	167.26
Fluorine	F	9	18.99
Francium	Fr	87	(223.01)
Gadolinium	Gd	64	157.25
Gallium	Ga	31	69.72
Germanium	Ge	32	72.61
Gold	Au	79	196.96
Hafnium	Hf	72	178.49
Helium	He	2	4.00
Holmium	Ho	67	164.93
Hydrogen	H	1	1.00
Indium	In	49	114.82
Iodine	I	53	126.90
Iridium	Ir	77	192.22
Iron	Fe	26	55.84
Krypton	Kr	36	83.80
Lanthanum	La	57	138.90
Lawrencium	Lr	103	(262.11)
Lead	Pb	82	207.2
Lithium	Li	3	6.94

Element	Symbol	Atomic Number	Atomic Weight
Lutetium	Lu	71	174.96
Magnesium	Mg	12	24.30
Manganese	Mn	25	54.93
Mendelevium	Md	101	(258.10)
Mercury	Hg	80	200.59
Molybdenum	Mo	42	95.94
Neodymium	Nd	60	144.24
Neon	Ne	10	20.17
Europium	Eu	63	151.96
Fermium	Fm	100	(257.09)
Niobium	Nb	41	92.90
Nitrogen	N	7	14.00
Nobelium	No	102	(259.10)
Osmium	Os	76	190.2
Oxygen	O	8	15.99
Palladium	Pd	46	106.42
Phosphorus	P	15	30.97
Platinum	Pt	78	195.08
Plutonium	Pu	94	(244.06)
Polonium	Po	84	(208.98)
Potassium	K	19	39.09
Praseodymium	Pr	59	140.90
Promethium	Pm	61	(144.91)
Protactinium	Pa	91	(231.03)
Radium	Ra	88	(226.02)
Radon	Rn	86	(222.01)
Rhenium	Re	75	186.20
Rhodium	Rh	45	102.90
Rubidium	Rb	37	85.46
Ruthenium	Ru	44	101.07

Element	Symbol	Atomic Number	Atomic Weight
Samarium	Ru	62	150.36
Scandium	Sm	21	44.95
Selenium	Sc	34	78.96
Silicon	Se	14	28.08
Neptunium	Np	93	(237.04)
Nickel	Ni	28	58.69
Silver	Ag	47	107.86
Sodium	Na	11	22.98
Strontium	Sr	38	87.62
Sulfur	S	16	32.06
Tantalum	Ta	73	180.94
Technetium	Tc	43	(97.90)
Tellurium	Te	52	127.60
Terbium	Tb	65	158.92
Thallium	Tl	81	204.38
Thorium	Th	90	232.03
Thulium	Tm	69	168.93
Tin	Sn	50	118.71
Titanium	Ti	22	47.88
Tungsten	W	74	183.85
Unnilhexium	Unh	106	(263.11)
Unnilquadium	Unq	104	(261.11)
Unnilpentium	Unp	105	(262.11)
Unnilseptium	Uns	107	(262.12)
Uranium	U	92	238.02
Vanadium	V	23	50.94
Xenon	Xe	54	131.29
Ytterbium	Yb	70	173.04
Yttrium	Y	39	88.90
Zinc	Zn	30	65.39

## Genetic Markers in *E.coli*

Symbol	Description	Effect of Mutation
<i>ara-14</i>	Mutation in arabinose metabolism	Blocks arabinose catabolism.
<i>araD</i>	L-ribulose phosphate 4-epimerase mutation; part of an inducible operon <i>araBAD</i> repressed by L-arabinose	Blocks arabinose catabolism.
<i>argA</i>	N-Acetylglutamate synthase mutation; inhibited by the presence of arginine	Arginine required from growth in minimal media.
<i>cycA</i>	Mutation of a gene product involved in D-alanine, glycine, D-serine and D-cyloserine transport, and an L-alanine carrier	Mutants cannot use D-alanine as a carbon source.
<i>dam</i>	DNA adenine methylase mutation	Blocks methylation of adenine residues in the sequence 5'...GmATC...3'.
<i>dapD</i>	Succinyl-diaminopimelate aminotransferase mutation	Mutant reflects impaired synthesis of succinyl CoA and needs to be supplemented with succinate or lysine+methionine.
<i>dcm</i>	DNA cytosine methylase mutation	Blocks methylation of cytosine in the sequence 5'...CmCAGG...3' or 5'...CmCTGG...3'.
<i>deoC</i>	Deoxyribose-phosphate aldolase mutation	
<i>deoR</i>	Regulatory gene mutation allowing constitutive expression of genes for deoxyribose synthesis	Allows efficient propagation of large plasmids.

Symbol	Description	Effect of Mutation
<i>dut1</i>	Mutation of deoxyuridine triphosphatase, which catalyzes the conversion of dUTP to dUMP and PPi	Mutants are impaired in conversion of dUTP to dUMP, leading to higher dUTP pools, which can lead to misincorporation of uracil instead of thymidine. Stable incorporation of dUTP needs mutation in <i>ung</i> gene.
<i>endA1</i>	DNA-specific endonuclease I mutation	Improves quality of plasmid DNA isolations.
<i>galE</i>	Part of the <i>galETK</i> operon that encodes UDP galactose-4-epimerase	Mutant is more resistant to bacteriophage P1 infection.
<i>galK</i>	Galactokinase mutation	Blocks catabolism of galactose.
<i>galT</i>	Galactose-1-phosphate uridylyltransferase mutation	Blocks catabolism of galactose.
<i>gyrA96</i>	DNA gyrase mutation	Confers resistance to nalidixic acid.
<i>hflA150</i>	Protease mutation that leads to stabilization of <i>cII</i> gene products	Leads to high frequency of lysogeny by $\lambda$ phages(1).
<i>hflB</i>	Gene encodes a possible protease component	Mutations lead to high frequency of bacteriophage lambda lysogenization.
<i>hsdR</i> ( $r_k^-$ , $m_k^+$ )	Host DNA restriction and methylation system mutation; Restriction minus, modification positive for the <i>E.coli</i> K strain methylation system	Allows cloning without cleavage of transformed DNA by endogenous restriction endonucleases. DNA prepared from this strain can be used to transform <i>rk+E.coli</i> strains.
<i>hsdS20</i> ( $r_b^-$ , $m_b^-$ )	Mutation of specificity determinant for host DNA restriction and methylation system. Restriction minus, modification minus for the <i>E.coli</i> B strain methylation system	Allows cloning without cleavage of transformed DNA by endogenous restriction endonucleases. DNA prepared from this strain is unmethylated by the <i>hsdS20</i> methylases.
<i>lac<sup>q</sup></i>	Overproduction of the <i>lac</i> repressor protein	Leads to high levels of the <i>lac</i> repressor protein, inhibiting transcription from the <i>lac</i> promoter.
<i>lacY</i>	Galactoside permease mutation	Blocks lactose utilization.
<i>lacZΔM15</i>	Partial deletion of $\beta$ -D-galactosidase gene	Allows complementation of $\beta$ -galactosidase activity by $\alpha$ -complementation sequence in pGEM <sup>®</sup> -Z Vectors. Allows blue/white selection for recombinant colonies when plated on X-Gal.
<i>leuB</i>	$\beta$ -isopropylmalate dehydrogenase mutation	Requires leucine for growth on minimal media.
$\Delta(lon)$	Deletion of <i>lon</i> protease	Reduces proteolysis of expressed proteins.
<i>LysS</i>	pLyS plasmid is integrated into the host genome	Strains carrying this plasmid will be tet resistant and produce T7 lysozyme, a natural inhibitor of T7 RNA polymerase, thus lowering background transcription of sequences under the control of the T7 RNA polymerase promoter(2).
<i>mcrA</i>	Mutation in methylcytosine restriction system	Blocks restriction of DNA methylated at the sequence 5'...GmCGC...3'.
<i>mcrB</i>	Mutation in methylcytosine restriction system	Blocks restriction of DNA methylated at the sequence 5'...AGmCT...3'.
<i>metB</i>	Cystathionine $\gamma$ -synthase mutation	Requires methionine for growth on minimal media.
<i>metC</i>	Cystathionine beta-lyase mutation; involved in methionine biosynthesis	Requires methionine for growth on minimal media.
<i>mtl</i>	Mutation in mannitol metabolism	Blocks catabolism of mannitol.
<i>mutS</i>	Methyl-directed mismatch repair mutation	Prevents repair of the newly synthesized, unmethylated strand.
<i>ompT</i>	Mutation of protease VII, an outer membrane protein	Reduces proteolysis of expressed proteins.
P2	P2 bacteriophage lysogen present in host	$\lambda$ phages containing the red and gam genes of $\lambda$ are growth inhibited by P2 lysogens (3).
<i>proA</i>	$\gamma$ -glutamyl phosphate reductase mutation	<i>proA/argD</i> mutant will not block proline synthesis but will be repressed by arginine. Mutants excrete proline on minimal media and are resistant to proline analogs. <i>proA/argD/argR</i> triple mutant grows slowly on minimal media+arginine.
<i>proAB</i>	Mutations in proline metabolism	Requires proline for growth in minimal media.
<i>recA1</i> , <i>recA13</i>	Mutation in recombination	Minimizes recombination of introduced DNA with host DNA, increasing stability of inserts. Inserts are more stable in <i>recA1</i> than <i>recA13</i> hosts.

## Genetic Code Table

5'-OH Terminal Base	Middle Base				3'-OH Terminal Base
	U	C	A	G	
U	Phe	Ser	Tyr	Cys	U
	Phe	Ser	Tyr	Cys	C
	Leu	Ser	STOP	STOP	A
	Leu	Ser	STOP	Trp	G
C	Leu	Pro	His	Arg	U
	Leu	Pro	His	Arg	C
	Leu	Pro	Gln	Arg	A
	Leu	Pro	Gln	Arg	G

5'-OH Terminal Base	Middle Base				3'-OH Terminal Base
	U	C	A	G	
A	Ile	Thr	Asn	Ser	U
	Ile	Thr	Asn	Ser	C
	Ile	Thr	Lys	Arg	A
	Met	Thr	Lys	Arg	G
G	Val	Ala	Asp	Gly	U
	Val	Ala	Asp	Gly	C
	Val	Ala	Glu	Gly	A
	Val*	Ala	Glu	Gly	G

## Determining Molar Masses Using $S_{20,w}$ Values

An  $S_{20,w}$  value for many of our polynucleotides is printed on the Certificate of Analysis that accompanies the product. This value may be used to determine the average molecular mass and average length of the polymer. Our polynucleotides consist of molecules with a distribution of varying lengths, therefore, only an average length can be calculated from an  $S_{20,w}$  value.

### For DNA

The relationship between the sedimentation velocity ( $S_{20,w}$ ) of sodium DNAs and molar masses (m) for solutions in 1 M sodium salt is expressed in the formulae (1):

Native, dsDNA	Neutral, Denatured ssDNA
$S_{20,w} = 0.0882 m^{0.346}$	$S_{20,w} = 0.0105 m^{0.549}$
$\text{Log } m = 2.89 (\text{log } S_{20,w} + 1.055)$	$\text{Log } m = 1.82 (\text{log } S_{20,w} + 1.979)$

The chart below is derived from the above equations and may be used for quick estimates of the average molar masses and average lengths of our polynucleotides:

$S_{20,w}$ Value	Native dsDNA		Neutral ssDNA	
	m (g/mol)	bp	m (g/mol)	Bases
1.1	1,474	2	4,754	14
2.0	8,297	12	14,114	43
3.0	26,781	41	29,521	90
4.0	26,781	94	49,834	152
5.0	198,521	179	74,800	229
6.0	309,944	304	104,235	319
7.0	455,910	475	137,993	423
8.0	640,782	699	175,955	539
9.0	868,860	982	218,022	668
10.0	1,144,392	1,332	264,107	810
11.0	1,471,579	1,755	314,133	963
12.0	1,854,583	2,257	368,035	1,128
13.0	2,297,523	2,844	425,752	1,305
14.0	2,804,488	3,523	487,228	1,494
15.0		4,301	552,415	1,694

### For RNA

The relationship between the sedimentation velocity ( $S_{20,w}$ ) of sodium RNAs and molar masses (m) for solutions in 1 M sodium salt is expressed in the formula:

Native, Single-Stranded RNA
$S_{20,w} = 0.030 m^{0.459}$ [Average of two equations (2, 3)]
$\text{Log } m = 2.179 (\text{log } S_{20,w} + 1.523)$

The chart below is derived from the above equations:

$S_{20,w}$	m (g/mol)	Approx. Base Length (Avg. FW=361)*
4	42,658	118
5	69,502	193
6	103,276	286
7	144,544	400
8	195,147	535
9	249,459	691
10	314,775	872
11	386,367	1,070
12	467,735	1,296
13	557,186	1,543
14	654,636	1,813

\* Average Formula Weight (Avg. FW) is obtained by averaging the following formula weights of the sodium salts of A, C, G and U: A=371, C=344, G=384, U=345.

### References

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- Eisenberg H, Felsenfeld G. J. Mol. Biol. 1967; 30(17).
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### Concentration of DNA in Solution\*

Double-Stranded DNA (50 µg/ml)	Molecules/ml	Moles/ml	Molar Concentration	Molar Concentration of Termini
Bacteriophage (48,502 bp)	$9.78 \times 10^{11}$	$1.62 \times 10^{-12}$	1.62 nM	3.24 nM
pBR322(4,361 bp)	$1.09 \times 10^{13}$	$1.81 \times 10^{-11}$	1.81 nM	36.2 nM
pUC18/pUC19 (2,686 bp)	$1.77 \times 10^{13}$	$2.94 \times 10^{-11}$	29.4 nM	58.8 nM
Segment of DNA (1 kb)	$4.74 \times 10^{13}$	$7.87 \times 10^{-11}$	78.7 nM	157.4 nM
Octameric double-stranded linker	$5.92 \times 10^{15}$	$9.83 \times 10^{-9}$	9.83 µM	19.7 µM

\*A solution containing 50 µg/ml of dsDNA has an absorbance of 1.0 at 260 nm, i.e.  $A_{260} = 1.0 = 50 \mu\text{g/ml}$  of dsDNA. A solution containing 37 µg/ml of ssDNA has absorbance of 1.0 at 260 nm, i.e.  $A_{260} = 1.0 = 37 \mu\text{g/ml}$  of ssDNA. These values are calculated assuming that the mass of a nucleotide pair in DNA is 660 g/mol.

## Spectrophotometric Quantitation of DNA or RNA

Spectrophotometric measurements of nucleic acid solutions are typically taken at wavelengths of 260 nm and 280 nm. The  $A_{260}$  reading is used to determine the concentration of nucleic acid in solution. For a solution with an  $A_{260}/A_{280}=1.0$ , the following approximations hold:

1  $A_{260}$  unit of dsDNA = 50  $\mu\text{g/ml}$

1  $A_{260}$  unit of ssDNA = 37  $\mu\text{g/ml}$

1  $A_{260}$  unit of dsDNA = 40  $\mu\text{g/ml}$

\*For oligonucleotides, an  $A_{260}$  of 1.0 represents anywhere from 20 to 33  $\mu\text{g/ml}$  with the actual conversion factor dependent on the length and base sequence of the oligonucleotides(1).

The ratio between measurements at  $A_{260}/A_{280}$  nm provides an indicator of the purity of a nucleic acid. In solution, pure DNA and RNA typically have ratios of 1.8 and 2.0, respectively. If the absorbance ratio is significantly less than the values above, the nucleic acid is probably contaminated with protein or phenol. Accurate quantification of a contaminated nucleic acid is not feasible without prior purification, and the efficacy of this can be established by the  $A_{260}/A_{280}$  ratio.

Most of the lyophilized polynucleotides are sold as  $A_{260}$  units (2). For an approximation of quantity, use the conversion factors provided above to convert the  $A_{260}$  units into micrograms 3/4 which must be known if a certain concentration is desired.

1. For a more accurate approximation, refer to Borer in the handbook of Biochemistry and Molecular Biology, 3rd edition

(G.D.Fasman, ed.) CRC Press, Cleveland, OH Page 589 (1975).

2. Unit definition: One unit is the quantity of oligonucleotide or polynucleotide which has an absorbance of 1.0 at a given wavelength when dissolved in 1 ml of buffer and measured in a 1 cm cuvette at 20°C. The wavelength at which the absorbance is measured is printed on the Certificate of Analysis which accompanies the product. For nucleic acids, typically an absorbance is taken at 260 nm in 20 mM sodium phosphate (pH7.0), 0.1 M NaCl.

### Molar Masses of Nucleic Acids

Average molar mass of a deoxynucleotide base	330 g/mol
Average molar mass of a deoxynucleotide base pair	660 g/mol
Average molar mass of a ribonucleotide base	340 g/mol
1 kb of dsDNA (sodium salt)	$6.6 \times 10^5$ g/mol
1 kb of ssDNA (sodium salt)	$3.3 \times 10^5$ g/mol
1 kb of ssRNA (sodium salt)	$3.4 \times 10^5$ g/mol
$1 \times 10^5$ g/mol of dsDNA (sodium salt)	1.54 kb
Lambda DNA	$3.1 \times 10^7$ g/mol (1)
pBR322 DNA	$2.8 \times 10^6$ g/mol (1)
fX-174 DNA	$3.6 \times 10^6$ g/mol (1)
<i>E. coli</i> DNA	$3.1 \times 10^9$ g/mol (1)

### Mass-to Mole Conversions

1 $\mu\text{g/ml}$ of DNA	3.08 $\mu\text{M/ml}$ phosphate
1 $\mu\text{g/ml}$ of a 1 kb DNA fragment	3.08 nM/ml 5'-end
1 $\mu\text{g}$ of a 1 kb DNA fragment	1.5 pmol= $9.0 \times 10^{11}$ molecules
1 $\mu\text{g}$ of a 1 kb DNA fragment	3.0 pmol 5'-end
1 pmol of a 1 kb DNA fragment	0.66 $\mu\text{g}$
1 $\mu\text{g}$ of pUC18/19 DNA (2,686 bp)	0.57 pmol= $3.4 \times 10^{11}$ molecules
1 pmol of pUC 18/19 DNA	1.77 $\mu\text{g}$
1 $\mu\text{g}$ of pBR322 DNA (4,361 bp)	0.35 pmol= $2.1 \times 10^{11}$ molecules
1 $\mu\text{g}$ of linear pBR 322 DNA	0.70 pmol 5'-end
1 pmol of pBR322 DNA	2.8 $\mu\text{g}$
1 pmol of 5'-ends of linear pBR322	1.4 $\mu\text{g}$
1 $\mu\text{g}$ of M13mp 18/19 DNA (7,249 bp)	0.21 pmol= $1.3 \times 10^{11}$ molecules
1 pmol of M13mp 18/19 DNA	4.78 $\mu\text{g}$
1 $\mu\text{g}$ of Lambda DNA (48,502 bp)	0.031 pmol= $1.9 \times 10^{10}$ molecules
1 pmol of Lambda DNA	32.01 $\mu\text{g}$

## Agarose and Polyacrylamide Gels

### Dye Migration: Polyacrylamide Denaturing Gels

Dyes will migrate to the same point as double-stranded DNA of the indicated size in a denaturing polyacrylamide gel.

Gel %	Bromophenol Blue	Xylene Cyanol
5.0	35 bp	140 bp
6.0	26 bp	106 bp
8.0	19 bp	75 bp
10.0	12 bp	55 bp
20.0	8 bp	28 bp

### Dye Migration: Polyacrylamide Nondenaturing Gels

Dyes will migrate to the same point as double-stranded DNA of the indicated size in a nondenaturing polyacrylamide gel.

Gel %	Bromophenol Blue	Xylene Cyanol
3.5	100 bp	460 bp
5.0	65 bp	260 bp
8.0	45 bp	160 bp
12.0	20 bp	70 bp
15.0	15 bp	60 bp
20.0	12 bp	45 bp

## Miscellaneous

### Nucleotide Physical Properties

Compound	Molecular Weight	Lambda Max (pH7.0)	Absorbance at Max 1 M Solution (pH7.0)
ATP	507.2	259	15,400
CTP	483.2	271	9,000
GTP	523.2	253	13,700
UTP	484.2	262	10,000
dATP	491.2	259	15,200
dCTP	467.2	271	9,300
dGTP	507.2	253	13,700
dTTP	482.2	267	9,600

### Protein data

Bacterial Cells: *E. coli* or *Salmonella typhimurium*

Cell Data	per Cell	per liter at $10^9$ Cells per ml
Wet Weight	$9.5 \times 10^{-13}$	0.95 g
Dry Weight	$2.8 \times 10^{-13}$	0.28 g
Total Protein	$1.55 \times 10^{-13}$	0.15 g
Volume	$1.15 \mu\text{m}^3=1$ femtoliter	

Protein Conc. in the cell: 135 mg/ml

Theoretical maximum yield for a 1 liter culture ( $10^9$  cells/ml) if protein of interest is:

0.1 % of total protein: 150  $\mu\text{g/liter}$ , 2.0 % of total protein: 30 mg/liter, 50.0 % of total protein: 75 mg/liter

## Isotope Data

Isotope	Particle Emitted	Half Life			
<sup>14</sup> C	beta	5,730 years	1 Ci	=	1,000 mCi
<sup>3</sup> H	beta	12.4 years	1 mCi	=	1,000 μCi
<sup>125</sup> I	beta, gamma X-ray	59.6 days	1 μCi	=	2.2×10 <sup>6</sup> disintegration/second
<sup>32</sup> P	beta	14.3 days	1 Becquerel	=	1 disintegration/second
<sup>33</sup> P	beta	25.4 days	1 μCi	=	3.7×10 <sup>4</sup> Becquerels
<sup>35</sup> S	beta	87.4 days	1 Becquerel	=	2.7×10 <sup>-5</sup> μCi

## Resolution of Linear DNA on Agarose Gels

Recommended %Agarose	Optimum Resolution for linear DNA (Size of fragments in base pairs)
0.5	1,000—30,000
0.7	800—12,000
1.0	500—10,000
1.2	400—7,000
1.5	200—3,000
2.0	50—2,000

## pH vs Temperature for Tris Buffer

pH of Tris Buffer (0.05 M)		
5 °C	25 °C	37 °C
7.76	7.20	6.91
7.89	7.30	7.02
7.97	7.40	7.12
8.07	7.50	7.22
8.18	7.60	7.30
8.26	7.70	7.40
8.37	7.80	7.52
8.48	7.90	7.62
8.58	8.00	7.71
8.68	8.10	7.80
8.78	8.20	7.91
8.88	8.30	8.01
8.98	8.40	8.10
9.09	8.50	8.22
9.18	8.60	8.31
9.28	8.70	8.42

## Acid and Bases

Compound	Formula	Molecular Weight	Specific Gravity	% by Weight	Conc. Reagent Molarity
Acetic acid, glacial	CH <sub>3</sub> COOH	60.0	1.05	99.5	17.4
Formic acid	HCOOH	46.0	1.20	90	23.4
Hydrochloric acid	HCl	36.5	1.18	36	11.6
Nitric acid	HNO <sub>3</sub>	63.0	1.42	71	16.0
Perchloric acid	HClO <sub>4</sub>	100.5	1.67	70	11.6
Phosphoric acid	H <sub>3</sub> PO <sub>4</sub>	98.0	1.70	85	18.1
Sulfuric acid	H <sub>2</sub> SO <sub>4</sub>	98.1	1.84	96	18.0
Ammonium hydroxide	NH <sub>4</sub> OH	35.0	0.90	28	14.8
Potassium hydroxide	KOH	56.1	1.52	50	13.5
Sodium hydroxide	NaOH	40.0	1.53	50	19.1
β-mercaptoethanol	HSCH <sub>2</sub> CH <sub>2</sub> OH	78.1	1.11	100	14.3

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