



GenScript Products

Scripting Possibilities

GenScript Products

Dedicated to staying at the cutting edge of biological and medical research, GenScript has developed many innovative technologies. Over the years GenScript has been established as a leading provider of research tools and services, while offering cost-effective solutions for customers to accelerate their research and development.

GenScript offers a broad range of products, including automated plasmid and protein purification solutions such as the AmMag™ Quatro and AmMag™ ProAb 1300, automated immunodetection systems like the eZwest™ Lite, and fast protein transfer systems such as the eBlot™ L1. Furthermore, GenScript also offers protein staining systems, precast gels, antibodies, proteins, protein A/G/L resins, stable cell lines, cell isolation solutions (both manual and automated), and CRISPR products.

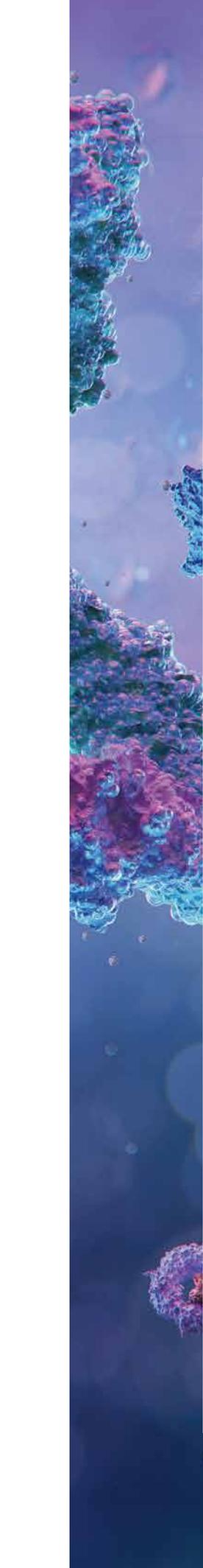
The GenScript products and services are constantly updated to align with new innovations and advances in biological research. We encourage customers to check our website regularly for the most current information on all GenScript products and services.

CAN'T FIND WHAT YOU NEED?

We understand that every scientist has unique needs. We can offer customization for any product to better fit your requirements.

Reach out to us at
product.techsupport@genscript.com





Product Highlights

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Comprehensive SDS-PAGE and Western Blotting Solution

Fast Protein Electrophoresis

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A vertical strip on the left side of the page features a microscopic image of antibodies. The antibodies are depicted as blue Y-shaped structures with yellow tips, set against a dark blue background with some white bokeh light spots.

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One-Stop Western Blotting Solution

SurePAGE™ Bis-Tris Precast Gel

High Resolution and Fast Run Time



eBlot™ Fast Wet Transfer System

All size protein transfer

9-17 minutes

5-10 minutes



eBlot™ L1
2 mini gels



eBlot™ L2
4 mini gels or 2 midi gels

eStain™ Fast Staining System

Gel or membrane staining
in 10 minutes



eZwest™ Automated Western Device

Automated antibody incubation and washing



Saving
more time with
eZwest Diluent Kit

Comprehensive Solutions for Protein Purification

GenScript offers a wide variety of reagents and accessories enabling automated and manual protein purification from cell cultures and lysates.

■ Magnetic Bead Solutions

Tagged protein

Ni-charged
Glutathione
Streptavidin
DYKDDDDK

Antibody

Protein A
Protein G
Protein L
Protein A/G



Browse magnetic bead offerings:

www.genscript.com/Magnetic_bead_products.html



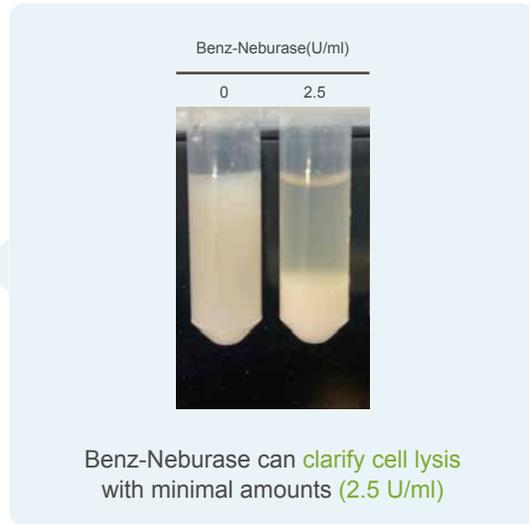
■ Benz-Neburase™

A highly effective, nonspecific, genetically engineered endonuclease capable of digesting all forms of DNA and RNA to reduce sample viscosity and enhance protein purification workflows. The Benz-Neburase is a universal nuclease for cell lysis.



Browse Benz-Neburase offerings:

www.genscript.com/benz-neburase.html



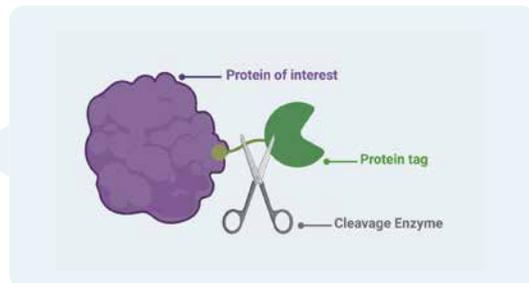
■ Tag Cleavage Enzymes

GenScript offers highly specific Tev Protease, Enterokinase, PreScission Protease, 3C protease and Staphylokinase to efficiently remove the protein tags post purification.



Browse Tag Cleavage Enzymes offerings:

www.genscript.com/enzymes_and_inhibitors.html



CytoSinct™ 1000

Automated, highly efficient and closed system for cell isolation

GenScript offers a wide range of reagents, accessories, and system solutions for automated and manual cell isolation from human cells. The CytoSinct™ 1000 Cell Isolation system for easy, automated depletion or enrichment of target cells.

Scientists can isolate up to 120×10^9 total cells in a single run and complete the process starting from 30 minutes.



Complete Solution for Clinical Use
GMP consumables available



Highly Efficient Cell Isolation



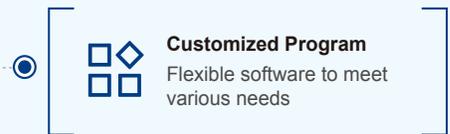
Closed System
Sterile operation with an enclosed environment



Data Integrity
21 CFR Part 11 compliance



Wireless Data Transmission
Quick data export to the local network



Customized Program
Flexible software to meet various needs

Lentivirus Titer p24 ELISA Kit

Easy-to-use, accurate and reproducible lentivirus titration



Key Features



Wide linear range

The linear range of detection is from **31.25 to 2,000 pg/ml** which can effectively reduce the number of dilutions



Shorten detection time

The test can be complete as short as 3 hours with **up to 1.4 hours incubation**



High precision

The CVs of **intra-assay $\leq 10\%$ and Inter-assay $\leq 15\%$** ensuring the accuracy of the test



Easy-to-use package

The kit is provided in a format of 12 strips of 8 wells to **support 96 tests**

Ordering List

Cat No	Product	Package Size
L00938	Lentivirus Titer p24 ELISA Kit	96 Test

Product Information

Linearity Range	31.25 pg/ml - 2000 pg/ml
Sensitivity	LoB: 14.13 pg/ml
	LoD: 29.42 pg/ml
	LoQ: 39.03 pg/ml
Precision	Intra-assay: CV $\leq 10\%$
	Inter-assay: CV $\leq 15\%$
Assay Temperature	25°C
Assay Time	1 hour 40 minutes

Case Study

Lentivirus titration for lentivirus purification and production

For lentivirus purification and production, titration is an essential analysis in quality control, lot release, and purification process optimization.

GenScript's Lentivirus Titer p24 ELISA kit (Cat No L00938) allows researchers to quickly determine the titer of any HIV-1-based lentiviral supernatant using sandwich ELISA methods.

Table 4a: Lentivirus titration during lentivirus purification and production

Process	OD Value	Testing p24 Conc.(pg/ml)	Dilution Factor	Actual p24 Conc. (LP/ml)	CV%
Supernatant	3.151	2445.918	100	Not Valid	/
	1.225	444.343	3000	1.67E+10	
Nucleic Acid Removal	3.12	2369.055	100	Not Valid	/
	1.242	451.997	3000	1.69E+10	
Centrifugation	3.103	2328.92	100	Not Valid	/
	0.94	321.172	3000	1.20E+10	
Clarification and Filtration	3.136	2405.64	100	Not Valid	/
	0.926	315.765	3000	1.18E+10	
Ultrafiltration and Diafiltration	2.183	1040.264	3000	3.90E+10	3
	0.152	36.234	90000	4.08E+10	
Clarification and Filtration	1.994	890.168	3000	3.34E+10	6
	0.142	32.441	90000	3.65E+10	
Gel Filtration	1.496	578.496	3000	2.17E+10	1
	0.106	18.902	90000	2.13E+10	
Ultrafiltration and Diafiltration	2.623	1501.37	3000	Not Valid	3
	0.185	47.906	90000	5.39E+10	
Final Product	3.155	2459.286	3000	Not Valid	/
	0.799	265.916	90000	2.99E+11	

Table 4b: Lentivirus titration during lentivirus purification and production from other vendor

Process	OD Value	Testing p24 Conc.(pg/ml)	Dilution Factor	Actual p24 Conc. (LP/ml)	CV%
Supernatant	86.687	1.223	12000	1.30E+10	/
	291.899	3.143	2000	Not Valid	
Nucleic Acid Removal	100.254	1.375	12000	1.50E+10	/
	282.872	3.073	2000	Not Valid	
Centrifugation	73.79	1.073	12000	1.11E+10	/
	275.974	3.019	2000	Not Valid	
Clarification and Filtration	69.953	1.028	12000	1.05E+10	/
	279.996	3.051	2000	Not Valid	
Ultrafiltration and Diafiltration	234.108	2.675	10000	Not Valid	/
	39.453	0.653	60000	2.96E+10	
Clarification and Filtration	212.127	2.484	10000	Not Valid	/
	36.317	0.612	60000	2.72E+10	
Gel Filtration	165.17	2.048	10000	2.06E+10	5
	29.342	0.522	60000	2.20E+10	
Ultrafiltration and Diafiltration	275.001	3.011	10000	Not Valid	/
	69.346	1.021	60000	5.20E+10	
Final Product	38.46	0.64	480000	2.31E+11	/
	244.786	2.765	80000	Not Valid	

AmMag™ Quatro

Automated large-scale, high-throughput plasmid purification solution

GenScript has developed the AmMag™ Quatro, an automated solution for purification of large-scale, high-quality, transfection-grade plasmids. The comprehensive solution consists of a system controller that provides simultaneous operation of up to 4 independent purification automation modules, along with pre-filled consumables and verified protocols. Each purification module can process up to 6 samples in one run. Scientists can now purify up to 24 maxi prep samples in a single run starting with bacterial samples weighing up to 1.5 g of wet pellet. The AmMag™ leverages magnetic bead technology and related reagents to automate the entire maxi-scale purification process with increased efficiency and higher throughput while maintaining flexibility.



Out-of-the-Box Solution

Solution includes AmMag™ ready-to-use lot traceable kits and verified protocols





UV

Programmable decontamination protocol



Scalable

Modular design provides throughput scalability with individual module operation, with each module purifying up to 6 samples



High Quality Plasmid

High yield, low endotoxin, transfection grade plasmid DNA



Efficient

Purify up to 24 samples with a 4 module setup in as little as 2 hours

AmMag™ Quatro ProAb 1300

Transforming Protein and Antibody Purification for Modern Labs

In today's fast-paced life-science and biopharmaceutical research, precision and efficiency are essential. The AmMag™ Quatro ProAb 1300 is designed to elevate your protein and antibody purification workflow by seamlessly integrating cutting-edge magnetic bead technology with intuitive automation—delivering reliability and speed to meet the demands of modern laboratories.

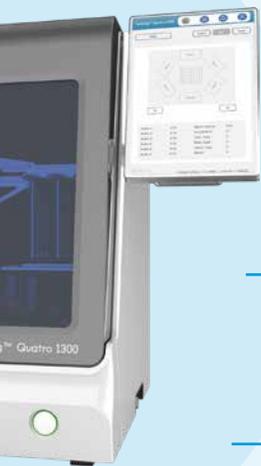
Why Choose AmMag™ Quatro ProAb 1300?



Fully Automated Workflow

From magnetic bead incubation to washing and elution, the Quatro ProAb 1300 automates the entire purification process. Ideal for early-stage R&D screening, it handles protein yields ranging from micrograms to milligrams with ease.





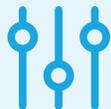
High-Throughput Capability

Process up to 12 samples per run, with individual sample volumes up to 65 mL - maximizing your lab's productivity without compromising quality.



Rapid and Efficient

Complete purification in as little as 30 minutes, drastically cutting down manual labor and freeing you to focus on more critical tasks.



Flexible and Customizable

Easily adjust purification parameters to suit diverse sample types, from low-titer lab flask supernatants to high-density fermentation cultures. The Quatro ProAb 1300 adapts to your needs with a broad dynamic processing range.



Uncompromised Purity and Yield

Achieve superior antibody recovery (>83%), exceptional purity (>95%), and excellent activity retention — performance that rivals manual purification methods.

Chapter 1

Comprehensive SDS-PAGE and Western Blotting Solution

- Fast Protein Electrophoresis
- 10-Minute Protein Staining
- 10-Minute Protein Transfer
- Fully Automated Western Blots

SurePAGE™ Precast Gels

GenScript SurePAGE™ Bis-Tris gels are high-performance precast mini polyacrylamide gels that are designed to separate a wide range of protein sizes by electrophoresis within as fast as 20 minutes. SurePAGE gels are cast in a neutral pH buffer that minimizes polyacrylamide hydrolysis and increases gel stability.

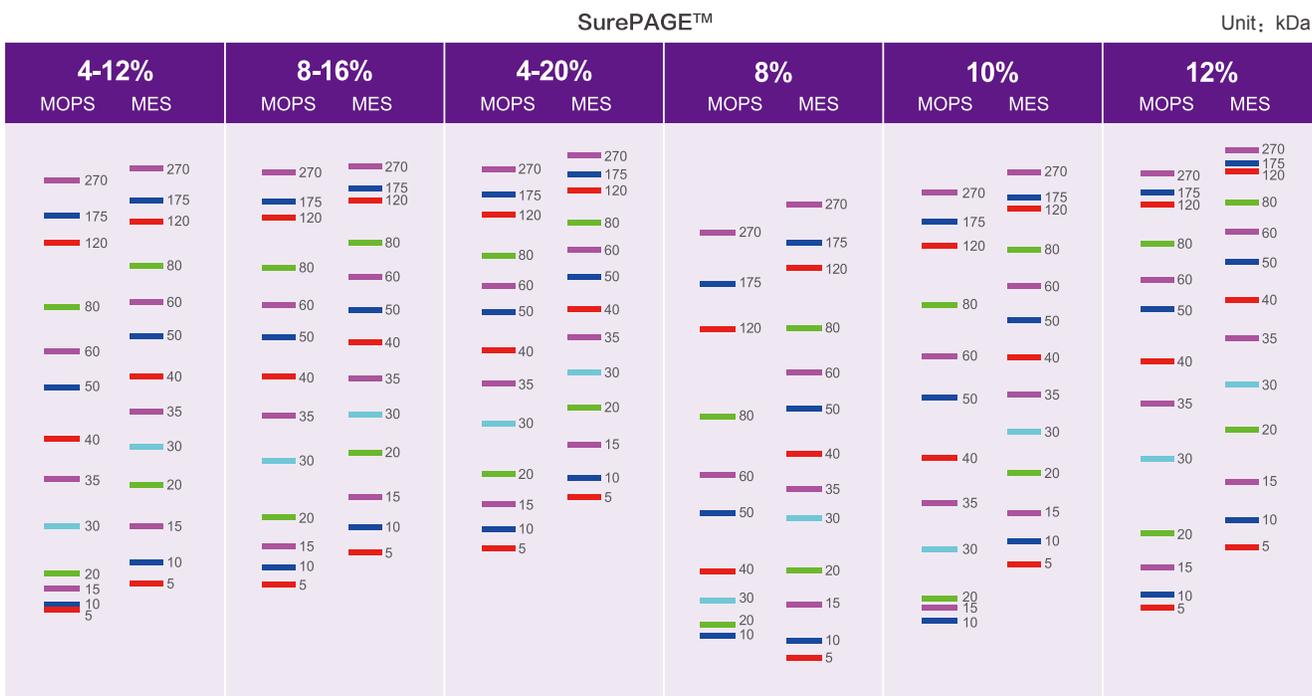


Gel Tank Selection

GenScript's high quality mini gels generate the best electrophoresis performance with GenBox Mini Tank and are also compatible with other popular mini electrophoresis tanks.

Mini Gels		Midi Gels
GenScript	GenBox Mini Electrophoresis tank	GenBox Midi Electrophoresis tank

SurePAGE comes with gradient gels and fixed concentration gels: 4-20%, 4-12% and 8-16% for gradient gels, 8%, 10%, 12% for fixed concentration gels. Please use the charts below to determine the best percentage for SurePAGE.



SurePAGE 10×8 Mini Gels Ordering List

% Acrylamide	Wells No.	Well Volume	Quantity	Cat No
4-12%	10, 12, 15	80, 60, 40 μ l	10 gels	M00652, M00653, M00654
4-20%	10, 12, 15	80, 60, 40 μ l	10 gels	M00655, M00656, M00657
8-16%	10, 12, 15	80, 60, 40 μ l	10 gels	M00658, M00659, M00660
8%	10, 12, 15	80, 60, 40 μ l	10 gels	M00661, M00662, M00663
10%	10, 12, 15	80, 60, 40 μ l	10 gels	M00664, M00665, M00666
12%	10, 12, 15	80, 60, 40 μ l	10 gels	M00667, M00668, M00669

SurePAGE 8.3×13 Midi Gels Ordering List

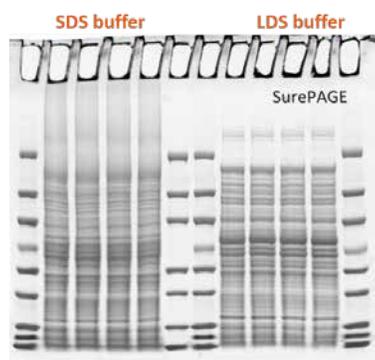
% Acrylamide	Wells No.	Well Volume	Quantity	Cat No
4-12%	20, 26	25, 15 μ l	10 gels	M00995, M00996

Buffer

LDS Loading Buffer

- PH stability
- Strong protein denature
- Clear electrophoresis front with phenol red and G250
- Low storage temperature reduces precipitation
- DTT and β -ME free for native and non-reduced electrophoresis
- Better performance with silver staining

Case Study



- LDS: 70°C, 10 min
- Better solubility
- pH > 7 when heated to maintain protein integrity

LDS performs better than SDS!

Running Buffer

Proteins are separated on SurePAGE using MOPS or MES running buffer. We recommend using MOPS buffer for protein sizes that are >30kDa and MES for proteins that are <30 kDa.

GenScript offers MOPS and MES buffer powder that are ready-to-use.

Product List

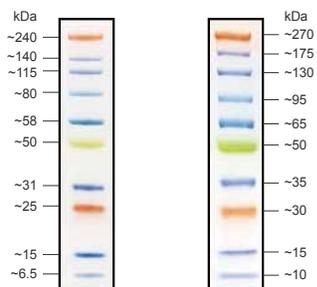
Product	Package Size	Cat No
4X LDS Sample Buffer	10 ml	M00676-10
	250 ml	M00676-250
5X Sample Buffer (SDS buffer)	5 ml	MB01015
Tris-MOPS Running Buffer Powder	1 Box (5/PK)	M00138
MES SDS Running Buffer Powder	1 Box (5/PK)	M00677

Protein Markers

Application Data

GenScript offers a wide selection of protein molecular weight standards for SDS-PAGE and Western blot, including prestained, unstained and western-viewable standards. The pre-stained Protein Standards consist of colored bands for easy identification and allow you to monitor the progress of an electrophoretic run. The unstained Protein Standards provide bands that are unmodified by the presence of dye, for accurate molecular weight estimation of SDS-PAGE.

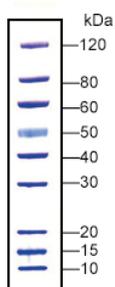
Broad Multi Color Pre-Stained Protein Standard (M00624)



4-20% Bis-Tris
MOPS buffer

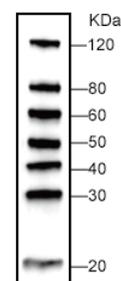
4-20% Tris-Glycine
Tris Glycine buffer

PAGE-MASTER Protein Standard Plus (MM1397-500)



4-20% SDS-PAGE separated and
Coomassie blue R-250 stained

WB-MASTER Protein



4-20% SDS-PAGE separated then
transferred onto nitrocellulose membrane

Product List

Product	Package Size	Cat No
Broad Multi Color Pre-Stained Protein Standard	M00624-250	250 μ l
	M00624-1250	1250 μ l
PAGE-MASTER Protein Standard (for SDS-PAGE)	M00516	500 μ l
PAGE-MASTER Protein Standard Plus	MM1397-500	500 μ l
WB-MASTER Protein Standard	M00521	250 μ l

Electrophoresis Tank

GenBox electrophoresis tank is an electrophoresis device for analytical protein experiments including protein separation, purification and sample preparation for biological research.

GenBox is designed to run 1 or 2 mini gels at the same time.



- The unique wedge-shaped baffle design makes the force on the PAGE gel uniform and the bands straight.
- The specific and accurate error-proof design prevent the ms-connection of positive and negative electrodes.
- The power can be cut off while opening the lid, which makes it safer and more reliable to use.
- Better electrophoresis performance with GenScript's precast gel.

Parameter

Pin, retaining ring, and spring	Stainless steel
Lid, mini tank, wedges	Polysulfone
Electrode Assembly	Polybutylene terephthalate
Electrodes	Platinum wire, 0.010 inches diameter
Gasket, electrode inner core	Silicone rubber (Red)
Mini Tank and Lid	Polycarbonate

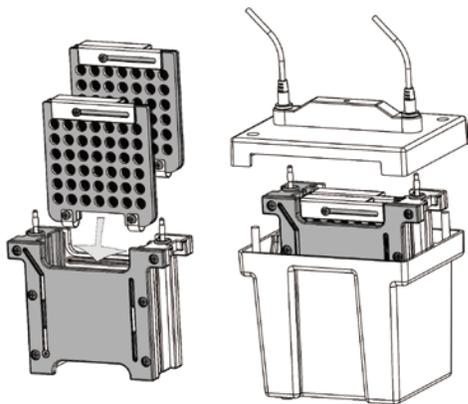
Overall Size	(W × L × H, cm) 12 × 16 × 18
Precast Gel Compatibility	10×8 SurePAGE 10×10 SurePAGE
Voltage Limit	600 V DC and 500 W
Shipping Weight	2.0 kg

Product List

Product	Package Size	Cat No
GenBox Mini Electrophoresis Tank	1 unit	L00780
GenBox Midi Electrophoresis Tank	1 unit	L01001 (coming soon!)

Blotting Module

The GenBox Mini transfer module can transfer two 10×7.5 cm mini gels at the same time. It can be compatible with the GenBox electrophoresis tank to save space and costs. The design can ensure safety and repeatability of the experiments.



Parameters

Electrode module	Molded polycarbonate
Gel Holder Cassettes	Molded polycarbonate
Electrodes wire	Platinum wire 0.254 mm diameter
Maximum gel size	10×7.5 cm
Maximum voltage	400 VDC
Maximum power	500 W
Maximum ambient temperature	40 °C

Product List

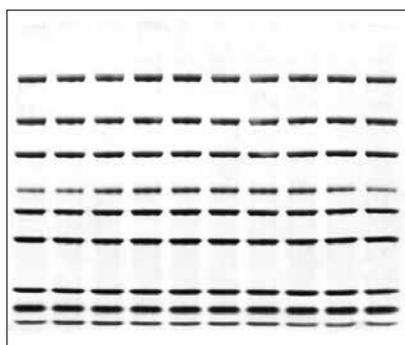
Product	Package Size	Cat No
GenBox Mini Blot module	1 unit	L00781
GenBox Mini Blot System	1 unit	L00782

eStain™ L1 Protein Staining System



- Simultaneously stain/destain two mini gels within 10 minutes or less
- Fully automatic device with stain and de-stain reagents
- Suitable for all types of mini PAGE gels
- Better performance than conventional methods
- Evenly stain and highly repeatable results

Case Study



Gel type: ExpressPlus™ PAGE Gel, 4-12%, 10 wells (GenScript, M41210C)

Sample: PAGE-MASTER Protein Standard Plus , 5 µl (GenScript, MM1397-500)

Protocol: 9 min 30 s

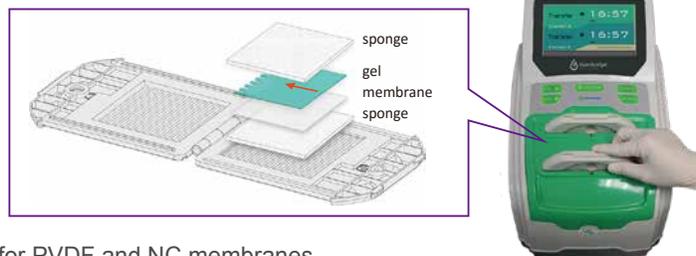
Ordering Information

Product	Package Size	Quantity	Cat No
eStain L1 Protein Staining System	1 Unit	1	L00657
eStain L1C Protein Staining Kit	1 kit	1	L00753
• eStain L1 Concentrated Staining Solution, 2.5X	2 L	1	
• eStain L1 Concentrated Destaining Solution, 5X	2 L	1	
• eStain L1 Filter Paper	50 pk	1	

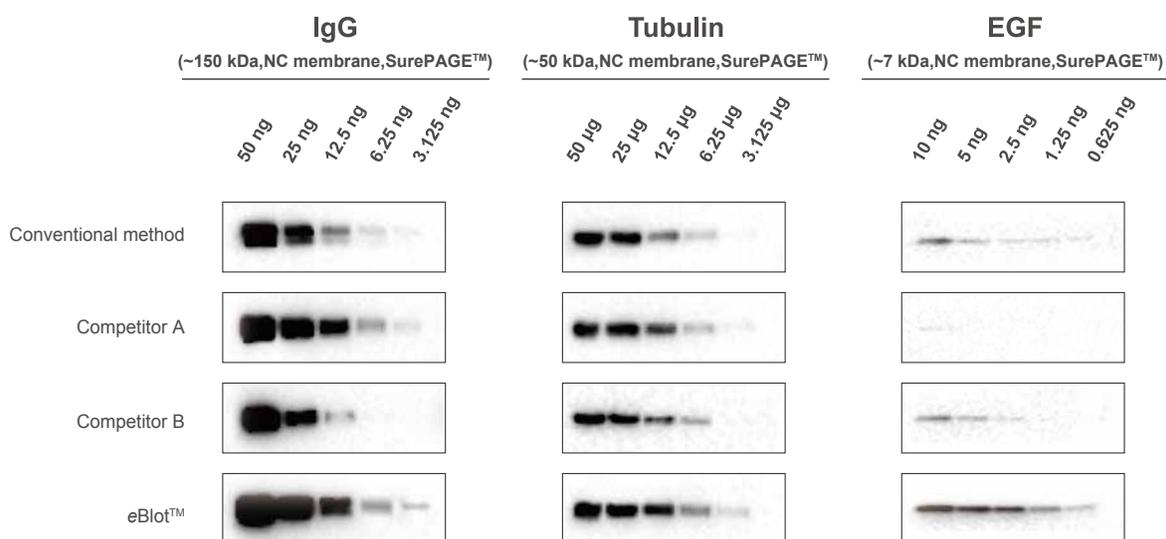
eBlot™ L1 Fast Wet Transfer System

For Mini Gels Wet Transfer

- Easy to assemble, one button operation
- Fast transfer time of 9-17 minutes
- Transfer 1 or 2 gels at a time
- No methanol in transfer buffer
- High transfer efficiency for all protein sizes and suitable for PVDF and NC membranes



Case Study



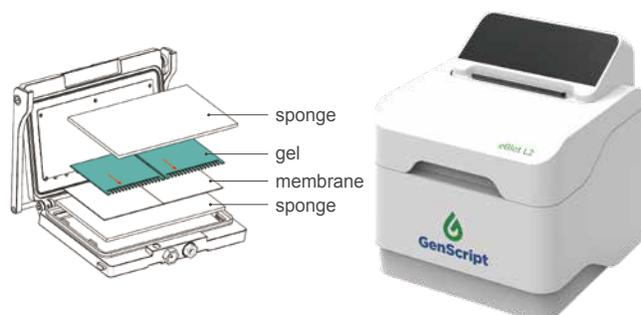
Product Listing

Ordering information	Quantity	Cat No
eBlot™ L1 fast wet protein transfer device	1 unit	L00686
eBlot L1 Transfer sandwich without membrane (with buffers for NC)	1 kit (30x)	L00724
eBlot L1 Transfer sandwich without membrane (with buffers for PVDF)	1 kit (30x)	L00726
Complete eBlot L1 Transfer sandwich (PVDF)	1 kit (30x)	L00727
eBlot L1 PVDF Membrane, 0.22 µm, 8×9 cm	15 pk	L00735

eBlot™ L2 Fast Protein Transfer Device

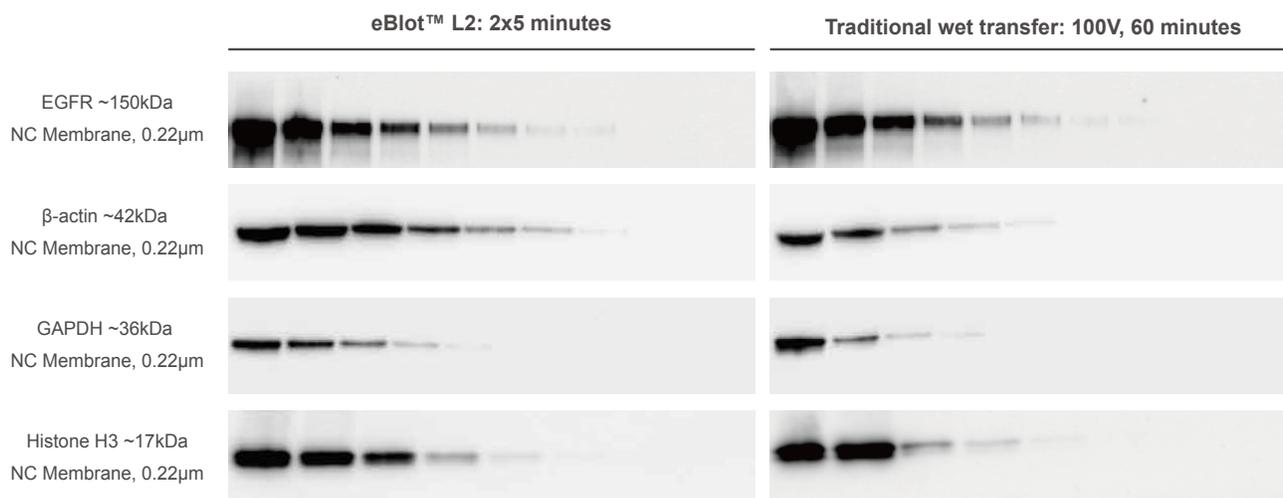
For Midi Gels Wet Transfer

- Fast wet transfer in 5 minutes
- High throughput transfer of 4 mini or 2 midi gels
- Methanol-free reagents with DI water dilution
- Full protein size: coverage on PVDF or NC membranes
- Result consistency and reproducibility
- Easy operation with touchscreen and fast start



Application Data

eBlot™ L2 has better transfer performance and efficiency for all size proteins compared to traditional wet transfer.



Protein sample: HEK293 cell lysate

Loading volume: Lane 1~8: 20ug, 10ug, 5ug, 2.5ug, 1.25ug, 0.62ug, 0.31ug, 0.15ug(EGFR); Lane 1~9: 40ug, 20ug, 10ug, 5ug, 2.5ug, 1.25ug, 0.62ug, 0.31ug, 0.15ug (β-actin, GAPDH, Histone H3)

Product Listing

Product Name	Specification	Catalog Number
eBlot™ L2 Midi Transfer System with two midi transfer chambers included	1 unit	L00981
eBlot L2 Mini/Midi Transfer Basic Kit, Nitrocellulose		L00985
eBlot L2 Mini/Midi Transfer Basic Kit, PVDF	1 kit (30 midi transfers or 60 mini transfers)	L00986
eBlot L2 Mini/Midi Transfer Full Kit, PVDF		L00987
SurePAGE™ Midi, Bis-Tris, 4-12%, 20 wells <small>COMING SOON</small>	10 pk/Box	M00995
SurePAGE™ Midi, Bis-Tris, 4-12%, 26 wells <small>COMING SOON</small>	10 pk/Box	M00996

eZwest™ Automated Western Device

eZwest™ is a fully automated western blotting device completing the entire process of blocking, primary and secondary antibody incubations and washing steps. When desired, the primary antibody can be recovered for re-use.



Consistent results



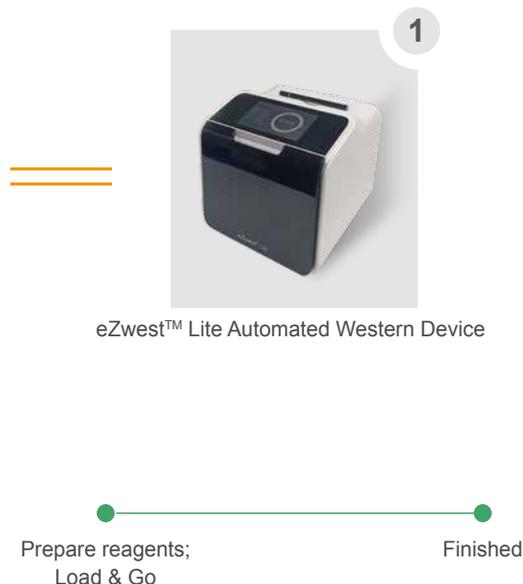
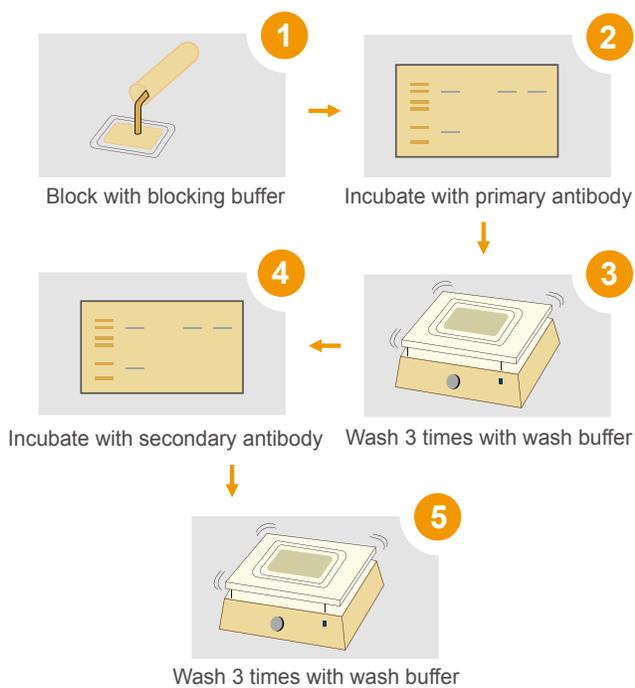
Antibody recovery



Programmable

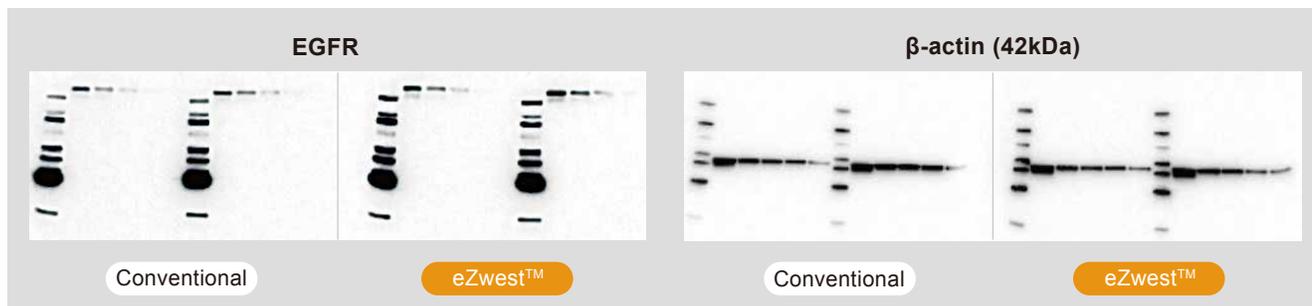


Completely hands-off



Case Study

eZwest produces similar or better results compared to results from the conventional method. Additionally, eZwest™ delivers consistent and reproducible results every time.



Conventional Blocking Reagent vs eZwest Diluent kit



GAPDH 36kDa	Conventional	GenScript
Method	Manual + 5% dry milk	eZwest + Diluent Kit
Blocking	60 min	0
Wash	3×5 min	0
1st Antibody	40 min	30 min
Wash	3×5 min	3×5 min
2nd Antibody	40 min	30 min
Wash	3×5 min	3×5 min
Total	185 min	90 min

Product	Package Size	Cat No
eZwest™ Lite Automated Western Device	1 unit	L00816
eZwest Diluent Kit	1 kit	L00818

Chapter 2

Molecular Biology

- Fully Automated Plasmid Purification System
- Plasmid Purification Related Products
- Cloning Kits – GenBuilder™
- Endo-nuclease: Benz-Neburase™
- PCR Reagents
- DNA-Encoded Chemical Library

AmMag™ Quatro

Automated Plasmid Purification System

- Automated Purification
- Higher Throughput
- Optimized Efficiency
- Enhanced Reproducibility



High-quality plasmids are essential components in gene and cell therapy (GCT) applications. As the demand for GCT products continues to grow, the need for high-quality plasmids has become increasingly important.

GenScript has developed the AmMag™ Quatro, an automated solution for the purification of large-scale, high-quality, transfection-grade plasmids. The system leverages magnetic bead technology to speed up the development process of GCT products, thereby saving manpower, material resources, and time costs.

The AmMag™ Quatro is a comprehensive solution for plasmid purification, consisting of the automated purification module and related consumables. The system is designed to be highly efficient, scalable, and reproducible, allowing researchers to generate large quantities of high-quality plasmids quickly and easily.



High throughput

Purify up to **24 samples** with a **4-module setup**



Fast and efficient

One sample run takes as little as **2 hours**



Complete solution

Solution includes AmMag ready-to-use **consumables and pre-programmed verified protocols**



Flexibility and scalability

The system design provides **throughput scalability and individual module operation**



High yield

Reversible accelerated stirring ensures uniform sample mixing



High quality

In sample controls and **UV lamp sterilization** ensure low endo-toxin levels

User Interface

The AmMag™ Quatro provides scientists with pre-programmed, verified protocols, as well as, a flexible, simple and intuitive interface to build customized purification protocols.



1 Main controls are easily accessible

2 Scan feature ensures correct labware is loaded prior to starting the sample run

3 Pre-programmed, verified protocols can be used or new protocols can be created providing flexibility

4 Lot tracking and file export ensuring full traceability

5 Workflow screen provides real time status overview and estimated completion time for a full walkaway solution

Automated Maxi-Scale Plasmid Purification

The AmMag™ Quatro: Your automated solution for maxi-scale purification of high-quality, transfection-grade plasmids. This comprehensive system features a centralized controller enabling simultaneous operation of up to 4 independent purification modules, complemented by pre-filled consumables and validated protocols. Each module efficiently processes up to 6 samples in just 2-2.5 hours per run, ensuring streamlined and reliable plasmid purification at scale.

► Plasmid Extraction with AmMag™ Quatro Solution

Plasmid : pCDNA 3.1 Strain: DH5α Culture Medium: 100 ml TB Culture Growth: 16 hours Bacteria Pellet Weight: ~1.4 g Elution Volume: 800 μl

Sample	Extraction Method	Concentration(ng/μL)	OD260/280	OD260/230	Endotoxin	Supercoiled Ratio
1	Quatro	932.95	1.89	2.27	<100 EU/mg	>90%
2	Quatro	949.65	1.88	2.36	<100 EU/mg	>90%
3	Quatro	887.45	1.89	2.35	<100 EU/mg	>90%

Test results show the AmMag™ Quatro solution yields high quality transfection-ready plasmids with low endotoxin levels.

► Comparing Plasmid Extraction with AmMag™ Quatro Solution and Manual Kit

Plasmid : pCDNA 3.1 (+) C-EGFP Strain: DH5α Culture Medium: TB Culture Growth: 16 hours
Bacteria Pellet Weight: ~1.4 g (Quatro) ~0.4 g (Manual kit - maximum pallet used while not clogging the column)

Sample	Extraction Method	Elution Volume	Concentration(ng/μL)	OD260/280	OD260/230	Endotoxin	Supercoiled Ratio
1	Quatro	500 μl	947.01	1.86	2.33	<100 EU/mg	>90%
2	Manual	500 μl	380.68	1.88	2.35	<100 EU/mg	>90%

Test results show the AmMag™ Quatro solution yields equivalent amount of purified plasmid to a manual kit with high quality and low endotoxin levels.

► Transfection with AmMag™ Quatro Purified Plasmid

pTT5-EGFP plasmid was purified using the AmMag™ Quatro solution, followed by transfection into the HEK 293 T cell line. Transfection efficiency was assessed using flow cytometry to detect the expression levels of EGFP.

The test results indicate that the number of cells expressing EGFP following transfection with the plasmid purified using the AmMag™ Quatro system was comparable to those obtained using the manual plasmid purification kit.



AmMag™ Quatro Specifications and Ordering

Instrument Ordering Information

Product	Cat No	Description
AmMag™ Quatro System Controller	D00018	One system controller can control up to 4 automation modules simultaneously.
AmMag™ Quatro Automation Module	D00019	One automated working module can purify up to 6 samples in one run.

Instrument Specification

System	 System Controller	 Automation Purification Module	
Dimensions L×W×H	382 mm × 461 mm × 249 mm	460 mm × 701 mm × 784 mm	
Module Features	Controls up to 4 automation modules, independently	Sample/Reaction Tube	AmMag™ Quatro 50 ml Tubes
		Sample capacity	6 samples per module 24 samples with a 4 module setup
		Reagent storage conditions	Room temperature
		Extraction method	Magnetic bead based
		Plasmid sample size	Solid bacteria pellet mass ≤ 1.5g
Environment	Ambient temperature: 18°C~40°C; Relative humidity: ≤85%; Altitude: ≤2000 m		
Power Supply	Voltage: 100-240 V -- Frequency: 50/60 Hz -- Power Rating: 2000 VA -- Voltage Category: Class II		

Plasmid Extraction Consumables and Reagents

Product	Description	Cat. No.
AmMag™ Quatro Plasmid Purification Kit Maxi 24 prep – Elution: H ₂ O – 24 samples	The kits are individually packaged for a single sample to reduce the possibility of cross-contamination and kit waste.	L00882-24
AmMag™ Quatro Endo-Free Plasmid Purification Kit Maxi 24 prep – Elution: H ₂ O – 24 samples		L01031-24

GenBuilder™

DNA Assembly Cloning Kits

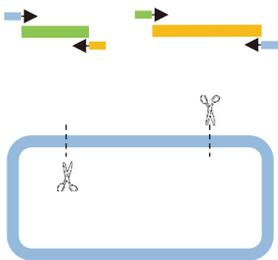


GenScript's GenBuilder™ DNA Assembly kits offer seamless, one-step cloning of 1 to 12 DNA fragments into linearized vectors with the highest efficiency in the industry. These cloning kits can be used for various applications including assembly of single stranded DNA (ssDNA), high throughput cloning, gene mutation, and plasmid library construction.

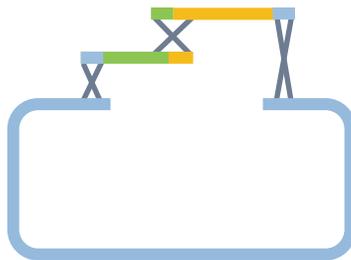
Kit Benefits:

- Robust performance omitting the need to perform PCR fragment purification
- Quick optimized incubation time with the reaction being complete in **15 minutes**
- Consistent and reliable fragment assembly with **90% of successful colonies** being PCR positive
- PCR fragment size cloning flexibility with fragments as large as **8kp**

GenBuilder™ Mechanism of Action



1. Prepare the DNA fragments with 15-bp overlaps and the linearized vector for assembly. No pre-existing recombination sites or helper sequences are required for restriction and ligation process.



2. Add DNA fragments and linearized vectors in the GenBuilder™ master mix. Mix well and incubate at 50 °C for 15-50 minutes.



3. Transform the assembly product into competent cells and plate on selective medium. Obtain colonies containing the assembled DNA which can be confirmed using PCR and/or sequencing.

Benz-Neburase™

GenScript's Benz-Neburase™ is a highly effective, nonspecific and genetically engineered endonuclease which is capable of digesting all forms of DNA and RNA, including double stranded, single stranded, linearized, and circular forms. This endonuclease is commonly used in biopharmaceutical production of vaccines, viral vectors, and gene and cell therapy products.

GenScript offers GMP grade and RUO grade endonuclease that is cost-effective for basic research applications. With the strict quality control procedures, and compliant with ISO9001, ISO13485 and GMP manufacturing guidelines, the GMP products are ideal solutions for pre-clinical and clinical applications

Features

Animal-free Ampicillin-free High-stability GMP Grade

Tested Items	Quality Standard	
	Research	GMP
Appearance	Clear, colorless liquid	Clear, colorless liquid
Specificity Activity	$\geq 1.1 \times 10^6$ U/mg	$\geq 1.1 \times 10^6$ U/mg
Enzyme Activity	≥ 250 U/ μ l	≥ 250 U/ μ l
Purity	SEC-HPLC	NA
	SDS-PAGE	$\geq 95\%$
Endotoxin Level	≤ 0.1 EU/kU	≤ 0.01 EU/kU
HCP Residue	NA	≤ 10 μ g/mg
Protease Activity	NA	Non-detectable
Bioburden	NA	< 1 CFU/ml
Heavy Metal Residue	NA	≤ 10 ppm
Mycoplasma	NA	Negative

Product List

Product	Cat No
Benz-Neburase, His	Z03626
Benz-Neburase, tag-free	Z03695
Benz-Neburase™ GMP, His-tag	Z03627
Benz-Neburase™ GMP, tag free	Z03708
Benz-Neburase™ Nuclease ELISA Kit	L00886

Application Data

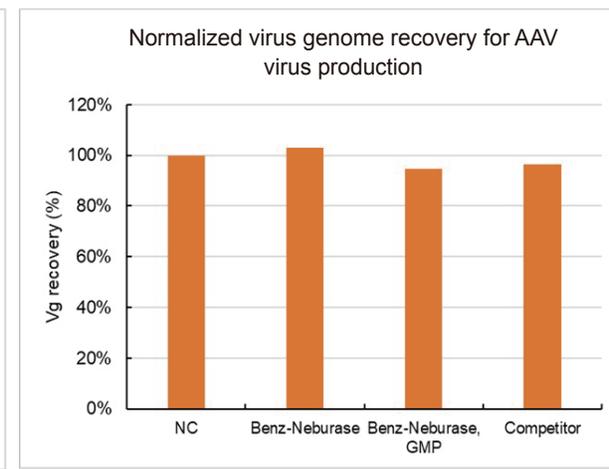
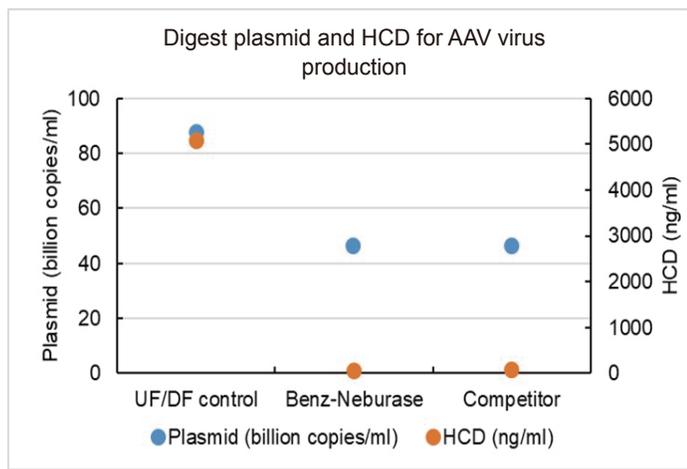
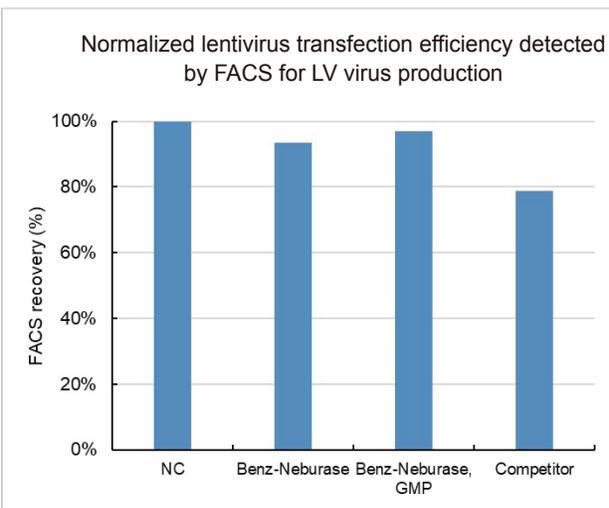
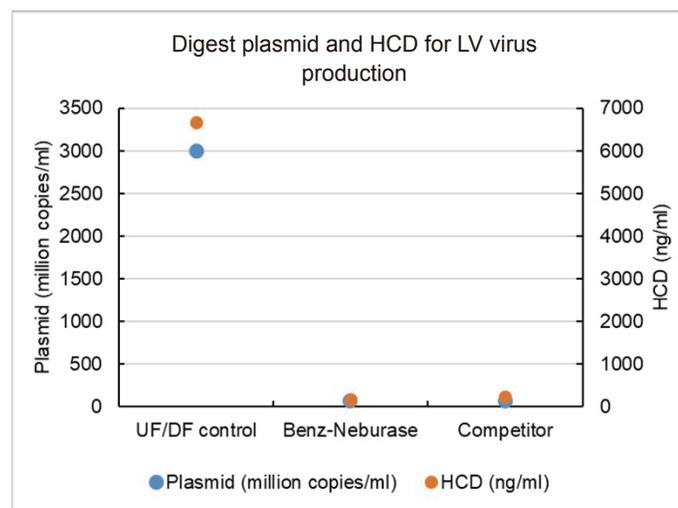
• Reaction conditions for Benz-Neburase

Condition	Optimal*	Effective**
Mg ²⁺	1-2 mM	1-10 mM
pH	8.0-9.2	5.0-11.0
Temperature	37 -45 °C	22-55 °C
Salt ions (Na ⁺)	0-20 mM	0-300 mM
PO ₄ ³⁻	0-10 mM	0-40 mM
Urea	4 M	0-6 M
SDS	SDS inactivates Benz-Neburase in 10 minutes at any concentration	

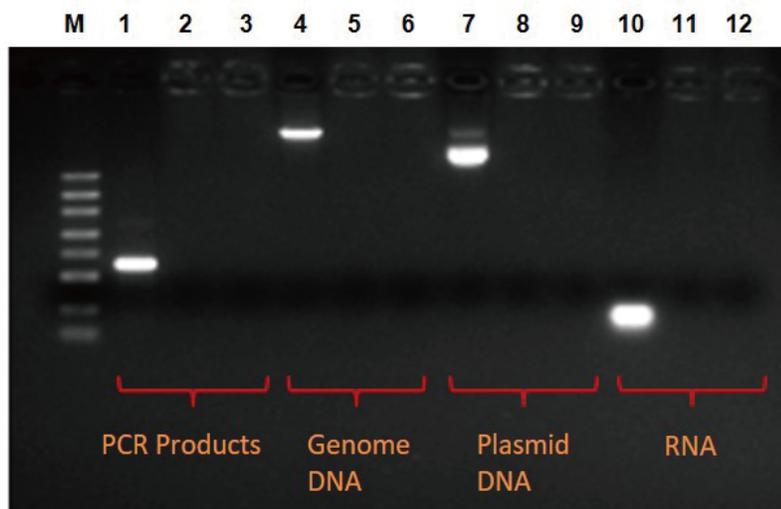
Optimal* conditions are defined when the nuclease retains over 90% of it's activity.

Effective** conditions are defined when the nuclease retains over 15% of it's activity.

• High digestive efficiency and virus recovery rate during virus production



• Digestion of various types of nucleic acids



Lane M: DNA marker
 Lane 1: PCR product
 Lane 2: GenScript
 Lane 3: Competitor
 Lane 4: Genome DNA
 Lane 5: GenScript
 Lane 6: Competitor
 Lane 7: Plasmid DNA
 Lane 8: GenScript
 Lane 9: Competitor
 Lane 10: RNA
 Lane 11: GenScript
 Lane 12: Competitor

Benz-Neburase (U/ml)



• Reduction of the viscosity of bacterial lysate

Product List

Cat No	Product	Application
Z03396	GenCRISPR™ T7 Endonuclease I	Molecular Biology
E00050	M-MuLV Reverse Transcriptase	
Z03092	3C protease, His, Human	Recombinant Protein Production
Z02799	PreScission Protease	
Z03376	Enterokinase (EK), His, Lyophilized, Bovine	
Z03030	TEV Protease, His	
Z03691	SUMO Protease Animal-Free, His	
Z03747	Enterokinase Animal-Free, His, Bovine	
Z03748	3C protease Animal-Free, His	
Z03749	TEV Protease Animal-Free, His	
L00938	Lentivirus Titer p24 ELISA Kit	
L00942	AAV2 Titer Capsid ELISA Kit	
L00944	BSA ELISA Kit	

PCR Reagents

GenScript's high-quality PCR reagents provide laboratories with robust amplification with enhanced specificity, while reducing formation of non-specific products and primer-dimers. The reagents, including Hot-Start DNA polymerase, temperature-stable Green Taq DNA polymerase, M-MuLV reverse transcriptase, and dNTPs, are each extensively tested and optimized to provide the best PCR reaction results.



Product	Description
Green Taq DNA Polymerase	Temperature-stable polymerase ideal for storage and transport at room temperature, or higher. Ideal for amplification of large DNA fragments.
High-Stability PCR Kit	The high stability PCR kit consists of Green Taq DNA polymerase, 10x buffer and stabilized dNTP mix.
M-MuLV Reverse Transcriptase	The M-MuLV Reverse Transcriptase (M-MLV) synthesizes a complementary cDNA strand using RNA as a template (cDNA synthesis).

GenScript PCR Products Benefit Guide

Starting Material	Applications/ Benefits	Taq DNA Polymerase	Hot-Start Taq DNA Polymerase	Green Taq DNA Polymerase	High-Stability PCR Kit	M-MuLV Reverse Transcriptase	dATP	dGTP	dCTP	dGTP
DNA	Standard PCR	✓					✓	✓	✓	✓
	Hot-Start PCR		✓				✓	✓	✓	✓
	Long-fragment PCR (<10 kb)			✓			✓	✓	✓	✓
	Temperature stable taq			✓	✓		✓	✓	✓	✓
	Room temperature reaction setup		✓	✓	✓		✓	✓	✓	✓
	Reduced non-specific amplification		✓				✓	✓	✓	✓
	Reduced primer-dimer formation		✓				✓	✓	✓	✓
RNA	Reverse transcription (cDNA synthesis)					✓	✓	✓	✓	✓

Product List

Category	Cat. No.	Product
Taq DNA Polymerase	E00007	Taq DNA Polymerase
	E00008	Taq DNA Polymerase without Mg ²⁺
	E00012	Taq DNA Polymerase, concentrated
	E00043	Green Taq DNA Polymerase
	E00049	Hot Start Taq DNA Polymerase
	E00101	Taq DNA Polymerase (1000 U) with 10 mM dNTP Mix (0.5 ml)
Anti-Taq DNA Polymerase Antibody	A01849	Hot Start Taq Antibody
Master Mix and PCR Kit	E00019	2X Taq Master Mix
	L00342	High-Stability PCR Kit
Reverse Transcriptase	E00050	M-MuLV Reverse Transcriptase
dNTPs	C01577	dATP (100 mM) ≥99% HPLC
	C01578	dGTP (100 mM) ≥99% HPLC
	C01579	dCTP (100 mM) ≥99% HPLC
	C01580	dTTP (100 mM) ≥99% HPLC
	C01581	dNTP (25 mM each) ≥99% HPLC
	C01582	dNTP (10 mM each) ≥99% HPLC
	C01689	Stabilized dNTP Mix, 10 mM each
	C01717	dUTP (100 mM) ≥99% HPLC
	D0056	dNTP mixture, 10 mM each
Plasmid Vectors	SD1162	pUC18 plasmid DNA
	SD1176	pUC57 plasmid DNA

GenScript's DNA Encoded Chemical Library Kit – GenDECL™

Elevate your chemical biology research and hit discovery with GenScript's GenDECL Kit



In collaboration with a distinguished technology expert boasting over a decade of experience, GenScript proudly presents the GenDECL Kit—a ready-to-use, commercially accessible solution redefining drug discovery efforts.

Built on the foundation of DNA-encoded library (DEL) technology and combinatorial chemistry, the GenDECL Kit encodes chemical molecules with unique, amplifiable DNA barcodes that are pooled into a single tube to be used against a target protein. Scientists can now skip complex chemical library development, synthesis, and analysis, saving time and effort without sacrificing precision or incurring high costs.

Advantages of GenDECL Kit



• Diverse Drug-Like Compound Library

The GenDECL Kit is your gateway to a vast collection of 22 sub-libraries, housing +600 million unique molecules. The molecule constructs are designed to mirror structures that have been recognized in the drug development industry, ensuring comprehensive drug-like coverage for your research.



• Affordable and Accessible

Our kit is a comprehensive package, including the library itself, PCR, NGS (Next-Generation Sequencing), and Hit Analysis. Our experts perform hit analysis to provide you with valuable insights and actionable data. All this comes without restrictive licensing limitations.



• Convenient and Reliable

Screening takes place in a single test tube. This solution seamlessly integrates into your research, using common laboratory equipment.



• Expandable Options

In addition to the essentials, we offer additional add-on services, including protein expression screening and chemical synthesis, providing an extra layer of convenience and expertise, tailored to your unique research needs.

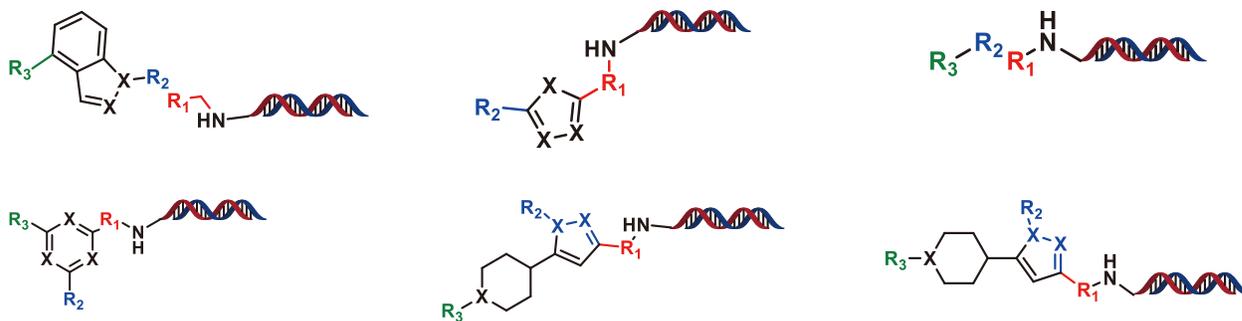


Figure 1. Examples of Library Chemical Structures

Screening can take place in a single test tube

The target protein is immobilized on magnetic beads, followed by incubation with the GenDECL under various incubation conditions. During these different incubation conditions, the ligands will specifically bind to the immobilized protein. Following successful binding, the captured ligands are readily quantified and identified through PCR amplification, using DNA barcoding. The PCR products are DNA sequenced, and the resulting data is prepared for analysis. Subsequently, the hit compound analysis is conducted, and the final report is provided to the scientist.

Workflow

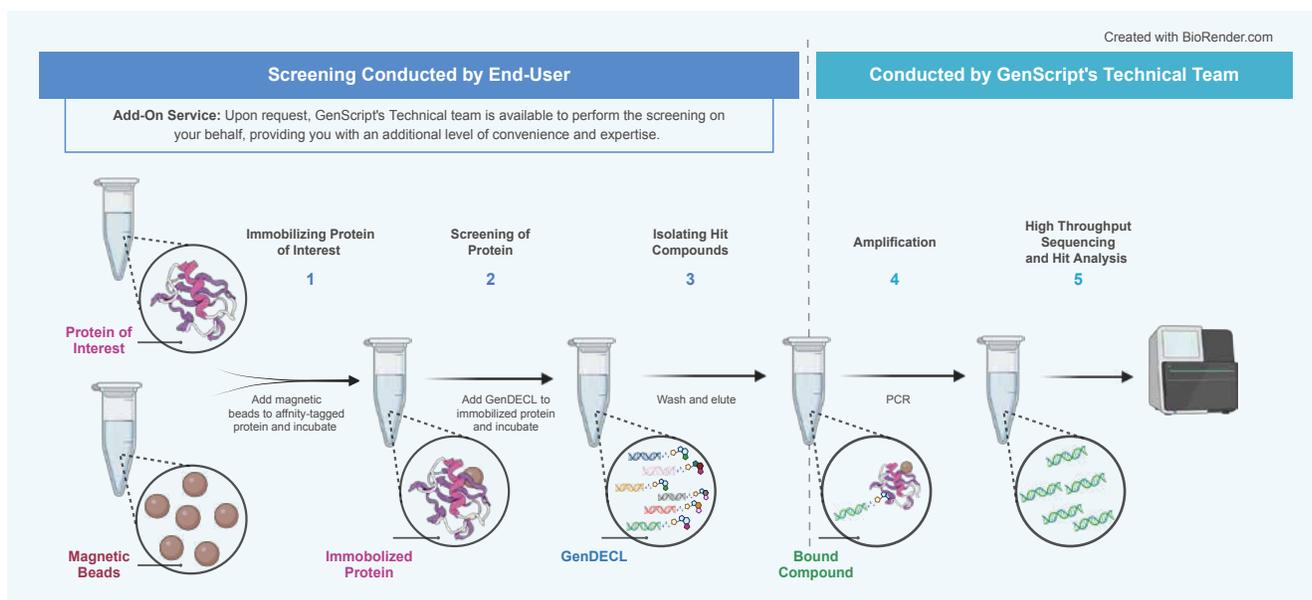


Figure 2. Workflow Overview

The screening workflow of GenDECL against the target protein of interest is outlined, utilizing common laboratory equipment. Steps 1 through 3 are executed by the end-user, while the subsequent steps are conducted by the GenScript technical team.

Optional Add-On Service: Upon request, GenScript's Technical team is available to handle the entire screening process (steps 1 through 3), offering an added level of convenience and expertise.

Chapter 3

Cell and Gene Therapy

- CRISPR Gene Editing
- Cell Therapy
- mRNA Vaccine Development & Manufacturing
- Recombinant Proteins for Cancer Research & Cell Culture

CRISPR/Cas9

Gene Editing Related Products

The simplicity and versatility of CRISPR gene editing technology has revolutionized the field of genome editing by providing researchers with a fast, precise, and cost-effective method for manipulating DNA sequences.

As a leader in the field of gene synthesis and gene editing, GenScript has partnered with Feng Zhang's laboratory at the Broad Institute of MIT and Harvard to offer a wide range of CRISPR gene editing products and services. These include validated GMP and RUO grade Cas9, Cas12a, and Cas13a nuclease products, sgRNA synthesis and HDR donor template synthesis services, and resources to help researchers leverage CRISPR gene editing for basic research and clinical manufacturing.

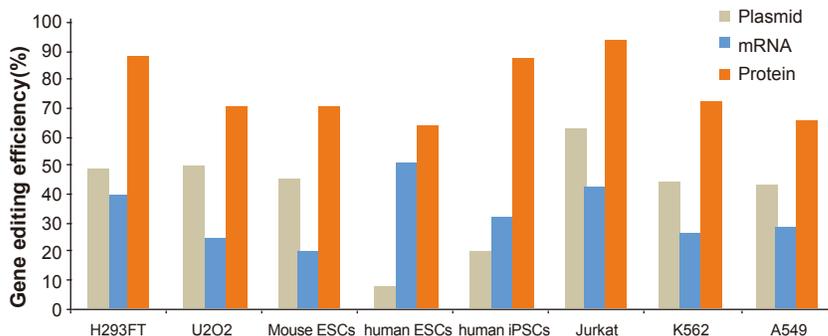
GenScript's CRISPR products and services are of high quality, and they can be customized to meet the specific needs of individual researchers.



Advantages

The CRISPR/Cas9 nucleases enable CRISPR gene editing with high knockout and knock-in, up-regulating and down-regulating efficiency and mutations at any gene loci in all cell types. Compared to Cas9 plasmid and Cas9 mRNA, Cas9 nuclease has higher editing efficiency.

- Non-viral delivery: gene integration risk free
- DNA free: bypass transcription and translation
- Fast editing and degradation
- High editing efficiency
- Low off-target effects
- Low cytotoxicity and immunogenicity



X. Liang et al. Journal of Biotechnology 208 (2015) 44–53

Simple Steps



GenCRISPR™ Ultra Cas9 Nucleases

GMP Cas9 with Ultra Performance

With CRISPR gene editing involved applications moving from basic research to clinical manufacturing, high-quality raw materials and complete documentation are becoming more essential. GMP Grade GenCRISPR™ Ultra SpCas9 and eSpCas9 Nucleases are manufactured under the relevant guidelines for Good Manufacturing Practice (GMP), including but not limited to aseptic manufacturing, traceable documentation, and stringent testing.

GenCRISPR™ Ultra Cas9

Type	Construct Design	Cat No	Product	Recommended Application
SpCas9 Nuclease		Z03621	GenCRISPR™ Ultra NLS-Cas9-Research	Gene knockout or knock-in with high editing efficiency
		Z03623-GMP	GenCRISPR™ Ultra NLS-Cas9-GMP	
eSpCas9 Nuclease		Z03622	GenCRISPR™ Ultra eSpCas9-2NLS-Research	Gene Knockout or Knock-in with low off-target effects
		Z03624-GMP	GenCRISPR™ Ultra eSpCas9-2NLS-GMP	

Features

- Consistent high knockout and knock-in efficiency
- High lot-to-lot consistency
- Ultra high stability
- Stringent specifications

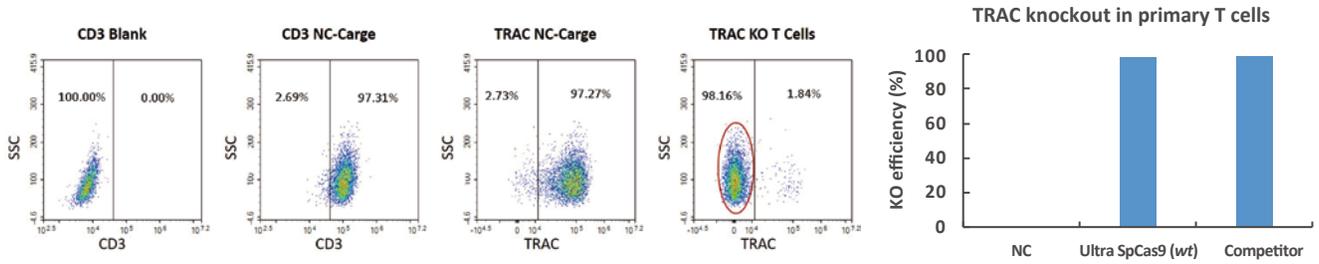
- Low endotoxin level
- Controlled residue
- Controlled microbes
- GMP manufacturing compliance
- Traceable process and documentation
- IND and BLA support: DMF filed

Quality Standard

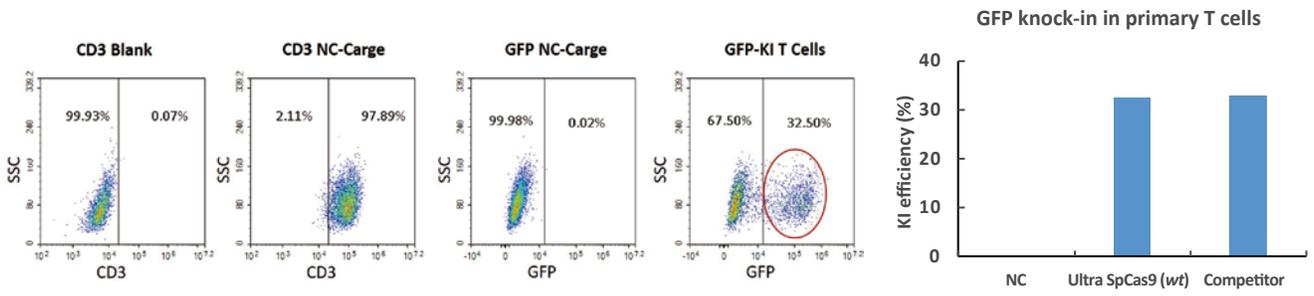
Assay	GMP Cas9	RUO Cas9
Concentration	10.0 mg/ml±10%	10.0 mg/ml±10%
Appearance	Clear, colorless liquid	Clear, colorless liquid
Purity	SDS-PAGE	≥ 95 %
	SEC-HPLC	≥ 95 %
Activity	≥ 90 % (SpCas9) ; ≥ 85 % (eSpCas9)	≥ 90 % (SpCas9) ; ≥ 85 % (eSpCas9)
Endotoxin	< 10 EU/mg	< 10 EU/mg
Residual DNase	≤ 10 ng/mg	Non-detectable ; Qualitative Method
Residual RNase	≤ 1 ng/mg	Non-detectable ; Qualitative Method
Residual HCP	< 10 ng/mg	/
Residual HCDNA	≤ 1 ng/mg	/
Mycoplasma	< LOD	/
Sterility	Sterile	/

Application Data

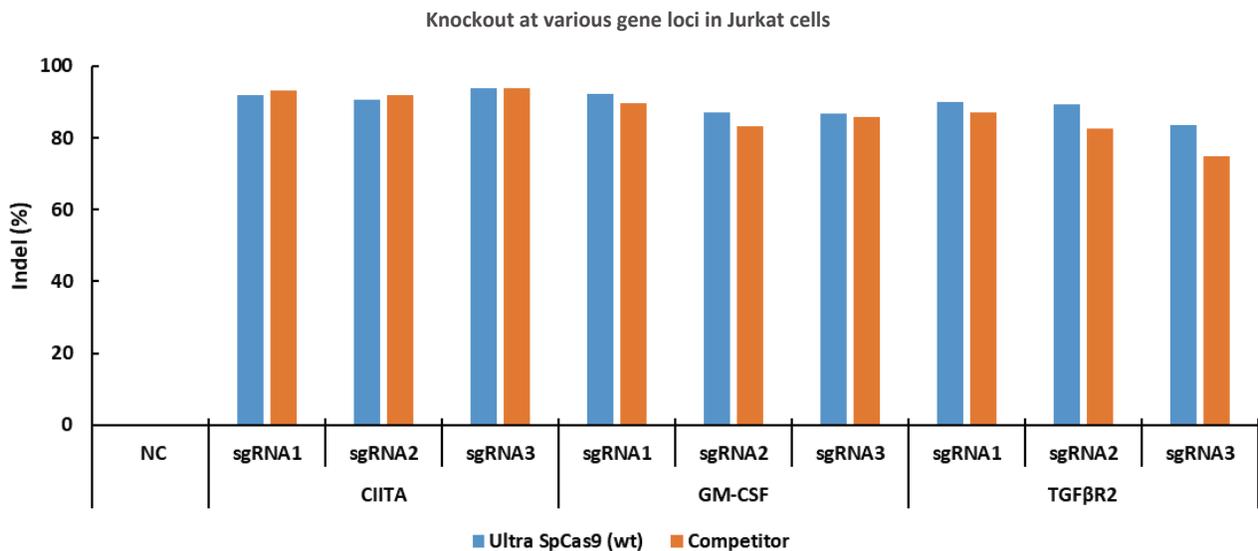
- High functional knockout efficiency in primary T cells



- High functional knock-in efficiency in primary T cells

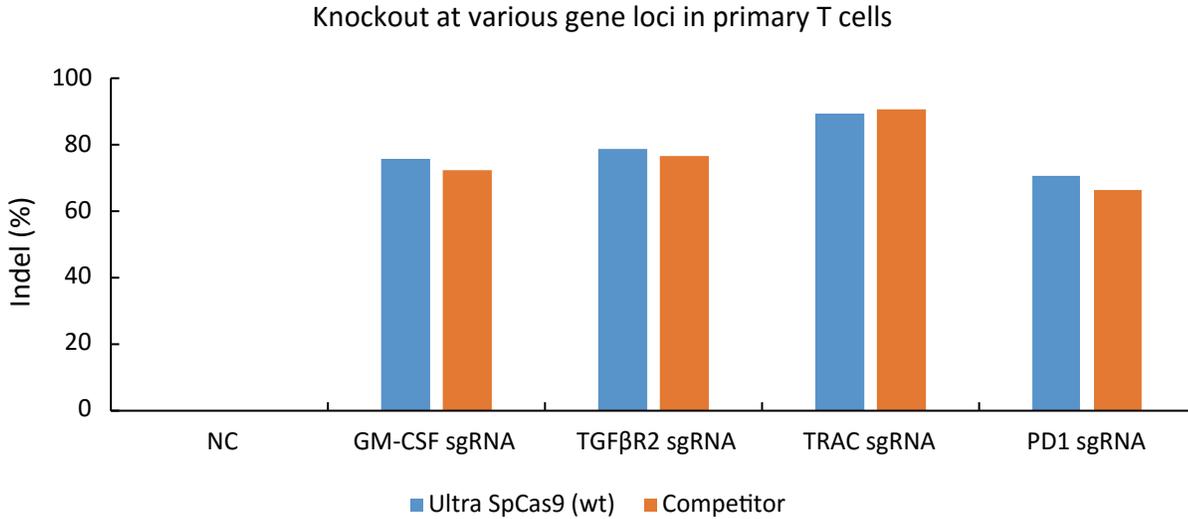


- High knockout efficiency at various gene loci in cell lines



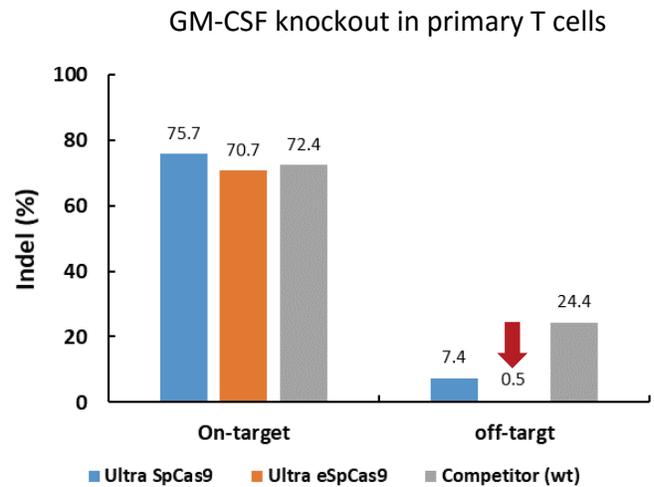
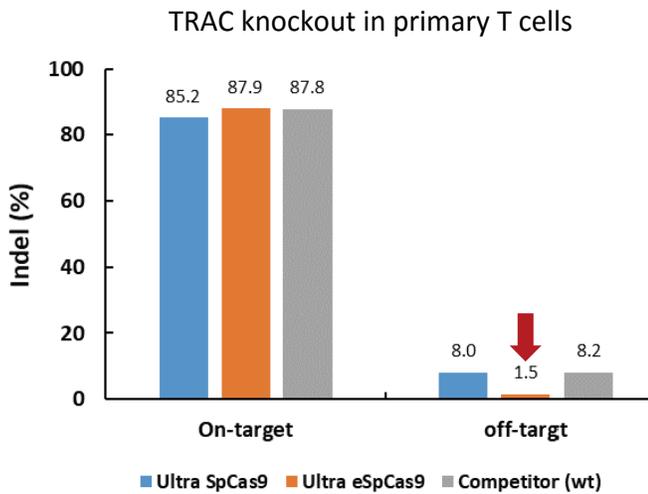
Application Data

- High knockout efficiency at various gene loci in primary T cells

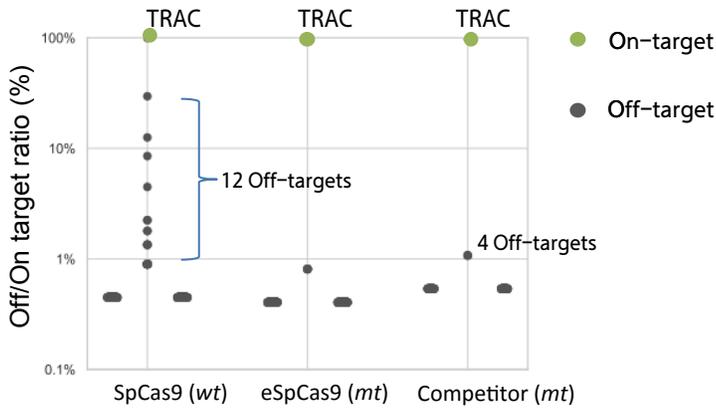


GenScript Ultra eSpCas9 is a mutant of Cas9 with enhanced specificity from *Streptococcus pyogenes*, which is ideal for CRISPR gene editing applications that require low off-target effects and robust on-target cleavage.

- Enhanced specificity of GenScript Ultra eSpCas9



• **Enhanced specificity of GenScript Ultra eSpCas9**



Off-target probability in different scales:

- **> 1%**
 - 12 off-targets using SpCas9 (wt)
 - 4 off-targets using Competitor (mt)
 - 0 off-targets using eSpCas9 (mt)
- **> 10%**
 - 2 off-targets using SpCas9 (wt)
 - 0 off-targets using Competitor (mt)
 - 0 off-targets using eSpCas9 (mt)

Selection Guide

Applications	Recommendations	Cat. No.	Product Names
Gene KO/KI with high editing efficiency	Ultra SpCas9 (wt)	Z03621	GenCRISPR™ Ultra NLS-Cas9-Research
		Z03623	GenCRISPR™ Ultra NLS-Cas9-basic GMP
		Z03623-GMP	GenCRISPR™ Ultra NLS-Cas9-GMP
Gene KO/KI with low off-target effects	Ultra eSpCas9 (mt)	Z03622	GenCRISPR™ Ultra eSpCas9-2NLS-Research
		Z03624	GenCRISPR™ Ultra eSpCas9-2NLS-basic GMP
		Z03624-GMP	GenCRISPR™ Ultra eSpCas9-2NLS-GMP
Gene KI with high KI efficiency	SpCas9 Nickase	Z03390	GenCrispr NLS-Cas9-D10A Nickase
		Z03701	GenCRISPR™ Cas9 v1.1
		Z03702	GenCRISPR™ Cas9 v1.2
Gene KO/KI following with flow cytometry or other fluorescent assays	SpCas9 with optimized NLS	GMPZ03702	GenCRISPR™ Cas9 v1.2-GMP
		Z03393	GenCrispr NLS-Cas9-EGFP Nuclease
		Z03467	GenCrispr NLS-Cas9-EGFP Nuclease
Gene KO/KI with lower MW Cas nucleases	SpCas9	Z03502	GenCRISPR™ Cas12a (Cpf1) Nuclease
		Z03699	GenCRISPR™ SaCas9 2NLS Nuclease
		Z03486	GenCRISPR™ Cas13a (C2c2) Nuclease
In vitro Diagnostics	LbuCas13a	Z03742	GenCRISPR™ LbuCas13a Nuclease
		Z03502	GenCRISPR™ Cas12a (Cpf1) Nuclease
		Z03753	GenCRISPR™ LbCas12a Nuclease
		Z03753	GenCRISPR™ LbCas12a Nuclease
Gene Editing Analysis and sgRNA Screening	T7EI-based	L00688	GenCRISPR™ Mutation Detection Kit
		L00689	GenCRISPR™ sgRNA Screening Kit
		L00694	GenCRISPR™ sgRNA Synthesis Kit
Cas9 Determination	Anti-Cas9 Antibodies	A01885	GenCRISPR™ Cas9 Antibody, pAb, Rabbit
		A01951	GenCRISPR™ SaCas9 Antibody (11C12), mAb, Mouse
		A01935	GenCRISPR™ SpCas9 Antibody (4A1), mAb, Mouse
		A01952	GenCRISPR™ SaCas9 Antibody (26H10), mAb, Mouse
		A01936	GenCRISPR™ SpCas9 Antibody (14B6), mAb, Mouse

CytoSinct™ Cell Isolation Solutions

GenScript a pioneer in the GCT (Gene and Cell Therapy) industry has established a strong technical foundation with extensive experience in antibody and magnetic bead development.

GenScript offers a wide range of reagents, accessories, and system solutions for automated and manual cell isolation from human cells. These products are designed to be highly specific, efficient, and reliable, allowing researchers to isolate cells of interest with high purity and yield.



CytoSinct™ 1000 Isolation System

CytoSinct™ 1000 cell isolation system is an automated, easy to use, highly efficient isolation or depletion solution for human cells. Based on magnetic separation technology, scientists are now able to complete the enrichment or depletion of targeted cells in a completely closed and sterile environment.

The isolation can be done by installing the ready-to- use guided tubes and setting up the parameters in the system. The whole process is safe and efficient while ensuring high purity, recovery rate and viability of targeted cells after isolation.

CytoSinct™ Magnetic Rack

CytoSinct™ Nanobeads



Advantages

- Advanced performance: high purity and recovery rate
- Safety: biodegradable ~100nm nanobeads
- Availability of customization: meeting various application needs
- Highly quality standard: RUO and GMP grade
- Easy to use: no additional removal step required

CytoSinct™ Column and Magnetic Separator

CytoSinct™ M1 Magnet



CytoSinct™ M8 Magnet



CytoSinct™ gStand



CytoSinct™ L1 Magnet



CytoSinct™ L4 Magnet



CytoSinct™ gL & gM Columns



Advantages

- Innovative anti-clogging structure
- Compatible with beads from other vendors
- High purity, recovery, and viability of cells after separation

Features

- High recovery & fast isolation
- Flexible throughput (single/multi-channel)

Case Study

Highly efficient CD4⁺ and CD8⁺ T cell isolation from PBMCs

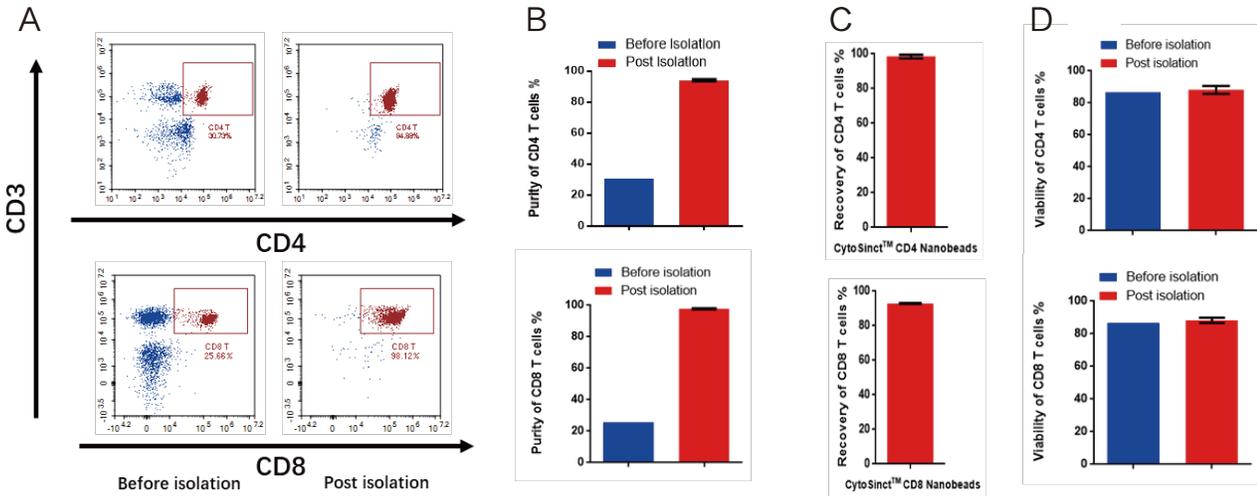


Figure 1. PBMCs were isolated using CytoSinct™ CD4 Nanobeads (Cat L00863) and CytoSinct™ CD8 Nanobeads (Cat L00864). The test data show the isolated cells have high purity (A,B), recovery (C) and viability (D).

CytoSinct™ Nanobeads isolate target cells efficiently with high purity and recovery

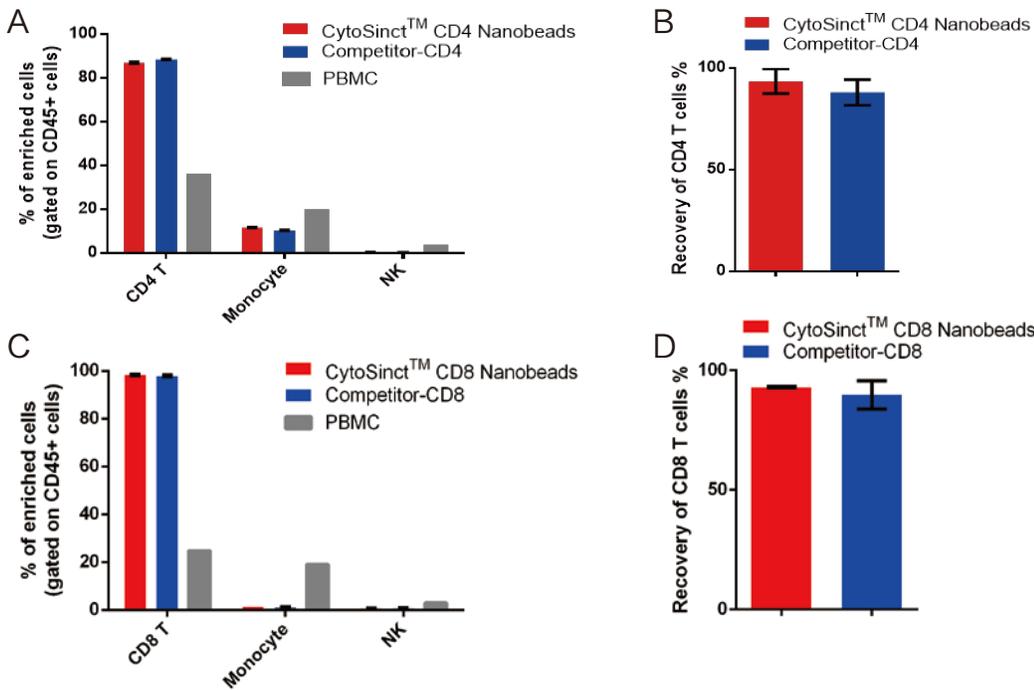


Figure 2. The subpopulation phenotype of post-isolation cells is crucial for functional and phenotypic studies. Non-T subpopulations, such as monocytes and NK cells, could significantly impact the efficacy of T cells, as well as therapeutic CAR-T and TCR-T generated from the enrichment process. GenScript CytoSinct™ NanoBeads for CD4 and CD8 T cell isolation can efficiently minimize the non-T cell composition in the enriched population.

T cell Isolation from Apheresis

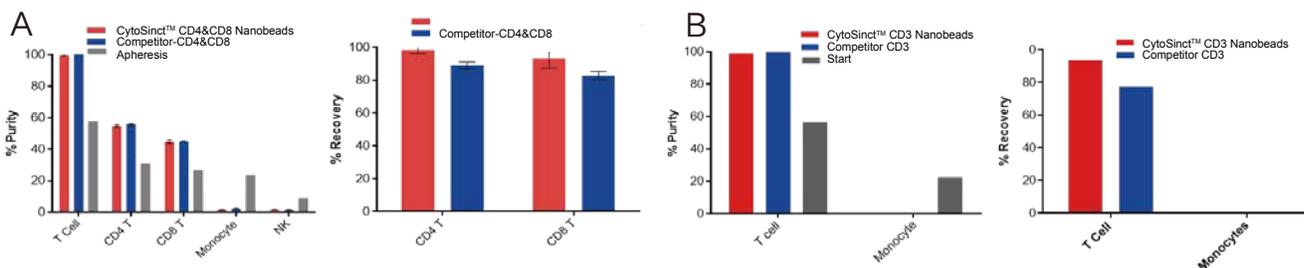


Figure 3. Representative data comparing T cells isolation from leukopheresis samples using GenScript CytoSinct™ Nanobeads and competitor products.

(A), Shows comparison of pre and post isolation data, purity, recovery, and viability for co-isolation of CD4 and CD8 T cell from apheresis using CytoSinct™ CD4 + CytoSinct™ CD8 and competitor reagent.

(B), Shows comparison of pre and post isolation data, purity, recovery, and viability. CD3 T cell from apheresis using CytoSinct™ CD3 and competitor reagent.

The isolation of T cells using CytoSinct™ Nanobeads results in a high purity and recovery rate, which is crucial for downstream applications

NK Cell Isolation

CytoSinct™ CD3 and CD56 Nanobeads: the high purity of NK cells

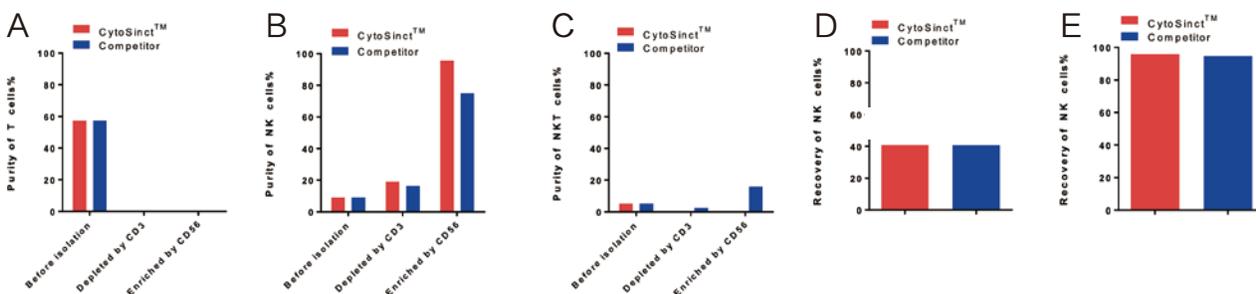


Figure 4. CytoSinct™ CD3 Nanobeads, human (L00896) and CytoSinct™ CD56 Nanobeads, human (L00903) and competitor CD3 & CD56 magnetic beads were used to deplete CD3 positive cells and enrich CD56 positive cells in PBMCs (original cells: 1×10^7) respectively. Cell population after CD3 depletion, and CD56 enrichment were monitored. Percentage of T cells (A), NKT cells (B), NK cells (C) were as shown. Recovery of NK cells among whole separation process (D) and recovery of NK cells among CD56 enrichment (E) were shown.

Enceed™ T cell Activation

High expansion folds

Low differentiation state

High viability

No beads removal

GMP grade available

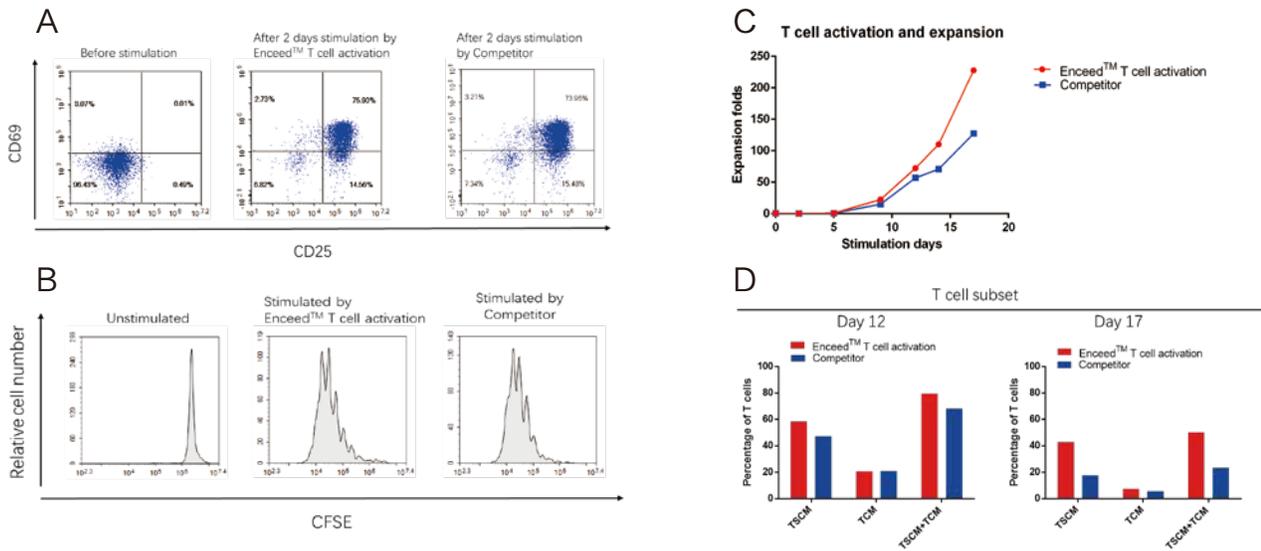


Figure 5. (A), To activate and expand 5×10^6 T cells, Enceed™ T cell activation beads and competitor T cell activation beads were used in TexMACS medium, respectively. The T cells were enriched with CD4 and CD8 nanobeads.

(B), Prior to activation, T cells were stained with CFSE. After 7 days of activation, CFSE signal was detected to determine the expansion status of T cells.

(C), On day 17, the number of activated T cells was assessed, and Enceed™ T cell activation resulted in a nearly 250-fold expansion.

(D), T cell subtypes were analyzed on days 12 and 17 post-activation.

Cell Therapy Product List

CytoSinct™ Isolation & Enceed™ Activation Nanobeads

Cat.No	Name	Size	Capability
L00863	CytoSinct™ CD4 Nanobeads, human	1 mL/0.5 mL	Up to 1×10 ⁹ /5×10 ⁸ total MNCs
L00864	CytoSinct™ CD8 Nanobeads, human	1 mL/0.5 mL	Up to 1×10 ⁹ /5×10 ⁸ total MNCs
L00896	CytoSinct™ CD3 Nanobeads, human	1 mL/0.5 mL	Up to 1×10 ⁹ /5×10 ⁸ total MNCs
L00897-7.5	CytoSinct™ TCR αβ Nanobeads, human	7.5 mL	Up to 2×10 ¹⁰ total MNCs
L00898	CytoSinct™ Streptavidin Nanobeads	1 mL/0.5 mL	Up to 1×10 ⁹ /5×10 ⁸ total MNCs
L00899	Enceed™ T cell Activation, human	1 mL/0.5 mL	Up to 2×10 ⁹ /1×10 ⁸ T cells
L00903	CytoSinct™ CD56 Nanobeads, human	1 mL/0.5 mL	Up to 1×10 ⁹ /5×10 ⁸ total MNCs
L00956	CytoSinct™ CD14 Nanobeads, human	1 mL	Up to 1×10 ⁹ total MNCs
L00957	CytoSinct™ CD19 Nanobeads, human	1 mL	Up to 1×10 ⁹ total MNCs
L00958	CytoSinct™ CD25 Nanobeads, human	1 mL	Up to 1×10 ⁹ total MNCs
L00967-1	CytoSinct™ CD34 Nanobeads, human	1 mL	Up to 1×10 ⁹ total MNCs

GMP Grade Nanobeads

Cat.No	Name	Size	Capability
L00932	CytoSinct™ CD4 Nanobeads, human (GMP)	2.5 mL/7.5 mL	Up to 1.33×10 ¹⁰ /4×10 ¹⁰ total MNCs
L00933	CytoSinct™ CD8 Nanobeads, human (GMP)	2.5 mL/7.5 mL	Up to 1.33×10 ¹⁰ /4×10 ¹⁰ total MNCs
L00934	CytoSinct™ CD3 Nanobeads, human (GMP)	7.5 mL	Up to 4×10 ¹⁰ total MNCs
L00935	Enceed™ T cell Activation, human (GMP)	4 mL	Up to 2×10 ⁸ T cells
L00948	CytoSinct™ CD34 NanoBeads, human (GMP)	7.5mL	Up to 4×10 ¹⁰ total MNCs
L00949	CytoSinct™ CD56 NanoBeads, human (GMP)	7.5mL	Up to 4×10 ¹⁰ total MNCs
L00952	CytoSinct™ TCR αβ Nanobeads, human (GMP)	7.5mL	Up to 2×10 ¹⁰ total MNCs

Consumables and Instruments

Cat.No	Name	Size	Capability
D00006	CytoSinct™ gStand	1 pc	Compatible with all CytoSinct™ Magnets
D00007	CytoSinct™ gM columns	25 pc	Up to 2×10 ⁸ total cells (each column)
D00008	CytoSinct™ gL columns	25 pc	Up to 2×10 ⁹ total cells (each column)
D00009	CytoSinct™ M1 magnet	1 pc	Holds 1 CytoSinct™ gM column
D00010	CytoSinct™ M8 magnet	1 pc	Holds 8 CytoSinct™ gM columns
D00011	CytoSinct™ L1 magnet	1 pc	Holds 1 CytoSinct™ gL column
D00012	CytoSinct™ L4 magnet	1 pc	Holds 4 CytoSinct™ gL columns
D00023	CytoSinct™ 1000	1 unit	Compatible with all CytoSinct™ 1000 tubing set products
D00029	CytoSinct™ 1000 Tubing Set	1 set	Up to 6×10 ¹⁰ total cells
D00030	CytoSinct™ 1000 LS Tubing Set	1 set	Up to 1.2×10 ¹¹ total cells
D00031	CytoSinct™ 1000 Depletion Tubing Set	1 set	Up to 1.2×10 ¹¹ total cells

Cas Nuclease Recommendation

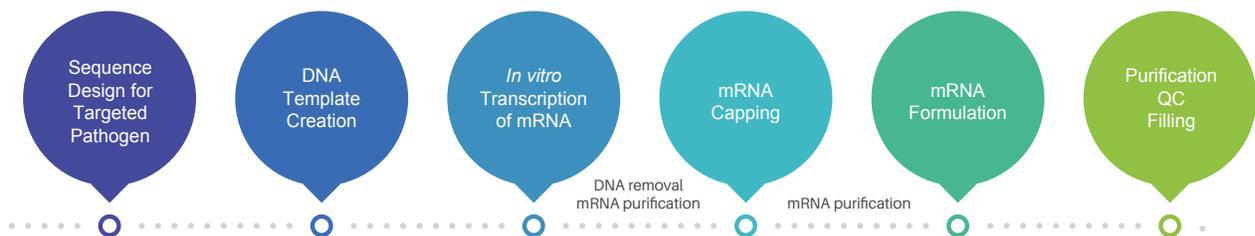
Applications	Recommendations	Cat. No.	Product Names
Gene KO/KI with high editing efficiency	Ultra SpCas9 (<i>wt</i>)	Z03621	GenCRISPR™ Ultra NLS-Cas9-Research
		Z03623	GenCRISPR™ Ultra NLS-Cas9- basic GMP
		Z03623-GMP	GenCRISPR™ Ultra NLS-Cas9-GMP
Gene KO/KI with low off-target effects	Ultra eSpCas9 (<i>mt</i>)	Z03622	GenCRISPR™ Ultra eSpCas9-2NLS-Research
		Z03624	GenCRISPR™ Ultra eSpCas9-2NLS-basic GMP
	SpCas9 Nickase	Z03624-GMP	GenCRISPR™ Ultra eSpCas9-2NLS-GMP
		Z03390	GenCrispr NLS-Cas9-D10A Nickase
Gene KI with high KI efficiency	SpCas9 with optimized NLS	Z03701	GenCRISPR™ Cas9 v1.1
		Z03702	GenCRISPR™ Cas9 v1.2
		GMPZ03702	GenCRISPR™ Cas9 v1.2-GMP
Gene KO/KI following with flow cytometry or other fluorescent assays	SpCas9-eGFP fusion protein	Z03393	GenCrispr NLS-Cas9-EGFP Nuclease
		Z03467	
Gene KO/KI with lower MW Cas nucleases	AsCas12a	Z03502	GenCRISPR™ Cas12a (Cpf1) Nuclease
	SaCas9	Z03699	GenCRISPR™ SaCas9 2NLS Nuclease
<i>in vitro</i> Diagnostics	LwaCas13a	Z03486	GenCRISPR™ Cas13a (C2c2) Nuclease
	LbuCas13a	Z03742	GenCRISPR™ LbuCas13a Nuclease
	AsCas12a	Z03502	GenCRISPR™ Cas12a (Cpf1) Nuclease
	LbCas12a	Z03753	GenCRISPR™ LbCas12a Nuclease

mRNA Vaccine Development & Manufacturing

GMP grade **Animal-free** **Ampicillin-free**

The mRNA vaccines for COVID-19 provide a new opportunity for the pandemic, so the research and development of mRNA vaccines against COVID-19 are thus of high priority. With our ISO13485 quality system and GMP manufacturing capability, GenScript offers RUO and GMP grade raw materials to support the mRNA vaccine and drug development from preclinical to clinical research and commercialization.

mRNA Vaccine Production Process



One Stop Solution for mRNA Synthesis & Modification



DNATemplate Creation	mRNA IVT	mRNA Capping
DNA Polymerase	T7 RNA Polymerase	Vaccinia Capping Enzyme
dNTP Mix	NTPs, pseudo UTP, 5-OMe-UTP, N1-Me-pseudo UTP	2'-O-Methyltransferase
Bsal	RNase Inhibitor	GTP
GeneBuilder™ Cloning kit	RNase Inhibitor	SAM
	Inorganic Pyrophosphatase	
	DNase I	

T7 High Yield RNA in-vitro Synthesis Kit	T7 in-vitro Transcription with Enzymatic Capping Kit
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Features

- High purity and activity
- High transcription yield
- Validated for long fragment transcription
- High capping efficiency and integrity

- Low endotoxin level
- Controlled residue
- Controlled microbes
- ISO13485 Certified
- GMP manufacturing compliance
- Traceable process and documentation

Product List

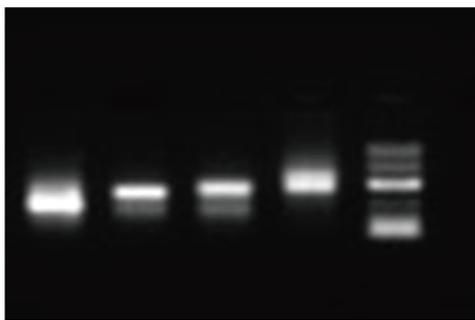
Cat No	Product	Application
E00049	Hot Start Taq DNA polymerase	DNA Template Creation
A01849	Hot Start Taq Antibody	
C01689	Stabilized dNTP Mix, 10 mM each	
E00064	Bsal	
L00744	GenBuilder™ Plus Cloning Kit	mRNA IVT
C01731	NTP Mix (10 mM each, Nuclease free)	
C01732	pseudo UTP, 100 mM solution	
C01733	5-OMe-UTP, 100 mM solution	
C01734	N1-Me-pUTP, 100 mM solution	
E00066	T7 RNA Polymerase	
E00053	DNase I	
E00071	Inorganic Pyrophosphatase	mRNA Capping
E00070	RNase Inhibitor	
E00068	Vaccinia Capping Enzyme	
E00069	2'-O-Methyltransferase	
C01735	GTP, 100 mM solution	
C01736	S-adenosylmethionine (SAM), 32 mM	

Application Data

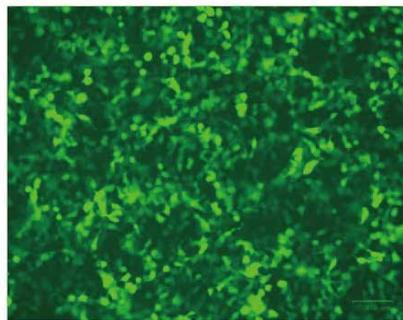
T7 RNA Polymerase

- Long fragment transcription
- High yield of protein expression

1 kb 3 kb 5 kb 10 kb M



GenScript T7 RNA Polymerase

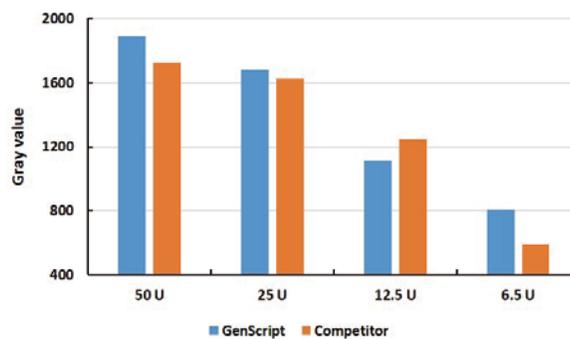
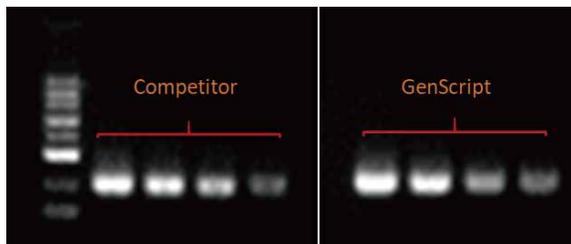


Negative Control

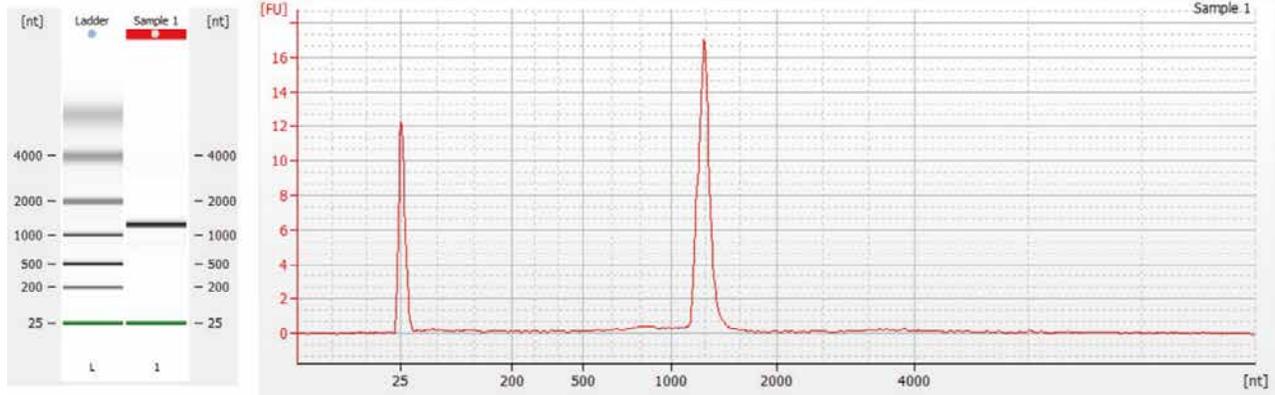


- High yield of mRNA at tiny amount of T7 RNA polymerase

50 U 25 U 12.5 U 6.25 U 50 U 25 U 12.5 U 6.25 U



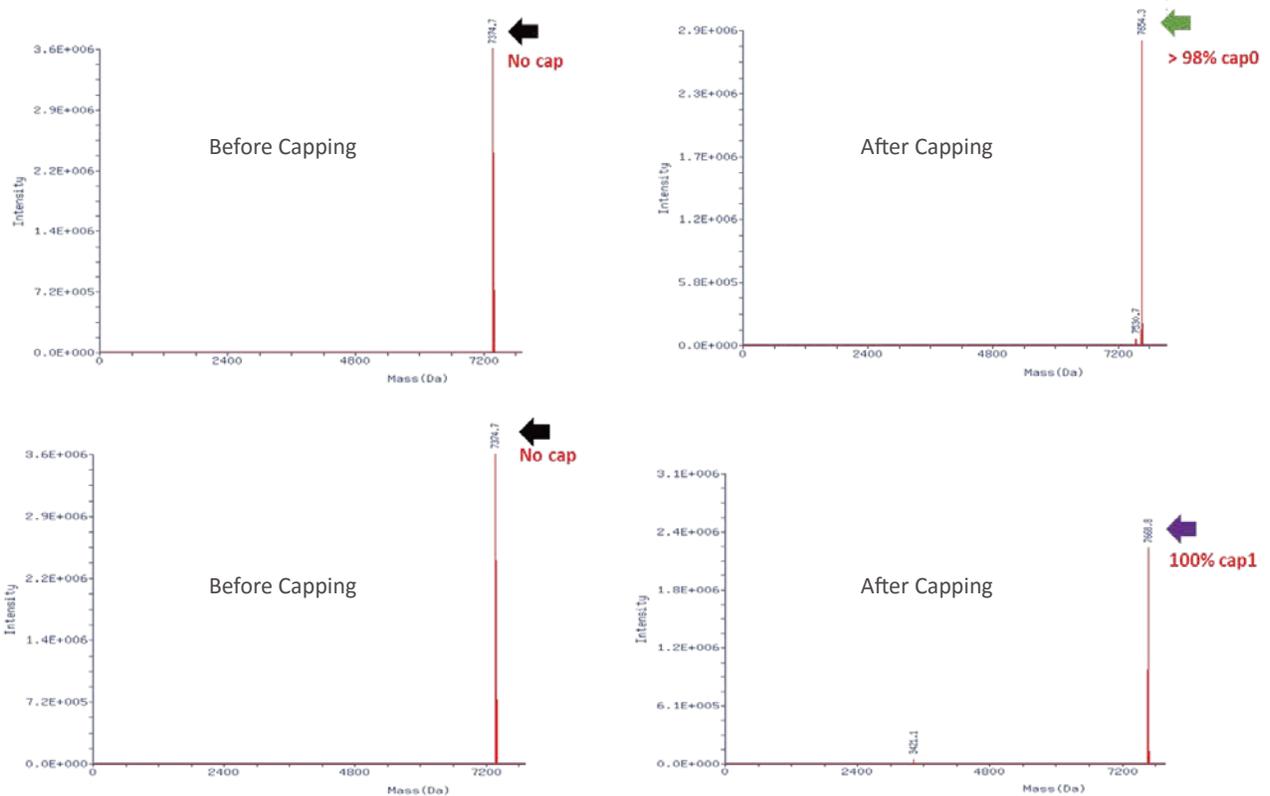
• High integrity



* Sample 1: IVT mRNA (no cap)
 Yield: 1 µg of DNA template can generate > 180 µg of RNA

Vaccinia Capping Enzyme & 2'-O-Methyltransferase

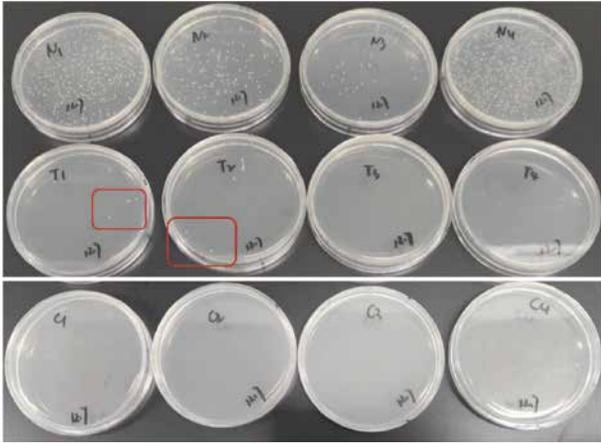
• High capping efficiency



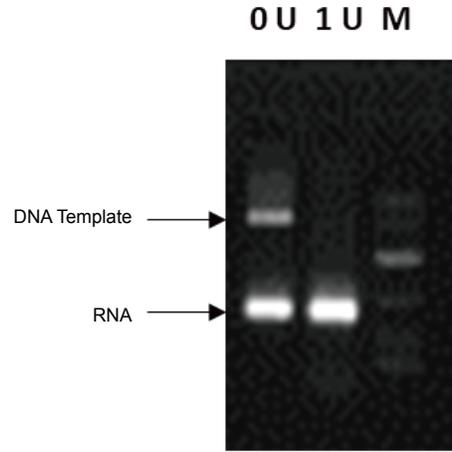
The capping efficiency is measured by mass spectrometry. Data showed that GenScript Vaccinia Capping Enzyme (Cap 0) caps > 98% of the RNA sample (above) and GenScript 2'-O-Methyltransferase (Cap1) caps 100% of the RNA sample (below).

DNase I

- High digestion activity for plasmids

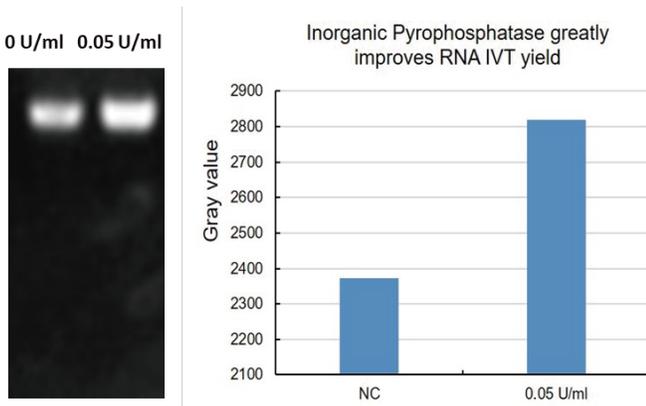


- Removal of DNA template for in vitro transcribed RNA



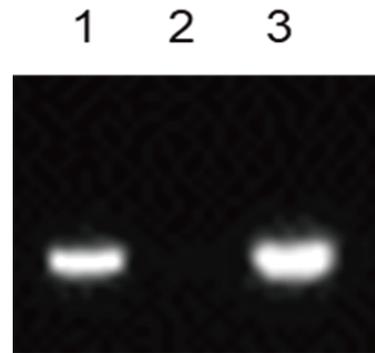
Inorganic Pyrophosphatase

- High activity in improving IVT RNA yield



RNase Inhibitor

- High activity in blocking RNase activity



Lane 1: IVT RNA + RNase + RNase Inhibitor
 Lane 2: IVT RNA + RNase
 Lane 3: IVT RNA

Recombinant Proteins for Cancer Research & Cell Culture

As the industry leader with over a decade of experience in recombinant protein development and production, GenScript has developed a comprehensive expression platform, including mammalian cells (CHO and HEK 293), insect cells, yeast, and *E. coli*, for high-quality cytokines, growth factors, chemokines, and tumor-specific target proteins production.

Applications:

- Antibody preparation
- Cell culture
- Functional research
- Additives
- Drug discovery

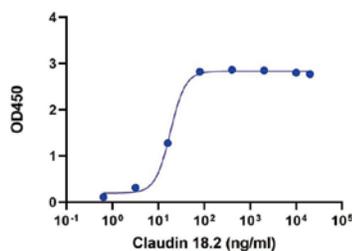
Features:

- High purity
- High bioactivity
- Low endotoxin level
- High stability
- Customized products (additional tests, conjugation etc.)

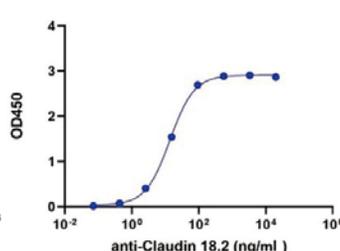
Application #1 Oncology Research and Cancer Study

• Claudin 18.2 (CLDN18.2)

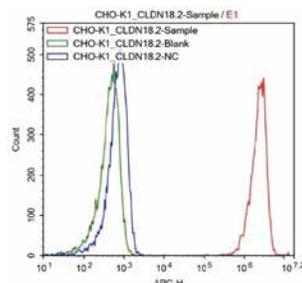
Claudin 18.2, a quadruple transmembrane protein, is extremely difficult to express and purify with full length protein. GenScript offers recombinant full length CLDN18.2 protein (Cat. No. Z03709) that is validated and has high bioactivity and stability. GenScript also provides CLDN18.2 Stable Cell Line (CHO-K1 and HEK 293) for overexpression



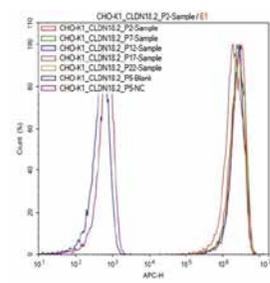
High binding affinity between CLDN18.2, hFc, Human (Cat. No.: Z03709) and anti-CLDN18.2 antibody tested by ELISA.
ED50=17.60 ng/ml



High binding affinity between CLDN18.2, His, Human (Cat. No.: Z03504) and anti-CLDN18.2 antibody tested by ELISA.
ED50=13.75 ng/ml



Protein expression of CHO-K1/CLDN18.2 cell line tested by FACS.
Experiment group: anti-CLDN18.2 antibody treatment (red line)
Blank control: no treatment (green line)
Negative control: Goat anti-human IgG (H+L) antibody treatment (blue line)



Propagating stability of CHO-K1/CLDN18.2 cell line tested by FACS.
Experiment groups: anti-CLDN18.2 antibody treatment of cells with different passages
Blank control: no treatment (blue line)
Negative control: goat anti-human IgG (H+L) antibody treatment (purple line)

Popular Target Proteins

Cat No	Product	Size
Z03709	CLDN18.2, hFc, Human	100 µg, 1 mg
Z03504	CLDN18.2, His, Human	100 µg, 1 mg
Z02731	BCMA, Human	100 µg, 1 mg
Z03407	CD19, hFc, Human	100 µg, 1 mg
Z03642	CD30, His, Human	100 µg, 1 mg
Z03373	CTLA-4, hFc, Human	100 µg, 1 mg
Z03454	DNAM-1/CD226, hFc, Human	100 µg, 1 mg
Z03194	EGFR, His, Human	100 µg, 1 mg
Z03546	FGF-R2β, Human	100 µg, 1 mg
Z03412	ICOS, hFc, Human	100 µg, 1 mg
Z03597	KRAS, His, Human (G12C)	100 µg, 1 mg
Z03422	LAG-3/CD223, hFc, Human	100 µg, 1 mg
Z03560	LIGHT, Human	100 µg, 1 mg
Z03370	PD-1, hFc, Human	100 µg, 1 mg
Z03424	PD-1, His, Human	100 µg, 1 mg
Z03371	PD-L1, hFc, Human	100 µg, 1 mg
Z03384	PD-L1, hFc, Mouse	100 µg, 1 mg
Z03564	PSMA, hFc, Human	100 µg, 1 mg
Z03563	PSMA, His, Human	100 µg, 1 mg
Z03365	VEGF R1/Flt1, Human	100 µg, 1 mg
Z03366	VEGF R2/KDR, Human	100 µg, 1 mg
Z03555	VEGF-R2, hFc, Mouse	100 µg, 1 mg
Z03442	VISTA/B7-H5, hFc, Human	100 µg, 1 mg
Z03428	VISTA/B7-H5, His, Human	100 µg, 1 mg

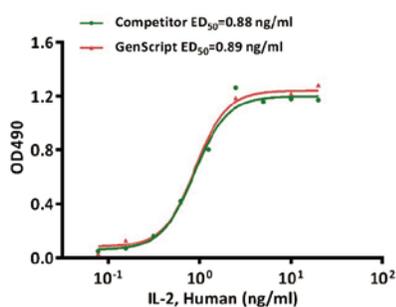
*All the target proteins can be customized for various conjugation.

Application #2 Cell Culture and Organoids Research

Cytokines, growth factors, and chemokines are essential components for cell and organoid culture, as key factors regulating cell growth, differentiation, and survival. Recombinant proteins can be used to provide these factors in a purified and stable form, ensuring optimal cell culture conditions.

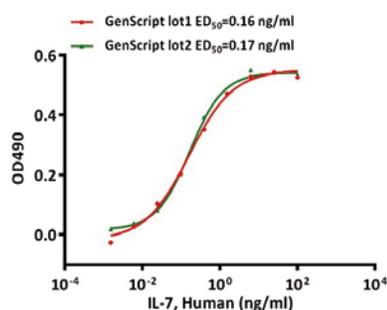
GenScript provides high-quality recombinant proteins for use in cell culture and other research applications. The high bioactivity, purity, and stability, as well as low endotoxin levels, which is critical for ensuring the success of cell and organoid culture experiments, provides reproducible and reliable results.

• High activity



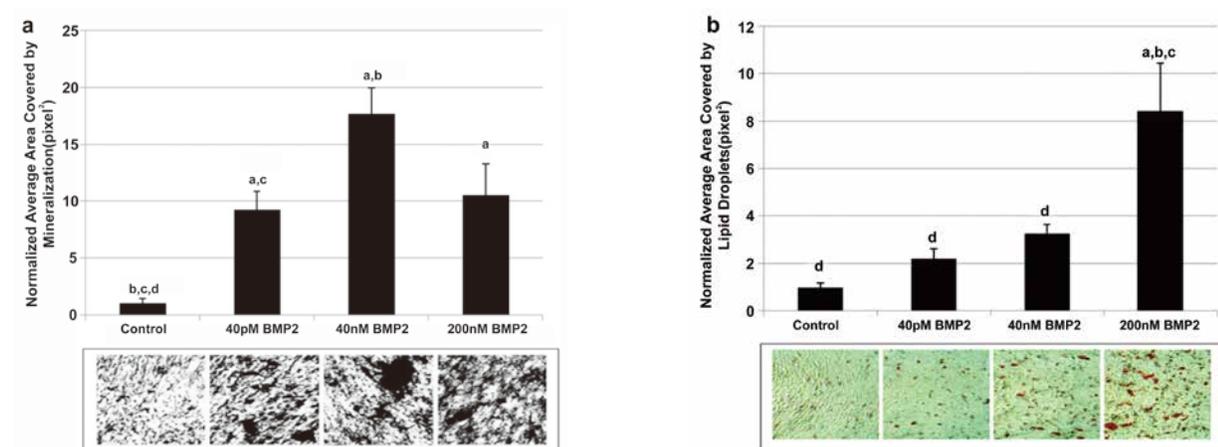
Cell proliferation assay in CTLL-2 cells, The performance of GenScript IL-2 (Cat No Z03074) is comparable to the competitor.

• High lot-to-lot stability



Cell proliferation assay in 2E8 cells, different batches of GenScript IL-7 (Cat. No. Z03190) showed high consistency and stability.

Case Study



GenScript's BMP2 was used at different concentrations to treat C2C12 cells. BMP2 induces osteogenesis and at high concentration adipogenesis.

Reference: Moseychuk, O., Akkiraju, H., Dutta, J., D'Angelo, A., Bragdon, B., Duncan, R. L., & Nohe, A. (2013). Inhibition of CK2 binding to BMPRIa induces C2C12 differentiation into osteoblasts and adipocytes. *Journal of cell communication and signaling*, 7(4), 265–278. <https://doi.org/10.1007/s12079-013-0199-1>

Popular Products for Cell and Organoids Culture

Cat No	Product	Species	Package Size
Z03292	MCP-1/CCL2, Human	Human	50 µg, 1 mg
Z03166	FGF-basic, Human (146aa)	Human	50 µg, 1 mg
Z03230	FGF-basic, Bovine	Bovine	50 µg, 1 mg
Z03016	FGF-basic, Mouse	Mouse	50 µg, 1 mg
Z03193	FGF-basic, Rat	Rat	50 µg, 1 mg
Z00333	EGF, Human	Human	50 µg, 1 mg
Z03118	EGF, Rat	Rat	50 µg, 1 mg
Z02972	EGF, Mouse	Mouse	50 µg, 1 mg
Z00368	IL-2, Human (E. coli-expressed)	Human	50 µg, 1 mg
Z03074	IL-2, Human (HEK 293-expressed)	Human	50 µg, 1 mg
Z02764	IL-2, Mouse	Mouse	50 µg, 1 mg
Z03034	IL-6, Human	Human	50 µg, 1 mg
Z02759	IL-6, Rhesus Macaque	Rhesus Macaque	50 µg, 1 mg
Z02704	IL-7, Human	Human	50 µg, 1 mg
Z03209	IL-7, His, Mouse	Mouse	50 µg, 1 mg
Z03023	IL-12, Human	Human	50 µg, 1 mg
Z03210	IL-12, His, Rat	Rat	50 µg, 1 mg
Z03211	IL-12, Mouse	Mouse	50 µg, 1 mg
Z03308	IL-15, Human	Human	50 µg, 1 mg
Z03309	IL-15, His, Human	Human	50 µg, 1 mg
Z03076	IL-21, Human	Human	50 µg, 1 mg
Z03242	IL-21, Mouse	Mouse	50 µg, 1 mg
Z02983	GM-CSF, Human (CHO-expressed)	Human	50 µg, 1 mg
Z03411	TGF-β1, Human	Human	50 µg, 1 mg
Z02692	SCF, Human	Human	50 µg, 1 mg
Z02762	Flt-3L, Rhesus Macaque	Rhesus Macaque	50 µg, 1 mg
Z02926	Flt-3L, Human	Human	50 µg, 1 mg
Z03227	Flt-3L, His, Mouse	Mouse	50 µg, 1 mg
Z03132	OSM (209aa), Human	Human	50 µg, 1 mg
Z03143	OSM, Mouse	Mouse	50 µg, 1 mg

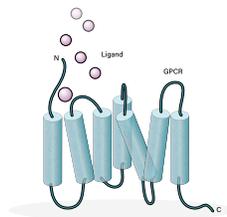
Cat No	Product	Species	Package Size
Z02758	IL-1 β , Rhesus Macaque	Rhesus Macaque	50 μ g, 1 mg
Z03278	IL-1 β , Porcine	Porcine	50 μ g, 1 mg
Z02978	IL-1 β , Human	Human	50 μ g, 1 mg
Z03014	IL-1 β , Rat	Rat	50 μ g, 1 mg
Z02988	IL-1 β , Mouse	Mouse	50 μ g, 1 mg
Z02892	PDGF-BB, Human	Human	50 μ g, 1 mg
Z03179	PDGF-BB, Rat	Rat	50 μ g, 1 mg
Z03096	PDGF-BB, Mouse	Mouse	50 μ g, 1 mg
Z02913	BMP-2, Human	Human	50 μ g, 1 mg
Z02750	BMP-4, Human	Human	50 μ g, 1 mg
Z02751	BMP-7, Human	Human	50 μ g, 1 mg
Z02980	G-CSF, Human(CHO-expressed)	Human	50 μ g, 1 mg
Z03101	G-CSF, Rat (HEK 293-expressed)	Rat	50 μ g, 1 mg
Z03163	G-CSF, Mouse	Mouse	50 μ g, 1 mg
Z02910	Shh, Human	Human	50 μ g, 1 mg
Z03008	Shh, Mouse(CHO-expressed)	Mouse	50 μ g, 1 mg
Z02991	IL-3, Human	Human	50 μ g, 1 mg
Z02783	IL-3, Canine	Canine	50 μ g, 1 mg
Z03434	TPO, His, Human	Human	50 μ g, 1 mg
Z03175	TPO, Mouse	Mouse	50 μ g, 1 mg
Z03025	IL-18, Rat	Rat	50 μ g, 1 mg
Z02986	IFN- γ , Human	Human	50 μ g, 1 mg
Z02982	IFN- γ , Rat	Rat	50 μ g, 1 mg
Z02916	IFN- γ , Mouse	Mouse	50 μ g, 1 mg
Z03108	IL-11, Human(CHO-expressed)	Human	5 μ g, 25 μ g, 1 mg
Z03052	IL-11, Mouse(HEK 293-expressed)	Mouse	10 μ g, 50 μ g, 1 mg
Z03462	DKK-1, Human	Human	10 μ g, 50 μ g, 1 mg
Z03208	BDNF, Human	Human	5 μ g, 25 μ g
Z03097	AITRL, Human	Human	10 μ g, 50 μ g, 1 mg
Z03311	TNF- α , Rhesus Macaque	Rhesus Macaque	10 μ g, 50 μ g, 1 mg

Application #3 Cell Therapy

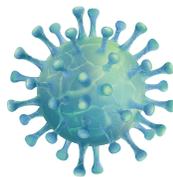
Cytokines are small proteins that play a role in many biological processes. In the context of cancer, the pro-inflammatory, apoptotic, and cytotoxic properties of cytokines such as Interleukin-2 (IL-2) and Interferon-alpha prompted their FDA approval as therapies for renal cell carcinoma and melanoma, among others. And clinical trials have been conducted on various cytokines, including GM-CSF, IL-7, IL-12, IL-15, IL-18, and IL-2.

Cytokines act as an immunomodulator in immune activation and suppression and have different types, including interleukins (IL-2, IL-7, IL-12), chemokines (CCL3, CCL26, CXCL7) and others (interferons, granulocyte colony-stimulating factors).

Cat No	Product	Cat No	Product
Z00368	IL-2, Human	Z02695	GM-CSF, Human
Z02704	IL-7, Human	Z02925	IL-4, Human
Z03308	IL-15, Human	Z03034	IL-6, Human
Z03076	IL-21, Human	Z01001	TNF- α , Human
Z03407	CD19, Human	Z02727	CD40 Ligand/TRAP, Human



GPCR



COVID-19 Related



Claudin 18.2



Immune Checkpoints



Immune Checkpoints

Chapter 4 Stable Cell Lines

- GPCR Stable Cell Lines
- Overexpression Stable Cell Lines

GPCR Stable Cell Lines

Leveraging GenScript's codon optimization technology and vector design, the GPCR cell lines enable high protein expression on the surface with reliability and reproducibility. Our products are verified by multiple functional assays, including calcium influx assay, cAMP accumulation assay, IP-One accumulation assay, flow cytometry, and tested stable for 16 passages.

Features

- High functional protein expression on the cell surface
- Stable cell lines for increased reliability and reproducibility
- Flexible functional readouts are available

GPCR Family

Control / Parental cell lines	5-Hydroxytryptamine	Acetylcholine	Adenosine
Adrenoceptors	Angiotensin	Apelin	Bile acid
Bombesin	Bradykinin	Calcitonin	Cannabinoid
Chemerin	Chemokine	Cholecystokinin	Class A Orphan
Complement peptide	Corticotropin-releasing factor	Dopamine	Endothelin
Formylpeptide	Free Fatty Acid	Galanin	Ghrelin
Glucagon	Gonadotropin-releasing hormone	Histamine	Hydroxycarboxylic acid
Kisspeptin receptor	Leukotriene	Lysophospholipid (LPA)	Melanin-concentrating hormone
Melanocortin	Melatonin	Metabotropic glutamate	Motilin
Neuromedin U	Neuropeptide S	Neuropeptide Y	Neurotensin
Opioid	Orexin	P2Y	Parathyroid hormone
Peptide P518	Platelet-activating factor	Prolactin releasing peptide	Prostanoid
Protease activated	Somatostatin	Tachykinin	Thyrotropin releasing hormone
Urotensin	Vasopressin and Oxytocin	VIP and PACAP	

GPCR Stable Cell Lines (negative control)

Expressed Protein	Host Cell	Cell Line Name	Cat No
Gα15	HEK293	HEK293/Gα15	M00554
Gα15	CHO-K1	CHO-K1/Gα15	M00257
Gq15	CHO-K1	CHO-K1/Gq15	M00455

GPCR Stable Cell Lines

Receptor Family	Receptor	Cell Line Name	Cat No
5-Hydroxytryptamine receptor	5-HT1A/HTR1A	CHO-K1/5-HT1A/Gα15	M00330
	5-HT2A/HTR2A	CHO-K1/5-HT2A	M00251
	5-HT2B/HTR2B	CHO-K1/5-HT2B	M00249
	5-HT2C/HTR2C	CHO-K1/5-HT2C	M00253
	5-HT2C/HTR2C	HEK 293/5-HT2C	M00319
	5-HT4/HTR4	CHO-K1/5-HT4/Gα15	M00444
Acetylcholine receptor (muscarinic)	M1/CHRM1	CHO-K1/M1	M00185
	M2/CHRM2	CHO-K1/M2/Gα15	M00258
	M3/CHRM3	CHO-K1/M3	M00259
	M4/CHRM4	CHO-K1/M4/Gα15	M00238
	M5/CHRM5	CHO-K1/M5	M00186
Adenosine receptor	ADORA1	CHO-K1/ADORA1/Gα15	M00324
	ADORA1	HEK293/ADORA1/Gα15	M00255
	ADORA2A	CHO-K1/ADORA2A/Gα15	M00246
	ADORA2A	CHO-K1/mouse ADORA2A	M00575
	ADORA2B	CHO-K1/ADORA2B/Gα15	M00329
	ADORA3	CHO-K1/ADORA3/Gα15	M00464
Adrenoceptors	ADRA1A	CHO-K1/ADRA1A	M00225
	ADRA1B	CHO-K1/ADRA1B	M00260
	ADRA1D	CHO-K1/ADRA1D	M00340
	ADRA2A	CHO-K1/ADRA2A/Gα15	M00281
	ADRA2B	CHO-K1/ADRA2B/Gq15	M00454
	ADRA2C	CHO-K1/ADRA2C/Gα15	M00252
	ADRB1	CHO-K1/ADRB1/Gα15	M00269
Angiotensin receptor	AT1	HEK 293/AT1	M00458
	AT1	HEK 293T/AT1	M00448
Apelin receptor	AGTRL1	CHO-K1/AGTRL1/Gα15	M00245
Bile acid receptor	GPBAR1	CHO-K1/GPBAR1	M00432
Bombesin receptor		CHO-K1/BB1	M00254
	BB2/GRPR	CHO-K1/BB2	M00182
	BB3/BRS3	CHO-K1/BB3	M00183
Bradykinin receptor	B2	CHO-K1/B2/Gα15	M00184

Receptor Family	Receptor	Cell Line Name	Cat No
Calcitonin receptor	AMY1	CHO-K1/Gα15/AMY1	M00557
	AMY2	CHO-K1/Gα15/AMY2	M00558
	AMY3	CHO-K1/Gα15/AMY3	M00559
	CALCR/CT	CHO-K1/CT/Gα15	M00320
Cannabinoid receptor	CNR1/CB1	CHO-K1/CB1/Gα15	M00299
	CNR2/CB2	CHO-K1/CB2	M00433
Chemerin receptor	CMKLR1	CHO-K1/CMKLR1/Gα15	M00301
Chemokine receptor	CCR1	CHO-K1/CCR1/Gα15	M00522
	CCR5	CHO-K1/CCR5/Gα15	M00523
	CXCR1/IL8RA	CHO-K1/CXCR1/Gα15	M00524
	CXCR3/CD183	CHO-K1/CXCR3/Gα15	M00525
	CXCR4/CD184	CHO-K1/CXCR4/Gα15	M00556
	CXCR5/CD185	CHO-K1/CXCR5/Gα15	M00526
Cholecystokinin receptor	CCKA/CCKAR	CHO-K1/CCKA/Gα15	M00271
	CCKB/CCKBR	CHO-K1/CCKB	M00154
Class A orphan	GPR68/OGR1	CHO-K1/GPR68/Gα15	M00439
	MRGPRX2	CHO-K1/MRGPRX2	M00425
Complement peptide receptor	C5a/C5AR1	CHO-K1/CMKLR1/Gα15	M00327
Corticotropin releasing factor receptor	CRF1/CRHR1	CHO-K1/CRF1/Gα15	M00343
	CRF2/CRHR2	CHO-K1/CRF2/Gα15	M00208
Dopamine receptor	D1/DRD1	CHO-K1/D1	M00247
	D2s/DRD2	CHO-K1/D2s/Gα15	M00274
	D2/DRD2	CHO-K1/D2/Gα15	M00152
	D5/DRD5	CHO-K1/D5/Gα15	M00322
Endothelin receptor	ETA/EDNRA	CHO-K1/EDNRA	M00149
	ETB/EDNRB	CHO-K1/EDNRB	M00150
Formylpeptide receptor	FPR1	CHO-K1/FPR1/Gα15	M00429
Free fatty acid receptor	GPR40/FFA1	CHO-K1/FFA1/Gα15	M00273
	GPR43/FFA2	CHO-K1/FFA2/Gα15	M00437
Galanin receptor	GALR1	CHO-K1/GALR1/Gα15	M00277
	GALR2	CHO-K1/GALR2	M00209
Ghrelin receptor	GHSR	CHO-K1/GHSR	M00189
	GHRHR	HEK293/GHRH/Gα15	M00314
Glucagon receptor	GLP1R	CHO-K1/GLP1R/Gα15	M00451
	GLP2R	CHO-K1/GLP2R/Gα15	M00307
	GCGR	CHO-K1/GCGR/Gα15	M00345
	GCGR	HEK 293/GCGR/Gα15	M00422
	GIPR	CHO-K1/GIP/Gα15	M00486
Gonadotropin releasing hormone receptor	GNRHR	CHO-K1/GNRHR/Gα15	M00426

Receptor Family	Receptor	Cell Line Name	Cat No
Histamine receptor	H1/HRH1	HEK293/H1	M00131
	H2/HRH2	CHO-K1/H2/Gα15	M00306
	H3/HRH3	CHO-K1/H3/Gα15	M00331
	H4/HRH4	CHO-K1/H4/Gα15	M00289
Hydroxycarboxylic acid receptor	GPR109A/NIACR1	CHO-K1/NIACR1/Gα15	M00428
Kisspeptin receptor	KiSS1/GPR54	CHO-K1/KiSS1	M00190
Leukotriene receptor	FPRL1	CHO-K1/FPRL1/Gα15	M00305
	CysLT1	CHO-K1/CysLT1/Gα15	M00462
	LTB4R	CHO-K1/LTB4/Gα15	M00435
Lysophospholipid receptor	EDG4/LAP2	RH7777/EDG4	M00463
Melanin concentrating hormone receptor	MCH1/GPR24	HEK293/MCH1	M00211
	MCH2/GPR145	CHO-K1/MCH2	M00280
Melanocortin receptor	MC2	CHO-K1/MC2/Gα15	M00336
	MC3	CHO-K1/MC3/Gα15	M00242
	MC4	CHO-K1/MC4/Gα15	M00272
	MC5	CHO-K1/MC5/Gα15	M00243
Melatonin receptor	MT1/MTNR1A	CHO-K1/MT1/Gα15	M00424
	MT2/MTNR1B	CHO-K1/MT2/Gα15	M00312
Metabotropic glutamate receptor	mGlu2/GRM2	CHO-K1/GRM2/Gα15	M00427
Motilin receptor	MTLR/MLNR	CHO-K1/MTLR/Gα15	M00347
Neuromedin U receptor	NMUR1/GPR66	CHO-K1/NMU1	M00191
	NMUR2	HEK293T/NMU2	M00244
Neuropeptide S receptor	NPSR1/NPS1b	CHO-K1/NPS1b/Gα15	M00344
	NPSR1/NPS1a	CHO-K1/NPS1a/Gα15	M00338
Neuropeptide Y receptor	NPY2R	CHO-K1/NPY2/Gq15	M00460
	NPY4R	CHO-K1/NPY4/Gα15	M00237
Neurotensin receptor	NTS1/NT1	CHO-K1/NTS1	M00194
Opioid & opioid-like receptor	OPRD1	CHO-K1/OPRD1/Gα15	M00323
	OPRK1	CHO-K1/OPRK1/Gα15	M00290
	OPRL1	CHO-K1/OPRL1/Gα15	M00447
	OPRM1	CHO-K1/OPRM1/Gα15	M00304
Orexin receptor	OX1	CHO-K1/OX1	M00224
	OX2	CHO-K1/OX2	M00316
P2Y receptor	P2Y1	1321N1/P2Y1	M00250
	P2Y2	1321N1/P2Y2	M00318
	P2Y4	1321N1/P2Y4	M00297
	P2Y6	1321N1/P2Y6	M00346
	P2Y11	1321N1/P2Y11	M00298
	P2Y12	1321N1/P2Y12/Gα15	M00261
Parathyroid hormone receptor	PTH1/PTHR1	CHO-K1/PTH1/Gα15	M00315
Peptide P518 receptor	QRFP/GPR103	CHO-K1/GPR103/Gα15	M00321

Receptor Family	Receptor	Cell Line Name	Cat No
Platelet-activating factor receptor	PAFR/PTAFR	CHO-K1/PTAFR	M00262
Prolactin releasing peptide receptor	PRLHR	CHO-K1/PRLHR	M00341
Prostanoid receptor	EP1/PTGER1	HEK293/EP1	M00228
	EP2/PTGER2	CHO-K1/EP2/Gα15	M00311
	FP/PTGFR	HEK293/FP/Gα15	M00155
	IP1/PTGIR	CHO-K1/IP1/Gα15	M00310
	TP/TBXA2R	HEK293/TP	M00309
	PTGDR/DP1	CHO-K1/DP1/Gα15	M00453
	PTGDR2/DP2	CHO-K1/DP2/Gα15	M00436
Protease-activated receptor	PAR2/GPR11	CHO-K1/PAR2/Gα15	M00446
	PAR4/F2RL3	CHO-K1/PAR4	M00206
Somatostatin receptor	SST1/SSTR1	CHO-K1/SST1/Gqi5	M00473
	SST2/SSTR2	CHO-K1/SST2/Gα15	M00325
	SST3/SSTR3	CHO-K1/SST3/Gα15	M00285
	SST4/SSTR4	CHO-K1/SST4/Gα15	M00334
	SST5/SSTR5	CHO-K1/SST5/Gα15	M00286
Tachykinin receptor	NK1/TACR1	CHO-K1/NK1	M00199
	NK2/TACR2	CHO-K1/NK2	M00200
	NK3/TACR3	CHO-K1/NK3	M00201
Thyrotropin releasing hormone receptor	TRH1/TRHR	CHO-K1/TRH1	M00202
Urotensin receptor	UTR2	CHO-K1/UT2/Gα15	M00339
Vasopressin and oxytocin receptor	OT/OXTR	CHO-K1/OXTR	M00195
	V1B	CHO-K1/V1B	M00205
	V2	CHO-K1/V2/Gα15	M00170
VIP and PACAP receptor	PAC1R	CHO-K1/PAC1/Gα15	M00203
	VPAC1/VIPR1	CHO-K1/VPAC1/Gα15	M00342
	VPAC2/VIPR2	CHO-K1/VPAC2/Gα15	M00226

Overexpression Cell Lines

GenScript has launched over 100 types of cell lines that are overexpressing different targets, including Fc gamma receptors, neonatal Fc receptors, co-inhibitory and co-stimulatory immune checkpoints, and ACE2 and spike protein of SARS-CoV-2 for COVID research. With the overexpression cell line, the early drug discovery process can be simplified that contributes to the antibody drug development.

Features

- Off-shelf products to accelerate research development
- Tested stable for 15 passages
- High level surface expression verified by FACS assay

COVID-19 Related Cell Lines

Target	Name	Cat No
ACE2	HEK293/ACE2	M00770
SARS-CoV-2	CHO-K1/Spike 	M00803
ACE2	CHO-K1/ACE2	M00771
ACE2	Hela/ACE2	RD00813
SARS-CoV-2	HEK293T/Spike	M00804

Fc Receptors

Target	Name	Cat No
CD16A	CHO-K1/CD16A 158F	M00586
CD16A	CHO-K1/CD16A 158V	M00597
CD32A	CHO-K1/human CD32A 131Arg Stable Cell Line	M00599
CD32A	CHO-K1/CD32A 131His	M00598
CD16B	CHO-K1/CD16B	M00602
CD32B	CHO-K1/CD32B 232Thr	M00600
CD32B	CHO-K1/CD32B 232Ile Stable Cell Line	M00587
CD32C	CHO-K1/CD32C 13Gln	M00601
CD64	CHO-K1/CD64	M00588
FcRn	CHO-K1/FcRn	M00603

Immune Checkpoints

Target	Name	Cat No	Target	Name	Cat No
4-1BB	CHO-K1/4-1BB	M00538	CD70	CHO-K1/CD70	RD00739
Ang2	CHO-K1/Ang2	RD00772	CD73	CHO-K1/CD73	RD00783
Ang2	CHO-K1/mouse Ang2 pool	RD00773	CD73	CHO-K1/Mouse CD73 pool	RD00784
Ang2	CHO-K1/cyno Ang2 pool	RD00774	CD73	CHO-K1/Cyno CD73 pool	RD00785
ANG2	CHO-K1/rat ANG2 pool	RD00802	CD80	CHO-K1/CD80	M00545
ANG2	CHO-K1/rabbit ANG2 pool	RD00809	CD80	CHO-K1/PD-L1/CD80	RD00868
B7-H2	CHO-K1/B7-H2	M00671	CD86	CHO-K1/CD86 Stable Cell Line	M00546
B7-H3	CHO-K1/B7-H3	M00536	CDH17	CHO-K1/CDH17	RD00766
B7-H3	CHO-K1/mouse B7-H3 pool	RD00781	CDH17	CHO-K1/mouse CDH17	RD00767
B7-H3	CHO-K1/cyno B7-H3 pool	RD00782	CDH17	CHO-K1/cyno CDH17	RD00768
B7-H4	CHO-K1/B7-H4	M00537	CEACAM5	CHO-K1/human CEACAM5	RD00943
BCMA	CHO-K1/Cyno BCMA pool	RD00807	CEACAM5	CHO-K1/cyno CEACAM5	RD00944
BDCA2	CHO-K1/Cyno BDCA2	M00596	Claudin 18.2	MC38/Claudin 18.2	RD00873
BDCA2	CHO-K1/BDCA2	M00595	Claudin18.1	HEK293/Claudin18.1	M00688
BDCA2 + FcER1G	CHO-K1/ Cyno BDCA2 and FcER1G	M00594	Claudin18.2	BxPc-3/Claudin18.2	RD00756
BDCA2 + FcER1G	CHO-K1/BDCA2 and FcER1G	M00593	Claudin18.2	MIA PaCa-2/Claudin18.2	RD00757
BTLA	CHO-K1/BTLA	M00534	Claudin18.2	KM12-SM/Claudin18.2	RD00855
CCR9	CHO-K1/CCR9	M00933	Claudin18.2	KATO III/Claudin18.2	RD00864
CD112	CHO-K1/CD112	M00590	Claudin18.2	Pan02/Claudin18.2	RD00878
CD155	CHO-K1/Cyno CD155	M00643	Claudin18.2	HEK293/mouse Claudin18.2	M00689
CD155	CHO-K1/CD155	M00591	Claudin18.2	HEK293/Claudin18.2	RD00765
CD155	CHO-K1/Mouse CD155	M00642	Claudin18.2/PD-L1	KM12-SM/Claudin18.2/PD-L1	RD00863
CD160	CHO-K1/CD160 Stable Cell Line	M00535	Claudin18.2/PD-L1	KATO III/Claudin18.2/PD-L1	RD00865
CD16a	CHO-K1/Mouse CD16a	RD00730	Claudin18.2/PD-L1	MC38/Claudin 18.2/PD-L1	RD00874
CD16a	CHO-K1/Cyno CD16a	RD00731	Cld6	CHO-K1/Human Cld6	RD00732
CD19	CHO-K1/CD19	RD00804	Cld6	CHO-K1/Mouse Cld6	RD00733
CD20	CHO-K1/CD20	RD00803	Cld6	CHO-K1/Cyno Cld6	RD00734
CD200 R1	CHO-K1/CD200 R1	M00541	Cld9	CHO-K1/Human Cld9	RD00735
CD24	HEK293/CD24	RD00764	CLDN18.2	CHO-K1/CLDN18.2 Stable Cell Line	M00916
CD24 pool	HEK293/mouse CD24 pool	RD00769	CLDN18.2	HEK293/CLDN18.2 Stable Cell Line	M00917
CD27	CHO-K1/CD27 Stable Cell Line	M00564	CTLA4	CHO-K1/CTLA4 Hot	M00530
CD30	CHO-K1/CD30	RD00759	CTLA4	CHO-K1/cyno CTLA4	M00571
CD38	CHO-K1/human CD38 Hot	M00553	CTLA4	CHO-K1/mouse CTLA4 Hot	M00570
CD38	CHO-K1/cyno CD38	M00638	CXCR4	CHO-K1/cyno CXCR4	RD00712
CD38	CHO-K1/mouse CD38	M00636	CXCR4	CHO-K1/TetOn/CXCR4	RD00824
CD39	CHO-K1/CD39	RD00786	DAP10	CHO-K1/DAP10	RD00749
CD39	CHO-K1/Mouse CD39 pool	RD00787	DAP12	CHO-K1/DAP12	RD00750
CD39	CHO-K1/Cyno CD39 pool	RD00788	DG44	DG44/TNFa	M00565
CD40	CHO-K1/cyno CD40	RD00710	GITR	CHO-K1/cyno GITR	RD00711
CD40	CHO-K1/CD40 Stable Cell Line	M00540	GPC3	CHO-K1/GPC3	RD00811
CD64+FcER1G	CHO-K1/CD64+FcER1G	M00888	GPC3	CHO-K1/cyno GPC3	RD00880

Target	Name	Cat No
HVEM	CHO-K1/HVEM	M00646
HVEM	CHO-K1/Cyno HVEM	M00648
HVEM	CHO-K1/mouse HVEM	M00647
ICOS	CHO-K1/ICOS	M00649
IL-1RAP	CHO-K1/IL-1RAP	RD00791
IL-1RAP	CHO-K1/mouse IL-1RAP pool	RD00792
IL-1RAP	CHO-K1/cyno IL-1RAP pool	RD00793
IRA	CHO-K1/IRA	M00912
IRB	CHO-K1/IRB	M00913
ITGAE	CHO-K1/ITGAE	M00592
KIR	CHO-K1/KIR	M00650
LAG3	CHO-K1/Lag3	M00532
LAG3 ESCP	CHO-K1/LAG3 ESCP	RD00741
NK-92	NK-92/PD-1	M00906
NKG2D	CHO-K1/NKG2D	RD00736
NKG2D	CHO-K1/mouse NKG2D	RD00737
NKG2D	CHO-K1/cyno NKG2D	RD00738
NKp46	CHO-K1/NKp46	RD00799
NKp46	CHO-K1/Mouse NKp46pool	RD00800
NKp46	CHO-K1/Cyno NKp46 pool	RD00801
OX40	CHO-K1/cyno OX40	RD00709
OX-40L	CHO-K1/OX-40L Stable Cell Line	M00563
PD-1	CHO-K1/mouse PD-1	M00552
PD-1	Daudi/PD-1 Hot	M00630
PD-1	CHO-K1/cyno PD-1 Hot	M00572
PD-1	CHO-K1/PD-1	M00529
PD-L1	CHO-K1/mouse PD-L1 Hot	M00567
PD-L1	CHO-K1/PD-L1 Hot	M00543
PD-L1	HEK293/PD-L1	M00544
PD-L1	CHO-K1/cyno PD-L1	M00573

Target	Name	Cat No
PD-L1	Raji/PD-L1	RD00716
PD-L2	CHO-K1/PD-L2	M00627
PD-L2	CHO-K1/cyno PD-L2	M00629
ROBO1	CHO-K1/ROBO1	RD00903
ROR1	CHO-K1/ROR1	RD00843
ROR1	CHO-K1/mouse ROR1	RD00844
sigBCMAe	CHO-K1/sigBCMAe	RD00755
siglec 15	CHO-K1/siglec 15	M00904
siglec 15	CHO-K1/mouse siglec 15	RD00728
siglec 15	CHO-K1/cyno siglec 15	RD00729
SIRP alpha	CHO-K1/human SIRP alpha Stable Cell Line	M00582
SIRP gamma	CHO-K1/human SIRP gamma Stable Cell Line	M00584
SIRP α	CHO-K1/SIRP α	RD00722
SIRP α	CHO-K1/Mouse SIRP α	RD00723
SIRP α	CHO-K1/Cyno SIRP α	RD00724
SIRP β	CHO-K1/SIRP β	RD00725
SIRP γ	CHO-K1/SIRP γ	RD00726
Spike-SARS_2	HEK293/Spike-SARS_2	M00907
SSTR1	CHO-K1/SSTR1 cell pool	RD00924
SSTR2	CHO-K1/SSTR2 cell pool	RD00921
SSTR2	CHO-K1/cyno SSTR2 cell pool	RD00922
SSTR2	CHO-K1/mouse SSTR2 cell pool	RD00923
SSTR2	HEK293/SSTR2 cell pool	RD00928
SSTR3	CHO-K1/SSTR3 cell pool	RD00925
SSTR4	CHO-K1/SSTR4 cell pool	RD00926
SSTR5	CHO-K1/SSTR5 cell pool	RD00927
TIGIT	CHO-K1/mouse TIGIT Hot	M00585
TNF α	CHO-K1/TNF α	RD00754
VEGFR2	CHO-K1/VEGFR2	RD00905
VISTA	CHO-K1/VISTA	M00533

Chapter 5

Protein Purification

- Protein Purification
- Magnetic Beads
- Affinity Chromatography
- Enzymes and ELISA Kits
- Endotoxin Detection and Removal

Protein Purification

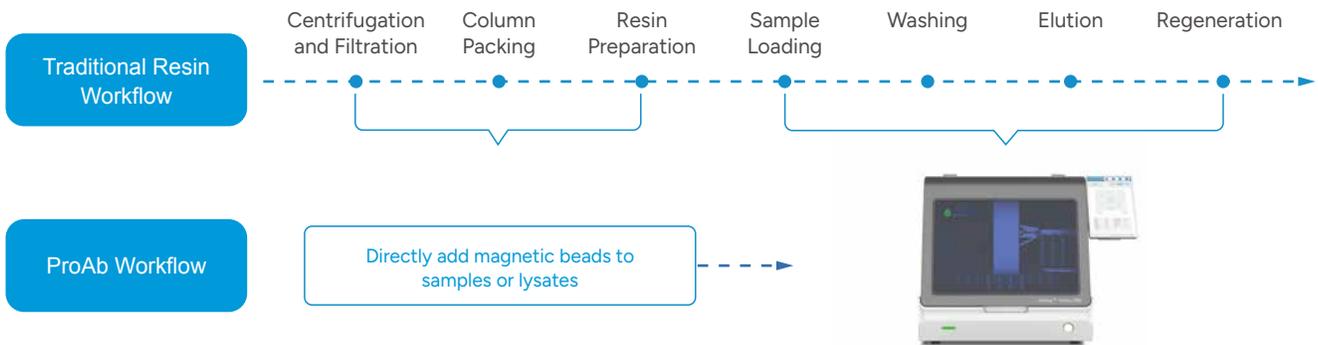
Automated Protein and Antibody Purification

ProAb 1300 Purification Workflow

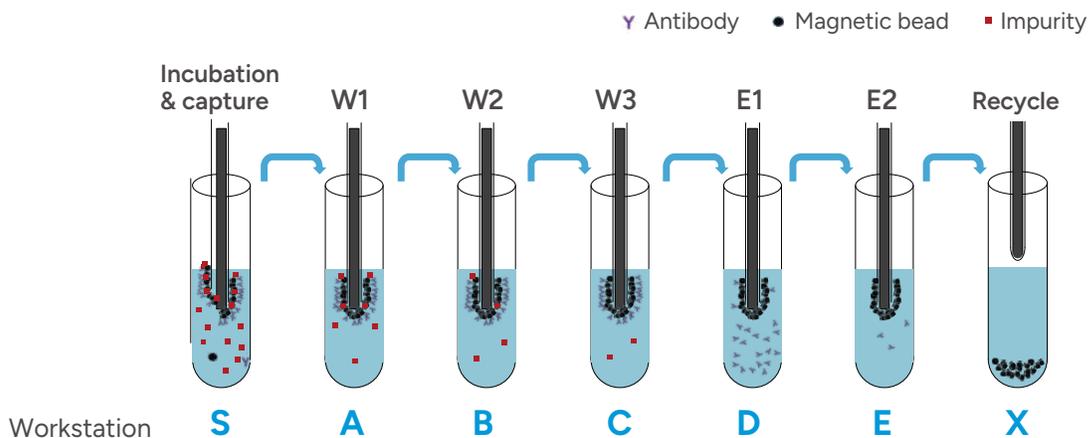
The AmMag™ Quatro ProAb 1300 is expertly engineered for high-throughput, medium-scale protein and antibody purification, handling sample volumes up to 65 mL with unmatched precision and ease.

This fully automated system guides your samples through every critical step — from magnetic bead binding and sequential washing to precise elution — completely eliminating manual interventions. By removing labor-intensive, error-prone tasks like manual mixing and repetitive pipetting, the Quatro ProAb 1300 ensures consistency and reproducibility in your results. Equipped with an intuitive touchscreen and user-friendly visual interface, the system allows you to easily preset protocols and monitor purification progress in real time. This seamless interaction not only enhances operational efficiency but also empowers your team to accelerate innovation in scientific research and biopharmaceutical development.

Traditional Resin vs. ProAb Purification Workflow



ProAb Automated Purification Workflow



Performance

Methodology Consistency

Extensive validation confirms that the AmMag™ Quatro ProAb 1300 delivers consistent, reliable results comparable to conventional manual magnetic bead purification methods. This ensures you benefit from automation without compromising on performance or quality.

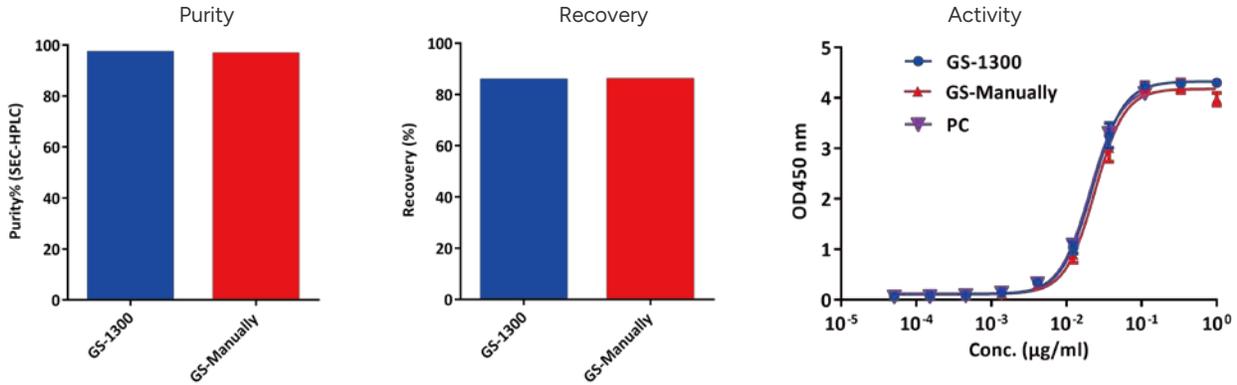


Figure 1: Comparison of purification performance between the AmMag™ Quatro ProAb 1300 Automated System and manual magnetic bead purification. Using 30 mL of CHO cell fermentation broth overexpressing Anti-E2 hlgG (antibody titer 923.3 µg/mL by BLI), samples were purified with 2 mL GenScript Protein A Magnetic Beads (Cat# L00695) via both methods. Analysis of antibody recovery rate, protein purity (SEC-HPLC), and binding activity showed consistent results, with both methods achieving >95% purity and comparable activity to positive controls (PC: protein purification via media; GS-1300: AmMag™ Quatro ProAb 1300; GS-Manual: manual purification).

Consistency Across 12 Samples Per Run

Validation demonstrates that the AmMag™ Quatro ProAb 1300 provides high consistency and repeatability when processing up to 12 samples simultaneously. This ensures uniform, reliable purification results within each run, supporting efficient and dependable high-throughput workflows.

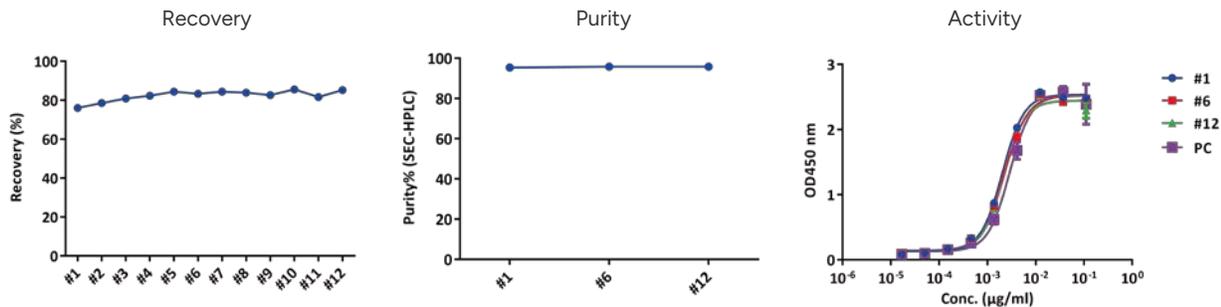


Figure 2: The AmMag™ Quatro ProAb 1300 Automated Purification System demonstrates high consistency across 12 samples processed simultaneously. Using AmMag™ Quatro Elite Protein A Magnetic Beads 2G (Cat# L01074), 12 identical 30 mL CHO cell supernatant samples overexpressing Anti-N protein hlgG were purified in a single run. Protein recovery rate, purity, and activity were measured and showed consistent results across all samples, validating the system's within-run repeatability. (PC: Positive control purified by protein purification media; GS-1300: AmMag™ Quatro ProAb 1300; GS-Manual: manual purification with GenScript magnetic beads.)

Sample Compatibility

Extensive validation confirms the AmMag™ Quatro ProAb 1300 is compatible with a wide range of protein concentrations, from low to high. This versatility makes it ideal for diverse applications — whether you're conducting laboratory research, early-stage R&D screening, or process optimization — ensuring reliable purification across various sample types and conditions.

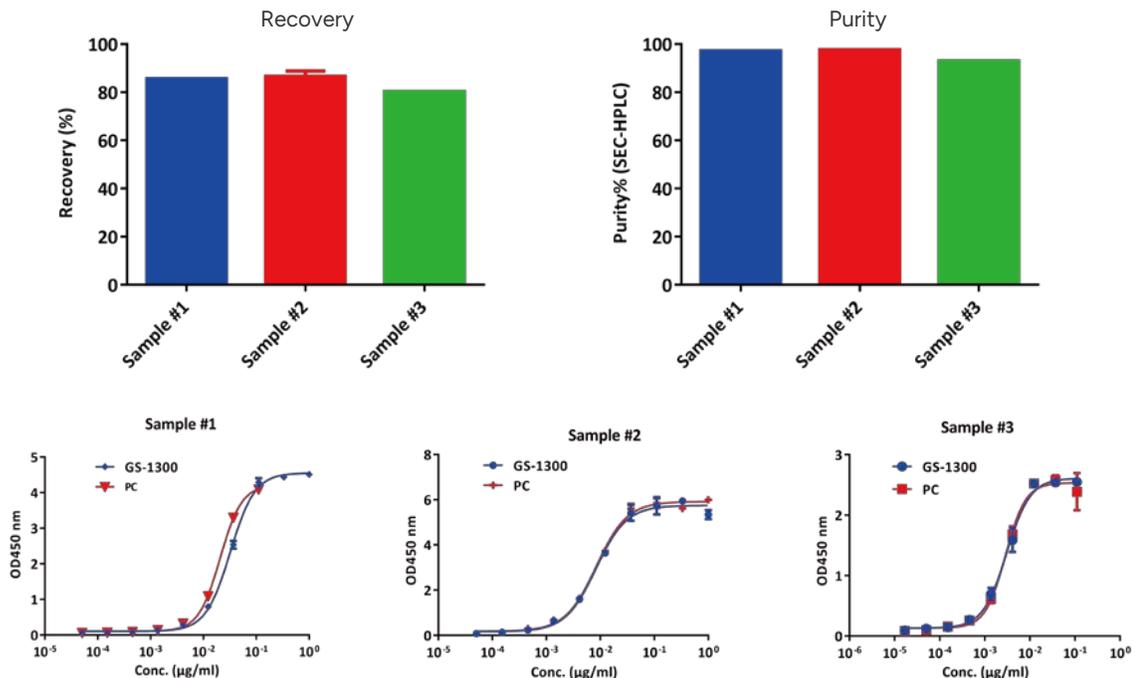


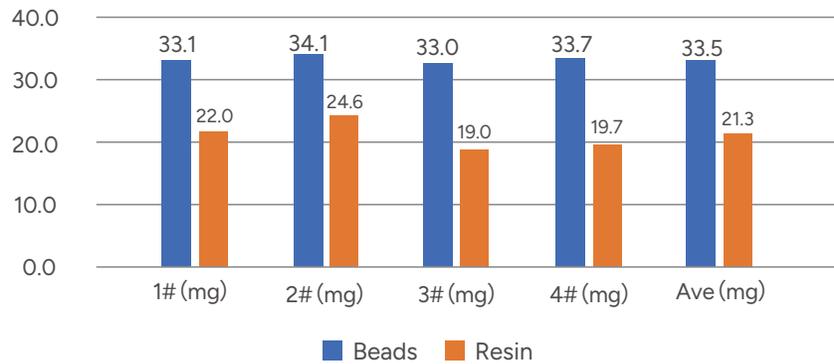
Figure 3: The AmMag™ Quatro ProAb 1300 Automated Purification System demonstrates broad compatibility with protein samples across a wide concentration range. Using AmMag™ Quatro Elite Protein A Magnetic Beads 2G (Cat# L01074), 30 mL supernatants from three different CHO cell lines overexpressing hlgG with antibody titers ranging from 23 µg/mL to 923 µg/mL were purified. Protein recovery rate, purity, and activity measurements confirmed the system's effective performance across low-to-high concentration samples, making it suitable for laboratory research, R&D, and early-stage process optimization. (PC: Positive control purified by protein purification media; GS-1300: AmMag™ Quatro ProAb 1300; GS-Manual: manual purification with GenScript magnetic beads.)

Superior Consistency with Magnetic Bead Purification

Antibody purification using magnetic beads, as implemented in the AmMag™ Quatro ProAb 1300, provides significantly greater consistency and reliability compared to traditional resin-based purification methods. This advanced technology minimizes variability, enhances reproducibility, and delivers high-quality antibodies batch after batch—ensuring dependable results that accelerate your research and development efforts.

Protein Yield(mg)

Quatro 1300 (Beads) vs. Column (Resin)



Yield	1#(mg)	2#(mg)	3#(mg)	4#(mg)	Ave.(mg)	STDev.S	CV%
Beads	33.1	34.1	33.0	33.7	33.5	0.544771	1.63%
Resin	22.0	24.6	19.0	19.7	21.3	2.523169	11.83%

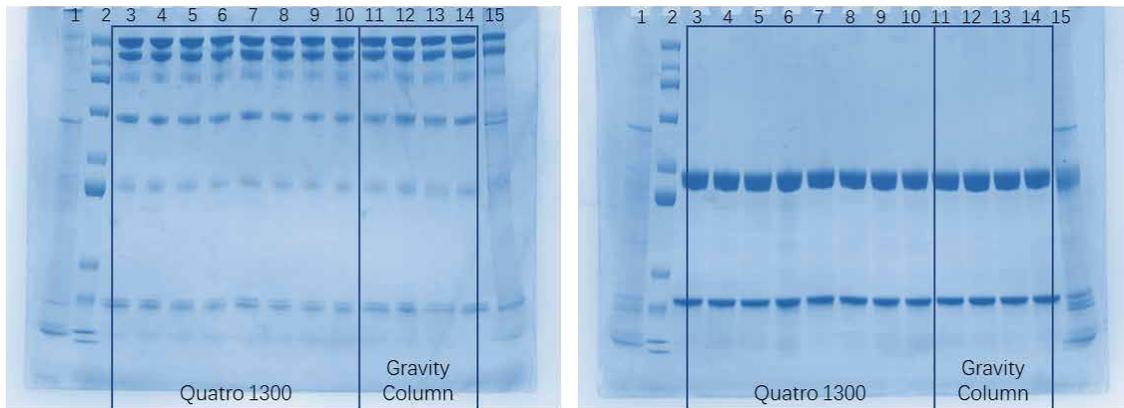
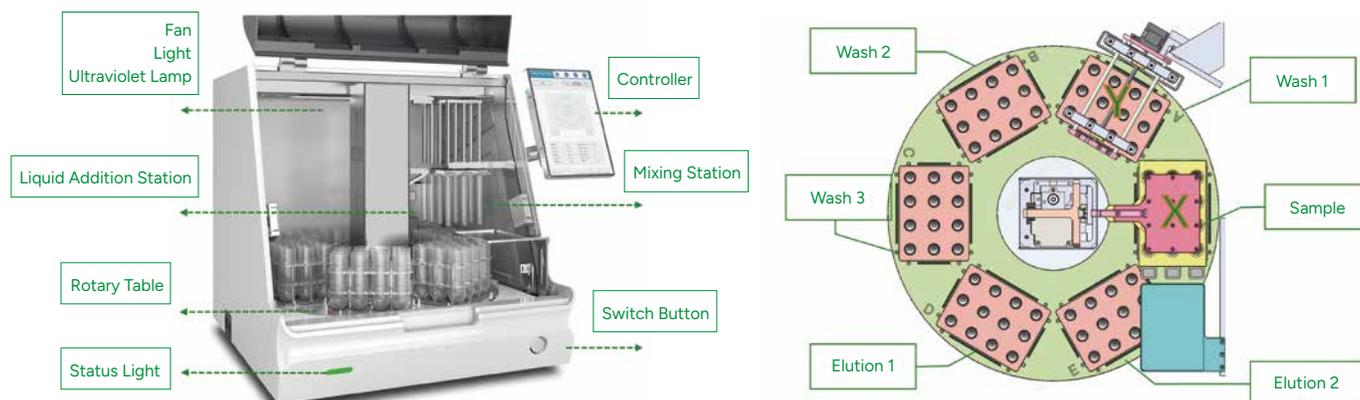


Figure 4: The AmMag™ Quatro ProAb 1300 Automated Purification System demonstrates superior consistency compared to traditional resin-based methods. Using 20 mL of CHO cell supernatant (~30 mg hIgG), samples were purified with either 1.5 mL of GenScript Protein A Magnetic Beads (Cat# L00695) on the AmMag™ Quatro 1300 or 1.5 mL Monofinity A resin in a gravity column. Antibody yield and purity (SDS-PAGE) were analyzed. Results showed significantly lower variability in yield with the Quatro 1300 (CV 1%) versus the resin method (CV 11%), while both methods delivered comparable purity. (Lane 1: Quatro 1300 flowthrough; Lane 2: Ladder; Lanes 3–10: Quatro 1300 purified antibodies; Lanes 11–14: Column purified antibodies; Lane 15: Column flowthrough.)

Internal View and Key Specifications

The AmMag™ Quatro ProAb 1300 features a thoughtfully engineered internal layout designed to support seamless automation, robust performance, and user-friendly maintenance. Its modular design ensures smooth fluid handling, precise magnetic separation, and consistent elution — all optimized for high-throughput antibody and protein purification.



AmMag™ Quatro ProAb 1300 System Parameters

Parameter	Value
Throughput	12 samples per run
Reagent Channels	6
Magnetic Bead Volume (settle beads)	0.5–6 mL (large magnetic rod) 0.1–0.5 mL (small magnetic rod)
Liquid Dispensing Precision (CV)	0.5%
Minimum Dispensing Volume	200 µL
Maximum Dispensing Volume	25 mL tube: 10 mL 50 mL tube: 30 mL 100 mL tube: 65 mL
Minimum Elution Volume	3 mL (large rod) 1 mL (small rod)
Compatible Containers	25 mL, 50 mL, and 100 mL tubes
Pipeline Alkali Resistance	0–1 M NaOH
Power Supply	100–240V AC, 50/60 Hz, 600W
Operating Ambient Temperature*	18–32 °C
Operating Ambient Humidity	≤ 85% RH, non-condensing

Parameter	Value
Altitude Limit	≤ 2000 meters
Operating Atmospheric Pressure	50–106 kPa
Dimensions (L × W × H)	Module: 705 × 630 × 670 mm Controller: 382 × 416 × 249 mm
Electrical Safety Standards	EC 61010-1:2001

Operating Ambient Temperature*: When using the equipment at a constant temperature of 4°C, ensure the temperature remains stable at 3-5°C. Otherwise, excessive temperature fluctuations will cause condensation, and structural components may expand or contract due to thermal changes.

Manual Magnetic Accessories



Catalog number: L00722

AmMag MR Mini Magnetic racks

- Enables mini-scale magnetic bead separation.
- Compatible with 1.5 ml and 2 ml microfuge tubes.



Catalog number: L00723

AmMag MR Magnetic racks

- Enables midi-scale magnetic bead separation.
- Compatible with 15 ml or 50 ml conical tubes.



Catalog number: L00827 (block)

Catalog number: L00778 (wand)

Magnetic wand and block

- Enables maxi-scale (≥50 ml) magnetic bead separation.
- Compatible with large flasks and cell culture containers.

High Quality Reagents

Magnetic Beads



AmMag™ Beads	<ul style="list-style-type: none"> Alkaline tolerant allowing reuse Offerings include Ultra beads, Protein A and Ni-charged beads
Antibody Purification Beads	<ul style="list-style-type: none"> Protein A, G and A/G
Tagged Protein Purification Beads	<ul style="list-style-type: none"> Ni-charged, Streptavidin, MonoRab™ Anti-DYKDDDDK, Glutathione and more

Resins



Antibody Purification	<ul style="list-style-type: none"> Protein A, G, L, and more
Tagged Protein Purification	<ul style="list-style-type: none"> Ni-NTA, DYKDDDDK, Glutathione, and more
Surface Activated Resin	<ul style="list-style-type: none"> High-Affinity Iodoacetyl Resin
Immuno-precipitation	<ul style="list-style-type: none"> Anti-DYKDDDDK IP Anti-His

Protein Purification Magnetic Beads

Simple Purification

Direct addition of beads to sample of lysate

High Recovery

Excellent recovery comparable to traditional methods

Cost Effective

Alkaline resistance making the magnetic beads reusable

Magnetic Beads

Antibody Purification

Product	Binding Capacity	Package Size	Cat No
AmMag™ Ultra AT protein A magbeads 	> 40 mg/ml	4 ml	L00945
AmMag™ Protein A Magnetic Beads	> 40 mg/ml	4 ml	L00695
Protein G MagBeads MX	> 25 mg/ml	4 ml	L00673
Protein A MagBeads	> 10 mg/ml	4 ml	L00273
Protein G MagBeads	> 10 mg/ml	2 ml	L00274
Protein A MagBeads MX	> 30 mg/ml	4 ml	L00672
Protein A/G MagBeads	> 10 mg/ml	2 ml	L00277

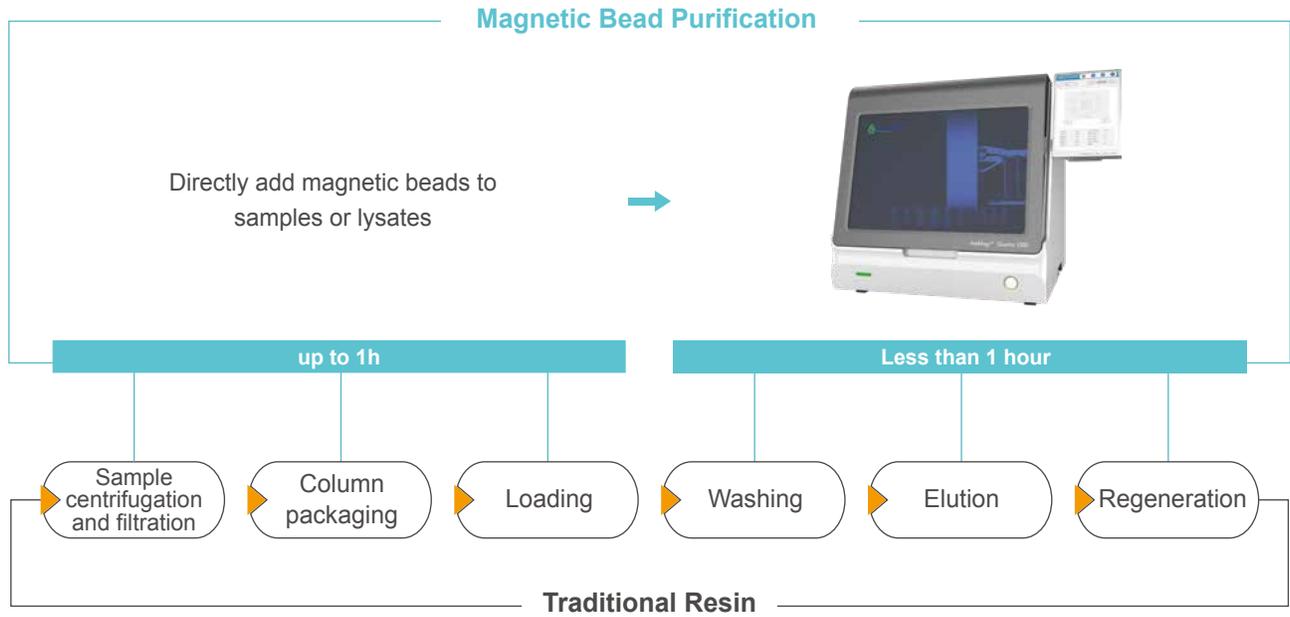
Tagged Protein Purification

6x His, GST, biotin, etc..

Product	Binding Capacity	Package Size	Cat No
AmMag™ Ni Magnetic beads 	>10 mg/ml	4 ml	L00776-4
Ni-charged MagBeads	> 20 mg/ml	8 ml	L00295
Glutathione MagBeads	20-30mg/ml	8 ml	L00895
Streptavidin MagBeads	60 nmol D Biotin/ml	2 ml	L00936
MonoRab™ Anti-DYKDDDDK Magnetic Beads	>1.5 mg/ml	10ml	L00835-5

Browse magnetic bead offerings: https://www.genscript.com/Magnetic_bead_products.html

AmMag™ ProAb 1300: Save Time and Simplify Your Protocol



AmMag™ Ultra AT protein A Magbeads

GenScript AmMag™ Ultra AT protein A magbeads (L00945) are developed and optimized for antibody purification for high throughput and high volume applications and can withstand 1M alkali. This product can be reused for up to 100 cycles.

Features

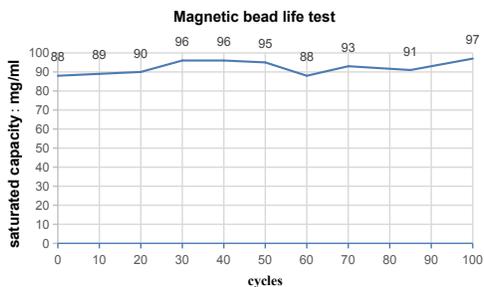
Aglucon	Alkali-resistant recombinant protein A
Diameter	45-100 μ m
Surface substrate	Sepharose gel
Magnetic bead concentration	25% (V/V)
Capacity	> 40mg Human IgG/ml
Preservative	20% EtOH
Storage temperature	2-8°C

Note:

1. The actual beads volume depends on antibody properties;
2. L00945-4 contains 1 ml settled beads with preservative, the total volume is 4 ml

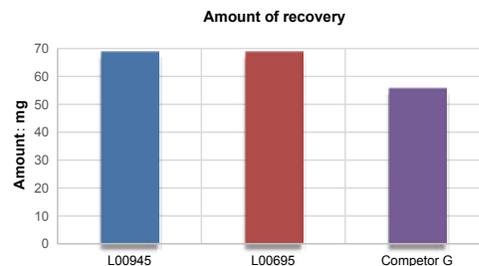
Application Data

• Reusability of Ultra A protein A beads



The saturated capacity of L00945 magnetic beads are almost the same after 100 cycles

• High recovery rate



Under the same condition, the recovery rate of L00945 and L00695 magnetic beads are higher than the competitor

AmMag™ Protein A Magnetic Beads

GenScript AmMag™ Protein A Magnetic Beads (L00695) are super paramagnetic beads with diameter of 45-100µm, covalently coated with alkaline tolerant protein A. The conjugated protein A is a modified recombinant protein that can effectively reduce nonspecific binding. This product can tolerate 0.1-0.5M NaOH and can be reused for up to 40 cycles.

Features

Ligand	Alkali-resistant recombinant protein A
Diameter	50 µm
Surface matrix	Agarose gel
Magnetic bead concentration	25% (V/V)
Capacity	> 40 mg Human IgG/ml
Preservative	20% Ethanol
Storage temperature	2-8 °C

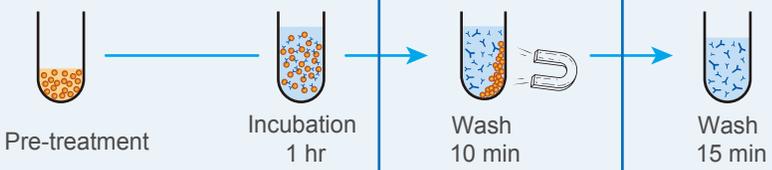
Note:

1. The actual beads volume depends on antibody properties;
2. L00695-4 contains 1 ml settled beads with preservative, the total volume is 4 ml

Case Study

6 × 50 ml human IgG purification

- MagBeads: 500 µl AmMag™ Protein A magnetic beads (combined with magnetic rack)
- Prepacked column: 1 ml prepacked Monofinity A resin (combined with AKTA)

No clarifying step needed	No column packaging	Easy to operate for higher throughput	Extremely gentle sample handling	Save 70% time
No Need	 <p>Pre-treatment Incubation 1 hr Wash 10 min Wash 15 min</p>	Total Time: < 2 h		
Centrifugation and filtration	 <p>Sample loading 2 hr Wash 30-40 min</p>	Total Time: > 4 hours		

Magnetic bead purification can save 70% purification time

AmMag™ Ni Magnetic Beads

GenScript's AmMag™ Ni magnetic beads (L00776) are designed for purification and screening of histidine-tagged (his-tagged) proteins. The beads are highly EDTA and DTT resistant, enabling them to bind proteins in the presence of chelators.

Features

Diameter	70 µm
Surface matrix	Agarose gel
Magnetic beads concentration	25% (V/V)
Capacity	> 10 mg/ml
Preervative	20% Ethanol
Storage temperature	2-8°C

Tolerance

Product	Detergents	Reducing Agents	Salts	Others
6 M Gu-HCl	2% Triton X-100	20 mM β-ME	4 M MgC ₂ I	50% glycerol
8 M Urea	2% Tween 20	20 mM DTT	5 mM CaC ₂ I	20% ethanol
0.1 M HCL	1% CHAPS	100 mM EDTA	2 M NaCl	
1 M NaOH		0.5 M Imidazole		

Ni-charged MagBeads

The GenScript Ni-Charged MagBeads (L00295) are developed for quick and efficient small-scale purification of polyhistidine-tagged proteins under native or denaturing conditions.

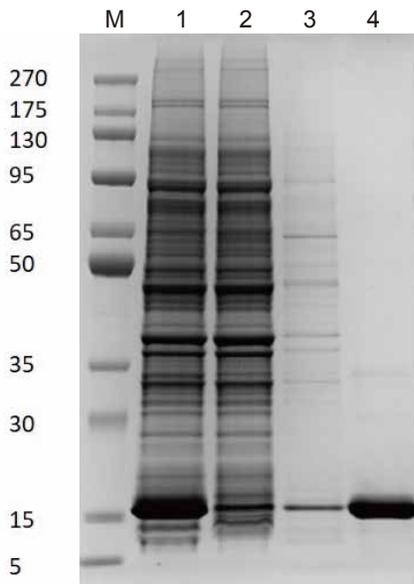
Features

Ligation	NTA
Diameter	20-75 μm
Surface matrix	Agarose gel
Magnetic beads concentration	25% (V/V)
Capacity	> 20 mg /ml
preservative	20% Ethanol
Storage temperature	2-8°C

Note:

1. The actual beads volume depends on antibody properties
2. L00295 contains 2 ml settled beads with preservative, the total volume is 8 ml

Case Study



Shown above is the purification of E. coli lysate (without EDTA and reducer) using GenScript Ni-Charged MagBeads(L00295). This is a one step purification of high-purity protein without centrifugation.

M: maker 1: Initial sample 2: Flow through 3: Wash 4: Elution

Affinity Chromatography

Antibody Chromatography Resins

- High efficiency
- High recovery rate

Among various protein purification technologies, affinity chromatography is absolutely the most important and powerful method since it can offer high selectivity, high resolution, and high capacity for target proteins.

Antibody Purification Resins

Application	Product	Ligand Used	Binding Capacity	Cat No
Antibody purification	Protein A Resin	Recombinant protein A	>20 mg human IgG/ml settled resin	L00210
	Protein A Resin FF	Recombinant protein A on FPLC-compatible resin	>40 mg human IgG/ml settled resin	L00464
	Protein G Resin	Recombinant protein G	>20 mg sheep IgG/ml settled resin	L00209
	Protein G Resin FF	Recombinant protein G on FPLC-compatible resin	≥20 mg human IgG/m settled resin	L00664
	Protein L Resin	Recombinant protein L	>15 mg rabbit IgG/ml settled resin	L00239
Alkaline stable antibody purification resin	Monofinity A Resin	Recombinant alkaline tolerant protein A	>30 mg human IgG/ml settled resin	L00433
Immobilization of sulfhydryl-containing peptides, proteins and other ligands for following purification	High-Affinity Iodoacetyl Resin	-	>9 mg Goat IgG/ml settled resin	L00403
Gravity Columns purification; purification of camelid VHH	MonoRab™ Anti-Camelid VHH Affinity Resin	MonoRab™ Rabbit Anti-Camelid VHH Antibody, mAb	>2 mg Camelid VHH/ml settled resin	L00905
Gravity Columns purification; purification of humanized VHH	MonoRab™ Anti-Humanized VHH Affinity Resin FF	MonoRab™ Anti-Humanized VHH Antibody	>2 mg Humanized VHH/ml settled resin	L00951

MonoRab™ Anti-VHH Affinity Resins

GenScript's MonoRab™ Anti-Camelid VHH Affinity Resin (L00905) and MonoRab™ Anti-Humanized VHH Affinity Resin FF (L00951) are designed for purification of camelid or humanized VHH single domain antibody especially tag-free VHH from commonly used protein expression systems such as bacteria, yeast and mammalian cells. The VHH single domain antibody in cell lysate can specifically bind to anti-VHH monoclonal antibody coupled to the resin. Non-specific binding reactions are eliminated by stringent washing steps, and the purified target protein is eluted with a high recovery rate.

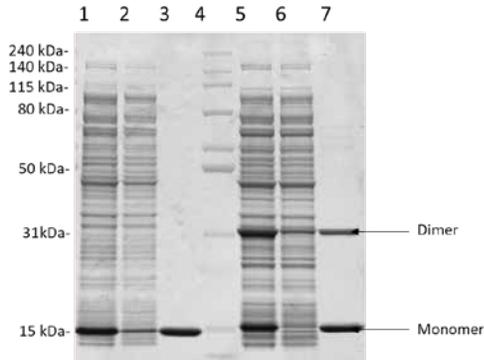


Product Features

Characteristics	L00905	L00951
Product content	50% settled resin in TBS with 0.02% sodium azide	
Matrix	4% cross-linked agarose	4% highly cross-linked agarose
Average bead size	90 µm	
Ligand	MonoRab™ Rabbit Anti-Camelid VHH Antibody, mAb	MonoRab™ Anti-Humanized VHH Antibody, mAb
Binding capacity	> 2 mg Camelid VHH protein per mL settled resin (depending on amino acid sequence of different Camelid VHHs)	> 2 mg Humanized VHH per mL settled resin (depending on amino acid sequence of different Humanized VHHs)
Elution method	Acid buffer elution (pH 2.5)	
Storage and stability	Store at 2-8 °C for up to 12 months. Do not freeze the resin.	
Resin reuse	When stored at 2 - 8° C, the resin can be recycled at least 5 times with no loss of binding capability. While, it can be reused up to 10 times with minimum loss of binding capability.	

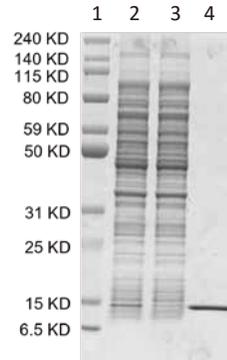
Case Study

Camelid VHH#1 and VHH#2 were purified from *E. coli* lysate using MonoRab™ Anti-Camelid VHH Affinity Resin (GenScript, L00905). The result indicates that the product can purify both monomer and dimer camelid VHH with high specificity.



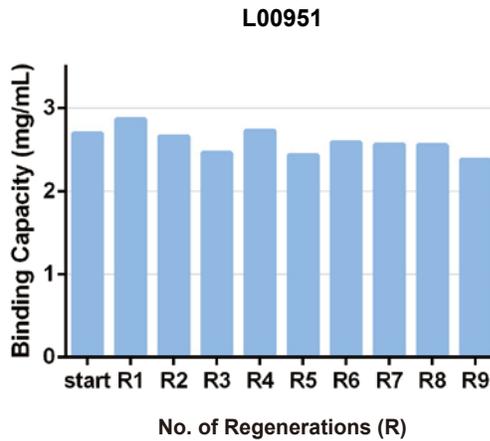
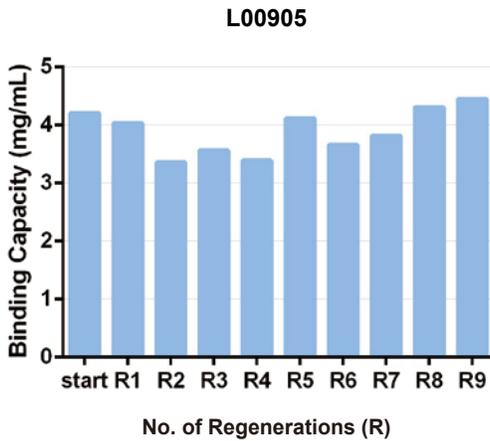
- Lane 1: 1# Camelid VHH whole cell lysate
- Lane 2: 1# Flow through
- Lane 3: Eluate 1# Camelid VHH with L00905
- Lane 4: Broad Multi Color Pre-Stained Protein Standard (GenScript, M00624)
- Lane 5: 2# Camelid VHH whole cell lysate (with Dimer)
- Lane 6: 2# Flow through
- Lane 7: Eluate 2# Camelid VHH with L00905

Humanized VHH#1 was purified from *E. coli* lysate using MonoRab™ Anti-Humanized VHH Affinity Resin FF (GenScript, L00951). The result indicates that the product can purify Humanized VHH with high specificity.



- Lane 1: Broad Multi Color Pre-Stained Protein Standard (GenScript, M00624)
- Lane 2: Whole cell lysate
- Lane 3: Flow through
- Lane 4: Eluate of target Humanized VHH single domain antibody-1

High reusability



MonoRab™ Anti-Camelid VHH Affinity Resin (L00905) and MonoRab™ Anti-Humanized VHH Affinity Resin FF (L00951) can be reused at least 10 times and the binding capacity remains above 80%.

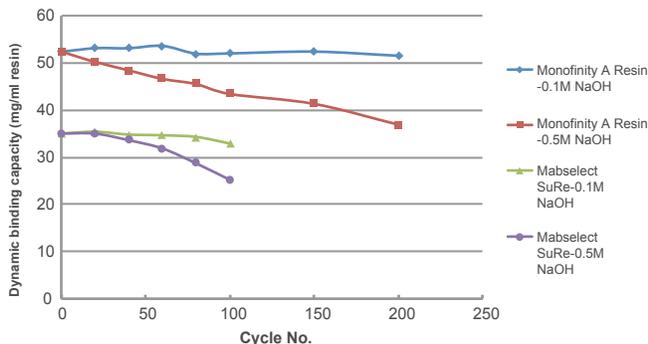
Monofinity A Resins

GenScript's Monofinity A Resin is made of recombinant protein A as ligand, which not only keeps the specific binding capacity to Fc region of immunoglobulin molecules, but also enhances chemical stability under Cleaning-in-place (CIP) conditions. 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.

Specifications

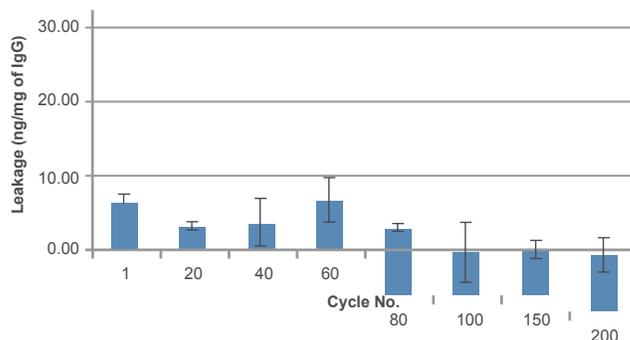
Composition	Highly cross-linked 4% agarose
Average particle size	90 μm
Ligand	Alkali-tolerant recombinant protein A (E. coli)
Dynamic binding capacity (DBC)	>30mg human IgG/ ml
Ligand leakage	<15ng/ mg
Recommended flow rate	50 to 300 cm/ h
Chemical stability	Stable in all commonly used buffers
pH working range	3-12
CIP stability	0.1-0.5M NaOH

High binding capacity and alkaline tolerance



High alkali-tolerance allows the use of 0.1 - 0.5 M sodium hydroxide for cleaning-in-place (CIP). No significant decrease of binding capacity after CIP with 0.1M NaOH for 200 cycles, which the resin can still remain 80% of its binding capacity.

Low ligand leakage



After CIP with 0.1M NaOH for 200 cycles, ligand leakage is less than 10 ng ligand (protein A)/ mg of purified IgG

Protein Purification Resins

Application	Product	Capacity	Cat No
His-tagged protein purification	High Affinity Ni-charged Resin	45-60 mg 6xHis-tagged protein (27 kD) /ml settled resin	L00223
	Ni Resin FF	>40 mg 6xhistidine-tagged protein /ml settled resin	L00465
	High Affinity Ni-Charged Resin FF	>45 mg of histidine-tagged protein /ml settled resin	L00666
His-tagged protein purification (Prepacked Column)	High Affinity Ni-Charged Resin FF Prepacked Column	>45 mg of histidine-tagged protein /ml settled resin	L00683
	Ni-IDA Resin FF Prepacked Column	>40 mg of histidine-tagged protein /ml settled resin	L00684
GST fusion protein purification	Glutathione Resin	>40 mg 6xhistidine-tagged protein /ml settled resin	L00206
	GST Fusion Protein Purification Kit	35-45 mg GST-tagged protein (26kD) /ml settled resin	L00207
Purification of DYKDDDDK tagged protein	MonoRab™ Anti-DYKDDDDK Affinity Resin	Approximately 1.5 mg DYKDDDDK-tagged protein/ml settled resin	L00766
	Anti-DYKDDDDK G1 Affinity Resin	Approximately 1 mg DYKDDDDK-tagged protein/ml settled resin	L00432
Purification of biotinylated protein, antibody, lectin etc.	Streptavidin Resin	120 nmol D-Biotin/ml settled resin	L00353
Immobilization of sulfhydryl-containing peptides, proteins and other ligands for following purification	High-Affinity Iodoacetyl Resin	>9 mg Goat IgG/ml settled resin	L00403
Immunoprecipitation	Anti-His Affinity Resin	>0.8 mg of histidine-tagged protein /ml settled resin	L00439
	Chicken IgY Precipitating Resin	Immunoprecipitation of chicken IgY or the enrichment of chicken primary IgY - protein complexes.	L00405
	Anti-DYKDDDDK IP Resin	Immunoprecipitation of DYKDDDDK-tagged protein or DYKDDDDK-tagged protein-target protein complex.	L00425

Anti-DYKDDDDK G1 Affinity Resins

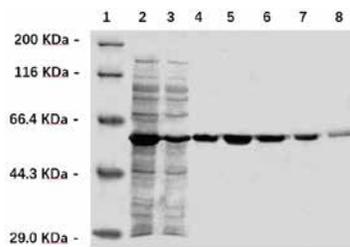
GenScript Anti-DYKDDDDK G1 Affinity Resin (Cat. No. L00432) is designed for the purification of DYKDDDDK-tagged protein from commonly used protein expression systems including bacteria, yeast and mammalian cells.

Characteristics

Product content	50% settled resin in TBS with 0.02% sodium azide
Matrix	4% cross-linked agarose
Average bead size	90 μm
Ligand	Mouse monoclonal antibody against DYKDDDDK tag, clone G1
Binding capacity	1 mg DYKDDDDK-tagged protein per ml settled resin
Storage and stability	Store at 2-8 °C for up to 12 months. Do not freeze the resin.
Resin reuse	The resin can be recycled for at least 4 times. If maintained properly, the resin can be reused 10 times with minimum loss of binding capability.

Applications

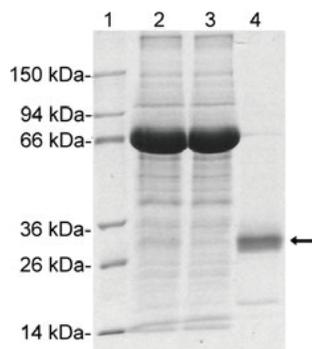
- Purification of DYKDDDDK-tagged protein from *E. coli* lysate



Lanes:

- Whole cell lysate
- Flow through
- Protein marker
- 4-8. Eluate of target DYKDDDDK-tagged protein (M.W. 60.4 kDa)

- Purification of DYKDDDDK-tagged protein from mammalian cells



Lanes:

- Protein marker
- Supernatant from cultured CHO cells
- Flow through after binding
4. Eluate of target DYKDDDDK-tagged protein (M.W. 27.6 kDa)

Resin and Beads for DYKDDDDK-tagged Protein Production and Analysis

Cat No	Product	Application
L00425	Anti-DYKDDDDK IP Resin	Protein Purification; Immunoprecipitation (IP)
L00432	Anti-DYKDDDDK G1 Affinity Resin	
L00766	MonoRab™ Anti-DYKDDDDK Affinity Resin	
L00835	MonoRab™ Anti-DYKDDDDK Magnetic Beads	Protein Purification

High Affinity Ni-Charged Resin FF

GenScript High Affinity Ni-Charged Resin FF (L00666) is an 6% highly cross-linked agarose medium covalently coupled to a chelating agent that binds Ni²⁺ by four coordination sites for high-affinity purification of polyhistidine-tagged recombinant proteins (see Figure 1) [1]. High Affinity Ni-Charged Resin FF has low Ni²⁺ leakage, high protein-binding capacity and stability, and is compatible with a wide range of additives used in protein purification. This makes High Affinity Ni Charged Resin FF the excellent choice for high performance purification of polyhistidine-tagged proteins.

Characteristics

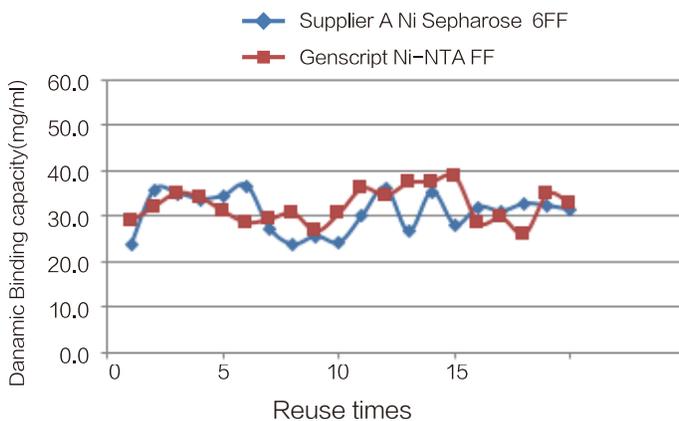
Ligand	NTA
Average particle size	90 μm
Composition	Highly cross-linked 4% agarose
Binding capacity	> 40 mg /ml
Recommended flow rate	50-300 cm/h; < 0.3 Mpa
Reducing agents	≤ 1 mM DTT
pH	3-12
Storage solution	20% ethanol
Storage	2-8°C
Reuse	>20 times

High reusability

Sample: MBP-His

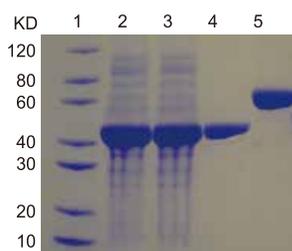
Lysis Buffer: 50 mM NaH₂PO₄, 300 mM NaCl, pH 8.0

Elution Buffer: 50 mM NaH₂PO₄, 300 mM NaCl, 250 mM imidazole, pH 8.0



High Affinity Ni-Charged Resin FF can be reused for up to 20 times with minimum loss of binding capability.

High purity



lane1. Marker 5 uL
lane2. Sample 2 uL
lane3. Flow out 2 uL
lane4. Wash 2 uL
lane5. BSA 10 ug

Sample high purity of elute >90%

Recommendations for other purified products

Product	Capacity	Application	Cat No
High-Affinity Iodoacetyl Resin	More than 9 mg Goat IgG/ml resin	Easy and fast immobilization of sulfhydryl-containing peptides, proteins and other ligands.	L00403
Streptavidin Resin	120 nmol of D-biotin	Purification of biotinylated peptides, antibodies, lectins	L00353

Tag Cleavage Enzymes

- GenScript offers highly specific TEV Protease, Enterkinase, PreScission Protease, 3C protease and Staphylokinase to efficiently remove the protein tags post purification.

Product	Cleavage Site	Cat No
Enterokinase (EK), His, Bovine	DDDDK	Z03004
Enterokinase (EK), His, Lyophilized, Bovine	DDDDK	Z03376
TEV Protease, His	ENLYFQ(G/S)	Z03030
PreScission Protease	LEVLFQ/GP	Z02799
3C protease, His, Human	LEVLFQ/GP	Z03092

ELISA Detection Kits

GenScript His Tag Protein Detection Kit is developed for the detection of His-tagged protein expression and its relative quantification. This kit is based on competitive ELISA.

Protein A ELISA Kits

Applications

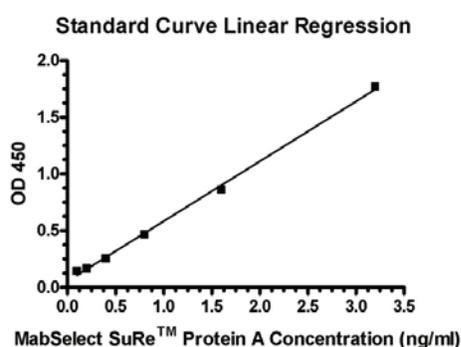
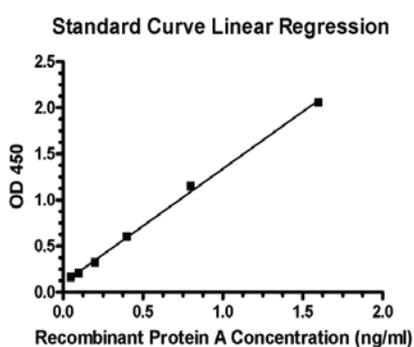
- Broad-range recognition of native Protein A, recombinant Protein A variants and MabSelect SuRe™
- Ultra sensitive detection of Protein A in antibody products to avoid leaching during the resin production
- The quantification of Protein A contaminant and leaching

Key Features

- ▶ **Broad Applicability:** recognizes natural Protein A, recombinant Protein A variants and alkali-resistant recombinant Protein A
- ▶ **High Sensitivity:** accurate detection of 20 pg/ml conventional Protein A and 50 pg/ml alkaline-resistant recombinant Protein A, such as MabSelect SuRe™ and Protein A SuRe ligands (as shown in the figures below)
- ▶ **Excellent Consistency:** high-quality monoclonal antibody ensures the high lot-to-lot consistency of the kit.
- ▶ **Convenient and Simple:** complete assay in less than 2 hours and offer ready-to-use ELISA plate with fast & simple samples preparation

Product Applications

1. High sensitivity and linearity



The standard curve was generated for recombinant protein A detection (left) and for MabSelect SuRe™ Protein A (right), respectively. R-square (left): 0.99841, R-square (right): 0.99802

2. High accuracy

intra-assay			inter-assay		
# of tests	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

Precision is defined as the percent coefficient of variation (%CV). The data above shows CV value of both intra and inter-assay for 3 control samples in low, mid and high concentration range. Intra-assay CV<5% and inter-assay CV<10%

3. High recovery rate

Sample Matrix	Protein A Added (ng/ml)	%Recovery
6.20 mg/ml human IgG	1.50	85.01
1.19 mg/ml customer Ab	1.00	98.07
1.13 mg/ml human IgG	1.20	108.96
1.00 mg/ml human IgG	2.5	100.01

The test was done by spiking Protein A standards from the kit into the IgG sample. The recovery rates are within 85% to 115%.

His Tag ELISA Kits (L00436)

GenScript His Tag ELISA Detection Kit, a 1.5 hour competition ELISA, is developed for rapid and high throughput detection of His-tagged proteins. This kit is based on competitive ELISA method. His Tag Plate in the kit is a 96-well microtiter plate coated with a His-tagged protein with the molecular weight of 12.7 kDa.

Applications

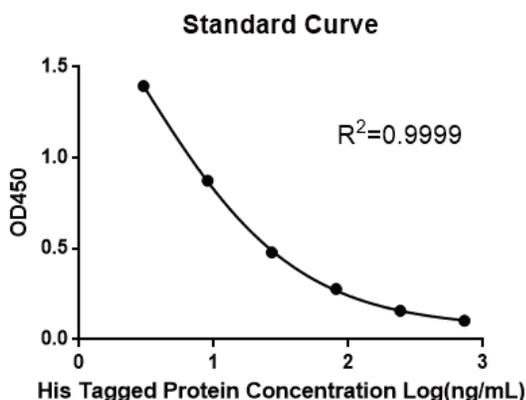
- ▶ Quickly identify the presence of His-tagged proteins in samples
- ▶ High throughput screening of stable cell lines expressing His-tagged proteins.
- ▶ Optimize protein expression by monitoring the His-tagged proteins level

Key Features

Wide detection range	1ng/ml-729 ng/ml
High sensitivity	1ng/ml His-tagged proteins (as shown in the figure below)
Versatility	Tested samples can be: <ul style="list-style-type: none"> • N-terminal/C-terminal/internal His-tagged proteins. • 4 × His/5 × His/6 × His-tagged proteins. • Mammalian, yeast and bacteria cell lysates or cell supernatant.
Conveniency	<ul style="list-style-type: none"> • Provide all reagents required for test. • Complete test within 1.5 hours.
Reagent compatibility	MonoRab™ Anti-DYKDDDDK Magnetic Beads

Application Data

The standard curve below is for demonstration only.



Conc. of His Tag Standard		OD 450		
(ng/ml)	(pmol/ml)	Duplicate 1	Duplicate 2	Average
0	0	2.177	2.183	2.180
1	0.088	1.833	1.831	1.832
3	0.265	1.374	1.418	1.396
9	0.796	0.825	0.922	0.874
27	2.389	0.516	0.444	0.480
81	7.168	0.266	0.289	0.278
243	21.504	0.158	0.157	0.158
729	64.513	0.105	0.101	0.103

Product	Package Size	Cat No
His Tag ELISA Detection Kit	1 Kit	L00436
His Tag Antibody Plate (black, 96 wells, nonremovable)	5 plates	L00440b
His Tag Antibody Plate (white, 96 wells, nonremovable)	5 plates	L00440w
His Tag Antibody Plate (clear, 8×12 strips)	5 plates	L00440c

Endotoxin Detection & Removal System

Endotoxin Detection Kits

Features

- ▶ Strong linearity and reproducibility
- ▶ Ready to use reagents with endotoxin-free tips and tubes
- ▶ Guaranteed high-sensitivity: 0.25 EU/ml

Case Study

Each test includes a positive control and negative control (LAL reagent water). See examples below:

1. Sample: 1 mg/ml protein A in PBS (pH 7.4). Protein A is purified from *E.coli* using Ni-NTA resin
2. Follow the dilution ratio of 1:0000, 1:400000, 1:800000 using LAL reagent water
3. The result of test under the above condition shown as below:

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

4. The endotoxin concentration is between 50,000 and 100,000 EU/ml

Product Information

	ToxinSensor™ Chromogenic LAL Endotoxin Assay Kit	ToxinSensor™ Gel Clot Endotoxin Assay Kit	ToxinSensor™ Single Tests Kit
Introduction	Quantitative in vitro end-point endotoxin test	Qualitative detection for Gram-negative bacterial endotoxin	Single use qualitative In Vitro end-point endotoxin test with different sensitivity
Application	Detect endotoxin concentration	Qualitative detection of bacterial endotoxin level	One-time qualitative detection
Sensitivity	0.01 -1 EU /ml	0.25 EU /ml	0.03EU/ml-0.25EU/ml
LAL Reagent Water	Include	Include	No
Spectrophotometer	Yes	No	No
Reagent	Ready to use reagents with endotoxin-free tips and tubes	Ready to use reagents with endotoxin-free tips and tubes	Ready to use reagents
Requirement	Transparent liquid	N/A	N / A
Size	L00350C 16 rxns L00350 32 rxns	L00351 40 rxns	L00856-L00859 20 /40 rxns

ToxinSensor™ Chromogenic End-point Endotoxin Assay Kits

A highly sensitive end-point LAL endotoxin test

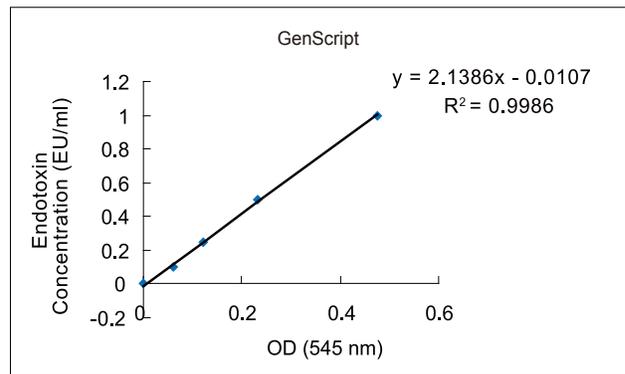
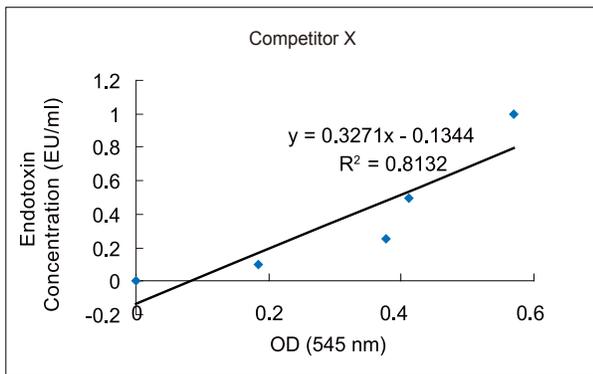
Features

- ▶ Strong linearity and reproducibility
- ▶ Ready to use reagents with endotoxin-free tips and tubes
- ▶ Guaranteed high-sensitivity: 0.005 EU/ml

ToxinSensor™ Endotoxin Detection System uses FDA recommended Amebocyte Lysate testing method to achieve a fast and highly sensitive endotoxin assay.

Application Data

- Strong linearity and reproducibility



The Comparison tests between GenScript and competitor X using the end-point endotoxin assay kit to test the endotoxin standard ranging from 0.1- 1 EU/ml.

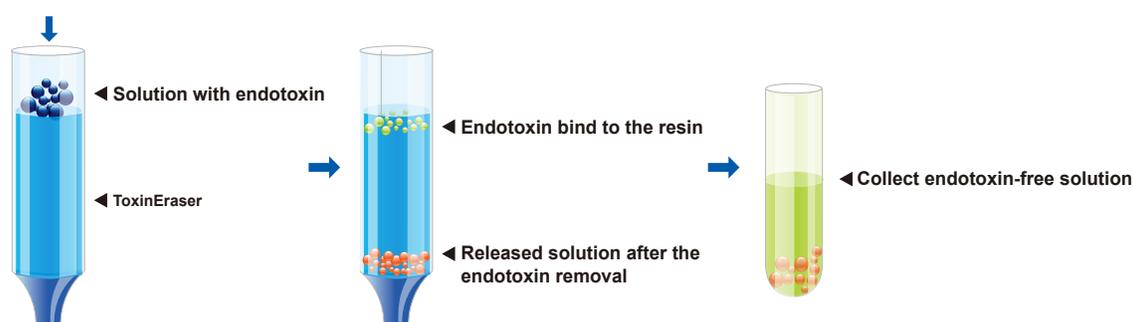
Ordering Information

Product	Size	Cat No
ToxinSensor™ Chromogenic LAL Endotoxin Assay Kit	1 Kit (16rxns)	L00350C
	1 Kit (32rxns)	L00350
ToxinSensor™ Gel Clot Endotoxin Assay Kit	1 Kit (40rxns)	L00351

ToxinEraser™ Endotoxin Removal Kits

Solutions to an Endotoxin-Free World

GenScript's ToxinEraser™ is an endotoxin removal resin of high efficiency. It is based on affinity matrix of modified polymyxin B (PMB), which allows highly efficient endotoxin removal. The final endotoxin level can be decreased to less than 0.1 EU/ml with repeated use of ToxinEraser™ endotoxin removal resin. Final removal efficiency may vary depends on the sample type/source.



Features

- ▶ High stability and high removal
- ▶ High binding capacity: > 2,000,000 EU/ml(CV)
- ▶ Fast flow without any constant speed pump
- ▶ Reusable up to five times if properly regenerated
- ▶ Ready-to-use reagents and materials, such as equilibration buffer, collection tubes, etc.

Kit Contents

Kit Contents	3-5 reactions
ToxinEraser™ Endotoxin Removal Resin	1.5 ml pre-packed column
Regeneration Buffer (M01053)	125 ml
Equilibration Buffer (M01054)	125 ml
Flow-Speed Control	1 unit
Collection Tubes	1 bag (3 Tubes)
Tips(1 ml)	2 bags (6 Tips/bag)

Product List

Product	Package size	Cat No
ToxinEraser™ Endotoxin Removal Resin	1 ml (2 ml of 50% slurry)	L00402
ToxinEraser™ Endotoxin Removal Kit	1 kit	L00338
Regeneration Buffer	125 ml	M01053
Equilibration Buffer	125 ml	M01054

Chapter 6

Antibodies

- Epitope Tag Antibodies
- Anti-idiotypic Antibodies
- Anti-Camelid VHH Antibodies

Epitope Tag Antibodies

Recombinant DNA technology allows researchers to construct fusion proteins which express the gene of interest fused with an epitope tag. Epitope tags make screening, detection, and purification of recombinant proteins easy. The most commonly used epitope tags include His, GST, Flag, cMyc, HA, V5, and Strep II.

GenScript offers more than 70 highly specific monoclonal and polyclonal antibodies against over 20 different tags. They are pre-validated for a variety of immunological applications, such as western blot analysis, immunoprecipitation, immunofluorescence, and affinity purification.

Features

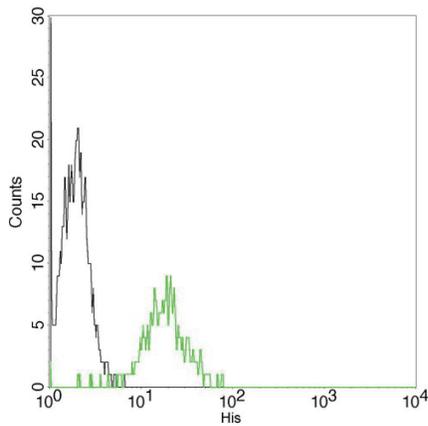
			
High specificity	High sensitivity	Excellent consistency	Wide applications
	HRP BIOTIN FITC iFluor		
Premium rabbit mAbs	Various conjugates	Available in bulk	Extensive quality control

Selection of common label antibody

Tag	Ab Type	Unconjugated	Conjugate					
			HRP	Biotin	FITC	iFluor 488	iFluor 555	iFluor 647
His	mAb, Mouse	A00186	A00612	A00613	A01620	A01800	A01801	A01802
	mAb, Rabbit	A01857						
	pAb, Rabbit	A00174		A00205				
Strep Tag II	mAb, Mouse	A01732	A01742	A01737	A01736			
	pAb, Rabbit	A00626	A00875					
Flag	mAb, Mouse	A00187	A01428	A01429	A01632	A01809	A01810	A01811
	mAb, Rabbit	A01868	A01869	A01870	A01871			
	pAb, Rabbit	A00170						
GST	mAb, Mouse	A00865	A00866	A00867				
	pAb, Rabbit		A00130	A00202				
HA	mAb, Mouse	A01244	A01296		A01621	A01806		A01808
	mAb, Rabbit	A01963		A02002				
	pAb, Goat	A00168						
V5	mAb, Mouse	A01724	A01733	A01735		A01803	A01804	A01805
	pAb, Rabbit	A00623	A00877					
c-Myc	mAb, Mouse	A00704	A00863	A00864				
	pAb, Rabbit	A00172	A00173					

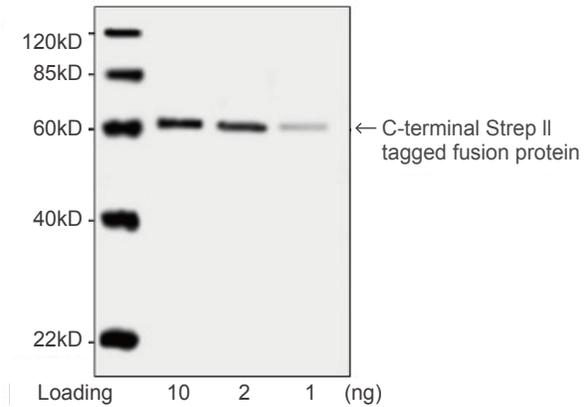
Case Study

Ultra specificity



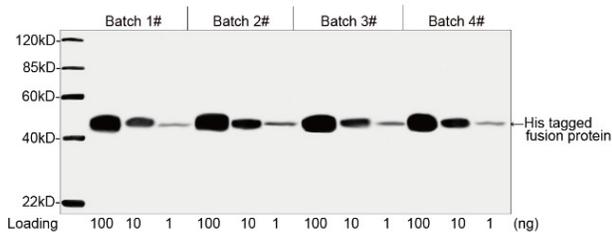
Flow cytometric analysis of non-transfected or His fusion gene transfected CHO cells using **THE™ His Tag Antibody, mAb, Mouse (GenScript, A00186)** (black and green, respectively). The signal was developed with FITC conjugated Goat Anti-Mouse IgG.

High sensitivity



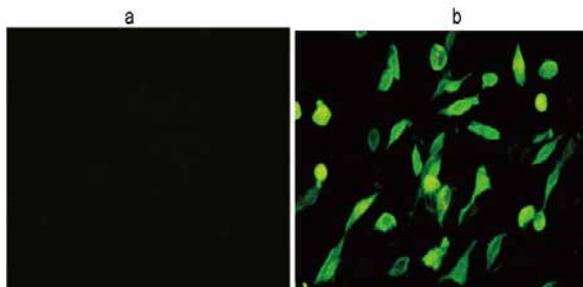
Western blot analysis of C-terminal Strep II tagged fusion protein using **THE™ NWSHPQFEK Tag Antibody, mAb, Mouse (GenScript, A01732, 0.2 µg/ml)**. The signal was developed with IRDye™ 800 Conjugated affinity Purified Goat Anti-Mouse IgG.

Excellent lot-to-lot consistency

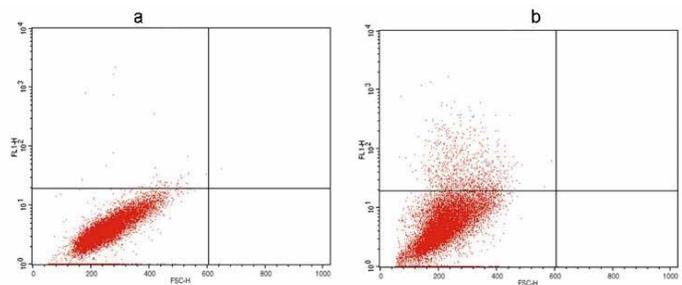


Consistency analysis of Batch 1#, 2#, 3# and 4# of **THE™ His Tag Antibody, mAb, Mouse (GenScript, A00186, 1 µg/ml)** by Western blot, showing that signal remains consistent from Lot to Lot. The assay was performed with His-tagged fusion protein. The signal was developed with IRDye™ 800 Conjugated Goat Anti-Mouse IgG.

Broad range of validated applications



Immunocytochemistry/Immunofluorescence analysis of non-transfected CHO cells (a) or His-tagged protein transfected CHO cells (b) Using **THE™ His Tag Antibody [iFluor 488], mAb, Mouse (A01800-100, 4 µg/ml)**.



Flow cytometry analysis of non-transfected CHO cells (a) and V5 fusion gene transfected CHO cells (b) using **THE™ V5 Antibody, mAb, Mouse (GenScript, A01724)**. The signal was developed with FITC conjugated Goat Anti-Mouse IgG.

Related Products

Tagged protein isolation & purification

Type	Product	Cat No
Resin	High Affinity Ni-charged Resin	L00223
	Ni Resin FF	L00465
	High Affinity Ni-Charged Resin FF	L00666
	MonoRab™ Anti-DYKDDDDK Affinity Resin	L00766
	Anti-DYKDDDDK G1 Affinity Resin	L00432
	Anti-DYKDDDDK IP Resin	L00425
	Glutathione Resin	L00206
Magnetic Beads	Ni-charged MagBeads	L00295
	AmMag™ Ni Magnetic Beads	L00776
	MonoRab™ Anti-DYKDDDDK Magnetic Beads	L00835
	Glutathione MagBeads	L00327
Kit	GST Fusion Protein Purification Kit	L00207
Peptide	DYKDDDDK Peptide	RP10586

Tagged protein detection

Cat No	Product
L00436	His Tag ELISA Detection Kit
L00440B	His Tag Antibody Plate (black, 96 wells, nonremovable)
L00440C	His Tag Antibody Plate (clear, 8x12 strips)
L00440W	His Tag Antibody Plate (white, 96 wells, nonremovable)
L00455B	DYKDDDDK Tag Antibody Plate (Black, 96-well)
L00455C	DYKDDDDK Tag Antibody Plate (Clear, 8X12 strip)
L00455W	DYKDDDDK Tag Antibody Plate (White, 96-well)
L00411	GST tag ELISA Detection Kit

Tag removal

Cat No	Product
Z03004	Enterokinase, His, Bovine
Z03030	TEV Protease, His
Z03092	3C protease

Anti-idiotype Antibodies

An antibody that binds to the idiotype (variable region) of another antibody is called an anti-idiotype antibody (anti-ID Abs). This antibody is commonly used in pharmacokinetic (PK) and pharmacodynamics (PD) studies and immunogenicity assay.

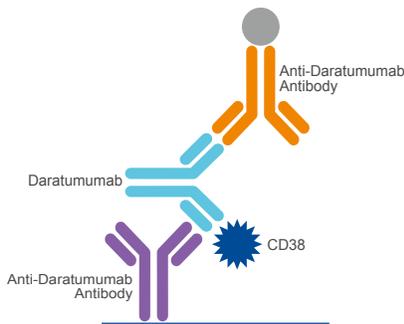
GenScript has developed a broad range of off-the-shelf anti-idiotype antibodies against blockbuster drugs to help accelerate your research of biosimilars.

Applications

- Pharmacokinetic (PK) studies: Measure the drug level in patient samples
- Immunogenicity (anti-drug antibody, ADA) assays: Positive control or reference standards

Features

- Ready-to-use Anti-ID Pairs, can be used for Sandwich ELISA
- Wide detection range
- High Sensitivity MonoRab™ mAb, perfect for picomolar-level immunoassay



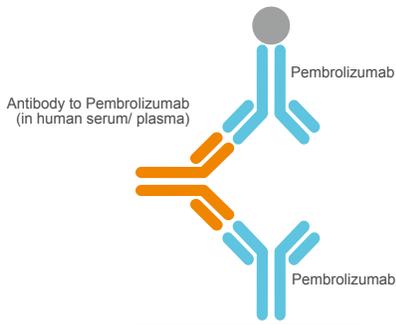
Schematic image of total Daratumumab or the biosimilar (free, partially bound, fully bound) PK study.

The assay was developed by using Anti-Daratumumab Antibody, mAb, Mouse (Cat.No. A01996) as capture antibody and Anti-Daratumumab Antibody (6A3), mAb, Mouse (Cat.No. A01997) as the detection antibody.

Note: A01977 was labeled with Biotin in this assay.

Sensitivity	39 pg/ml
Detection Range	78-1250 pg/ml
Test Samples	Human serum/plasma, mouse serum/plasma

Figure 1. Example of Bridging ELISA-based PK assay

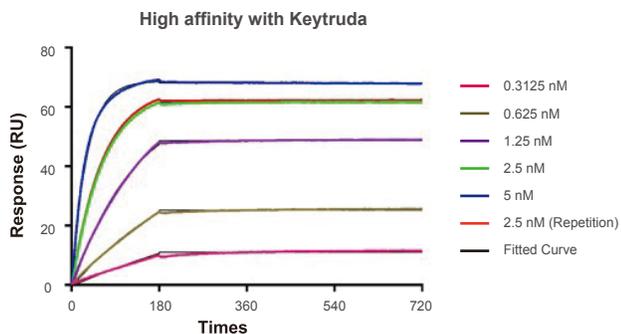


Schematic image of Pembrolizumab or the biosimilar immunogenicity assay.

Anti-Pembrolizumab Antibody, pAb, Rabbit (Cat.No. A01846) can be used as positive control for the standard curve.

Sensitivity	0.20 ng/ml
Detection Range	1.56-100 ng/ml
Test Samples	Human serum/plasma (EDTA), mouse serum, rat serum/plasma (heparin), rabbit serum/plasma (heparin)

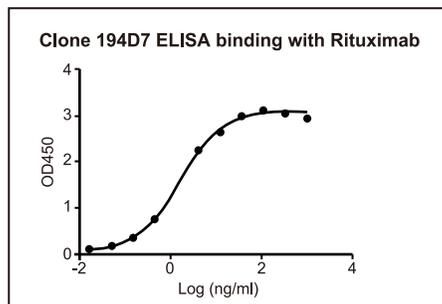
Figure 2. Example of Bridging ELISA-based ADA assay



The affinity of MonoRab™ Anti-Pembrolizumab

Antibody (90G12F8), mAb, Rabbit (Cat.No. A01853) towards Keytruda was measured by

SPR method; $K_d < 10^{-12}$ M.



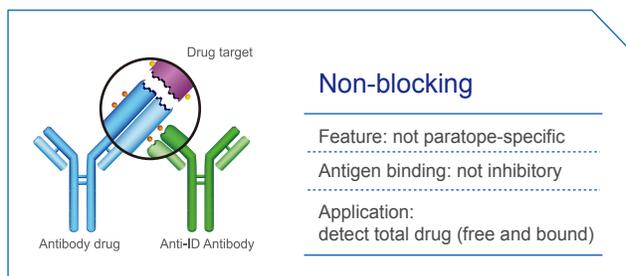
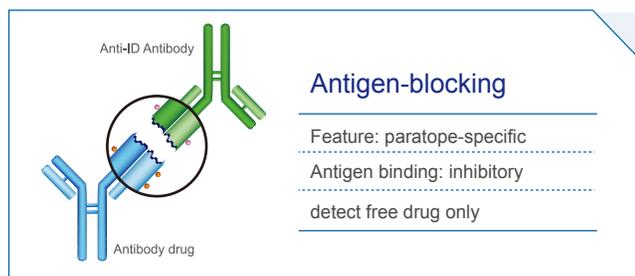
MonoRab™ Anti-Rituximab Antibody

(Clone ID:194D7), mAb, Rabbit: dilute from 1,000 ng/ml

Immunogen: Rituximab, 1 ug/ml

EC50= 1.618 ng/ml

Type



Product List:

GenScript offers more than 100 anti-ID antibodies identifying 28 blockbuster drug targets

• Antibody Pairs for PK Study

Drug target	Antibody	Antibody type	Capture	Detection-unconjugated	Detection-Biotin conjugated
CD20	Anti-Obinutuzumab	mAb, Mouse	A01945-40	A01946-40	A01947-40
		mAb, Rabbit	A01966-40	A01967-40	A01968-40
	Anti-Rituximab	mAb, Mouse	A01969-40	A01970-40	A01971-40
		mAb, Rabbit	A01942-40	A01943-40	A01944-40
CD38	Anti-Daratumumab	mAb, Mouse	A01996-40	A01997-40	
Complement Protein C5	Anti-Eculizumab	mAb, Mouse	A02115-40	A02116-40	
CTLA-4	Anti-Ipilimumab	mAb, Mouse	A01859-40	A01961-40	A01858-40
EGF Receptor	Anti-Cetuximab	mAb, Mouse	A01939-40	A01938-40	
		mAb, Rabbit	A01991-40	A01992-40	
	Anti-Panitumumab	mAb, Mouse	A02100-40	A02099-40	
HER2	Anti-Pertuzumab	mAb, Mouse	A02150-40	A02151-40	
	Anti-Trastuzumab	mAb, Mouse	A02032-40	A02033-40	
Human IgE	Anti-Omalizumab	mAb, Mouse	A02095-40	A02094-40	
IL-12 & IL-23	Anti-Ustekinumab	mAb, Mouse	A02118-40	A02117-40	
IL-17A	Anti-Secukinumab	mAb, Mouse	A02152-40	A02153-40	
IL-4Rα	Anti-Dupilumab	mAb, Mouse	A02098-40	A02097-40	
IL-6 Receptor	Anti-Tocilizumab	mAb, Mouse	A01978-40	A01979-40	A01980-40
	Anti-Sarilumab	mAb, Mouse	A02042-40	A02043-40	
PD-1	Anti-Nivolumab	mAb, Mouse	A01847-40	A01965-40	A01848-40
		mAb, Rabbit	A01987-40	A01988-40	A01989-40
	Anti-Pembrolizumab	mAb, Rabbit	A02008-40	A02007-40	
PD-L1	Anti-Atezolizumab	mAb, Mouse	A01948-40	A01949-40	A01950-40
		mAb, Rabbit	A01984-40	A01985-40	A01986-40
	Anti-Avelumab	mAb, Mouse	A02121-40	A02120-40	
RANK Ligand	Anti-Denosumab	mAb, Mouse	A02101-40	A02102-40	
RSV F	Anti-Palivizumab	mAb, Mouse	A02112-40	A02111-40	
TNF alpha	Anti-Adalimumab	mAb, Mouse	A01954-40	A01955-40	A01956-40
		mAb, Rabbit	A01921-40	A01922-40	
	Anti-Etanercept	mAb, Mouse	A02114-40	A02113-40	
	Anti-Infliximab	mAb, Mouse	A02040-40	A02041-40	
VEGF-A	Anti-Bevacizumab	mAb, Mouse	A01975-40	A01976-40	A01977-40
		mAb, Rabbit	A01895-40	A01962-40	A01896-40
	/		A02185-40 (mAb, Mouse)	A01962-40 (mAb, Rabbit)	A01896-40 (mAb, Rabbit)
	Anti-Ranibizumab	mAb, Mouse	A02035-40	A02036-40	

• Antibodies for Immunogenicity Assays

Drug target	Antibody	Antibody type	Cat No
CD20	Anti-Obinutuzumab	pAb, Rabbit	A01933-40
	Anti-Rituximab	pAb, Rabbit	A01918-40
EGF Receptor	Anti-Panitumumab	pAb, Rabbit	A02063-40
IL-12 & IL-23	Anti-Ustekinumab	pAb, Rabbit	A02123-40
IL-6 Receptor	Anti-Tocilizumab	pAb, Rabbit	A01932-40
	Anti-Sarilumab	pAb, Rabbit	A02122-40
PD-1	Anti-Nivolumab	pAb, Rabbit	A01931-40
	Anti-Pembrolizumab	pAb, Rabbit	A01846-40
RSV F	Anti-Palivizumab	pAb, Rabbit	A02064-40
TNF alpha	Anti-Adalimumab	pAb, Rabbit	A01886-40
	Anti-Golimumab	pAb, Rabbit	A02093-40
	Anti-Infliximab	pAb, Rabbit	A02061-40
VEGF-A	Anti-Bevacizumab	pAb, Rabbit	A01887-40
	Anti-Ranibizumab	pAb, Rabbit	A02037-40

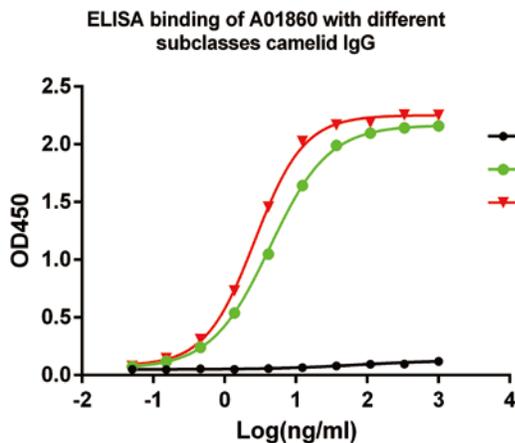
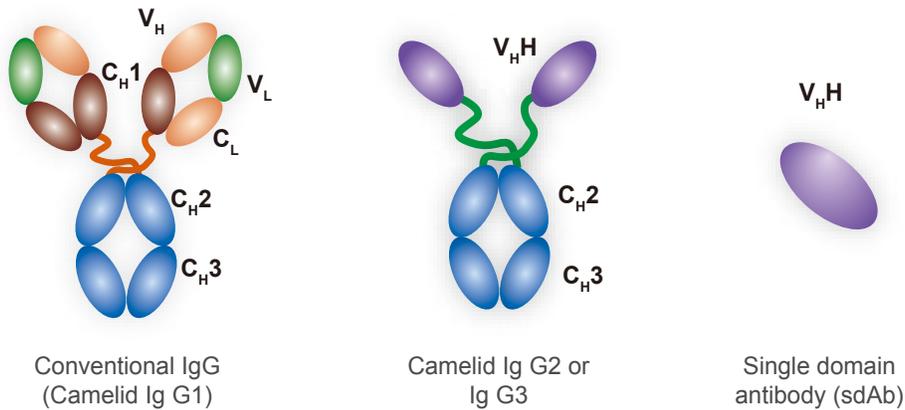
MonoRab™ Anti-VHH Antibodies

MonoRab™ Rabbit Anti-Camelid VHH Monoclonal Antibody

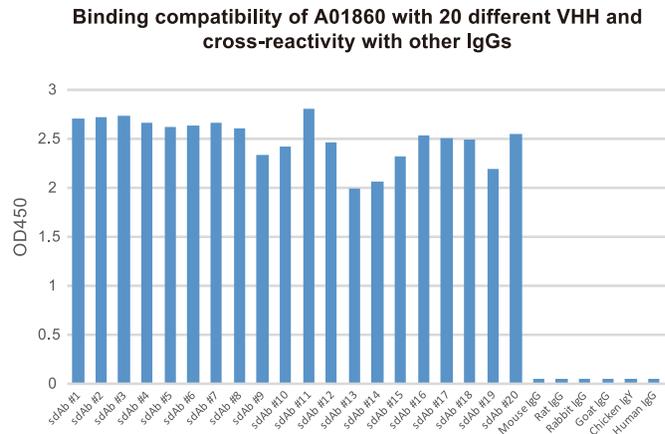
Single domain antibody (VHH) possesses unique properties, such as small size, robust structure, high solubility to hidden and essential epitopes. Despite its small size (about 15 kDa), VHH is capable of binding an antigen with high specificity and affinity. Thus, VHH is a promising tool in therapeutics and immunodiagnostics applications, such as developing recombinant antibody drugs and CAT-T therapy.

Features

- **High affinity:** MonoRab™ technology guarantees high affinity: $K_d \approx 10^{-11}$ M
- **High specificity:** specific to camelid IgG2 & IgG3
- No cross reactivity with other species and recognize conformational epitopes of the VHH domain



MonoRab™ Rabbit Anti-Camelid VHH Antibody, mAb (A01860) is specific to camelid heavy chain antibodies (IgG2&3), but not to the camelid conventional antibody (IgG1)

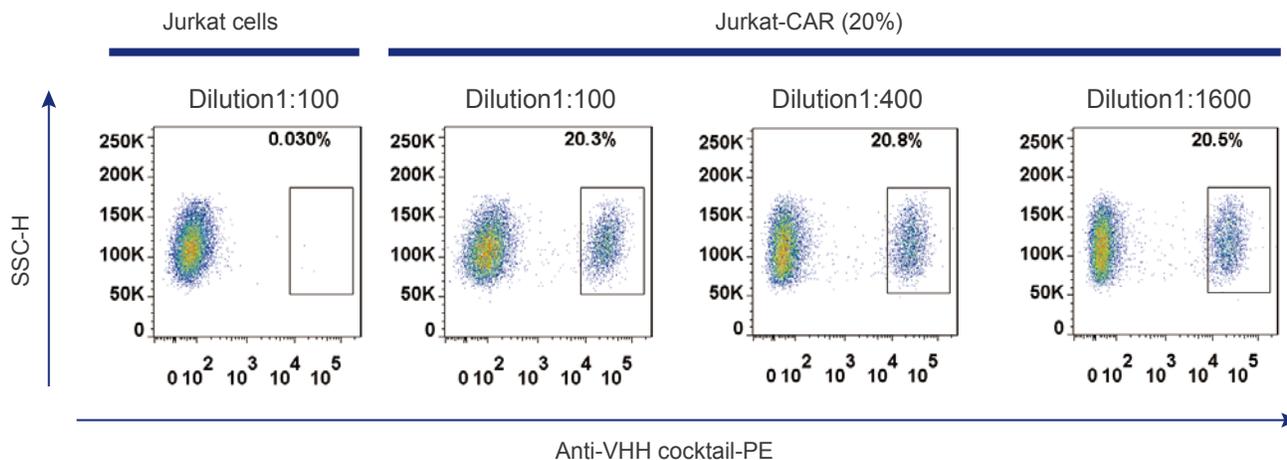


MonoRab™ Rabbit Anti-Camelid VHH Antibody, mAb (A01860) recognized 20 different VHHs. It is specific to Camelid IgG and has no cross-reactivity with mouse, rat, rabbit, goat, chicken and human immunoglobulins.

Applications

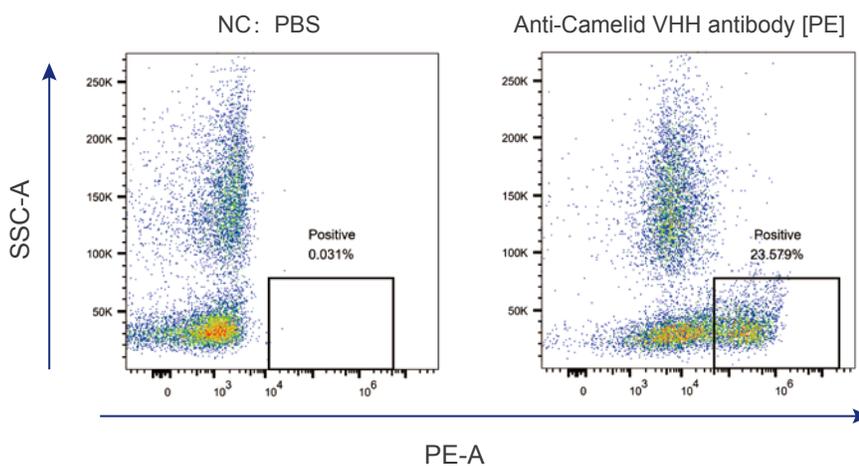
- FACS Validation

Detection of VHH-based CAR-T cells



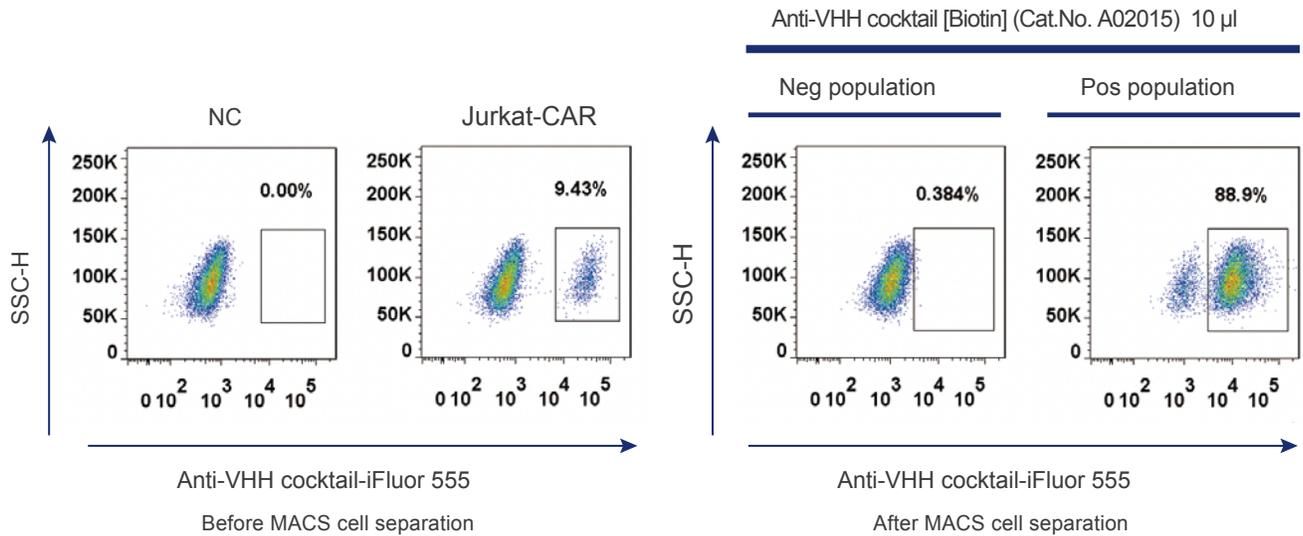
The above data shows FACS binding of a series of dilutions of MonoRab™ Rabbit Anti-Camelid VHH Cocktail [PE] (Cat. No. A02018) with Jurkat cells and samples containing 20% of VHH-based Jurkat-CAR cells. With the development of CAR-T therapy, VHH is often used in the CAR generation. A02018 shows excellent binding activity on VHH-based Jurkat-CAR cells. It is used in CAR-T cell verification and determination.

Selection of VHH-expressing PBMC



VHH-positive PBMCs of non-immunized camel were sorted by FACS using 2 µg MonoRab™ Rabbit Anti-Camelid VHH Cocktail [PE] (Cat.No. A02018). As shown in the figure, the proportion of VHH-positive PBMC cells was 23.579%, which was consistent with the theoretical value, indicating that A02018 has good specificity for VHH-positive PBMCs. A02018 is ideal to be used for isolation of VHH-positive PBMCs.

• MACS Validation

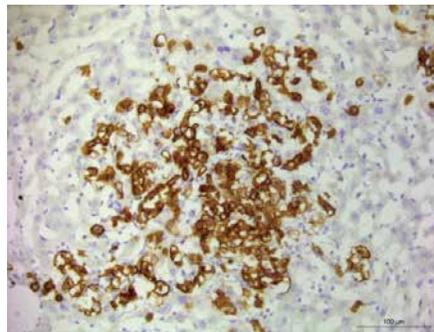


VHH-based CAR-T cells were sorted by MACS with MonoRab™ Rabbit Anti-Camelid VHH Cocktail [Biotin] (Cat. No. A02015) and anti-Biotin magnetic nanobeads (Miltenyi) where naïve T cells serve as negative control. Then, the CAR-T cells were stained with MonoRab™ Rabbit Anti-Camelid VHH Cocktail [iFluor 555] (Cat. No. A02020) and analyzed by FACS.

As shown in the figure, the ratio of positive CAR-T cells grows from about 10% to 90% after MACS cell separation. A02015 is ideal to be used for CAR-T cell MACS separation.

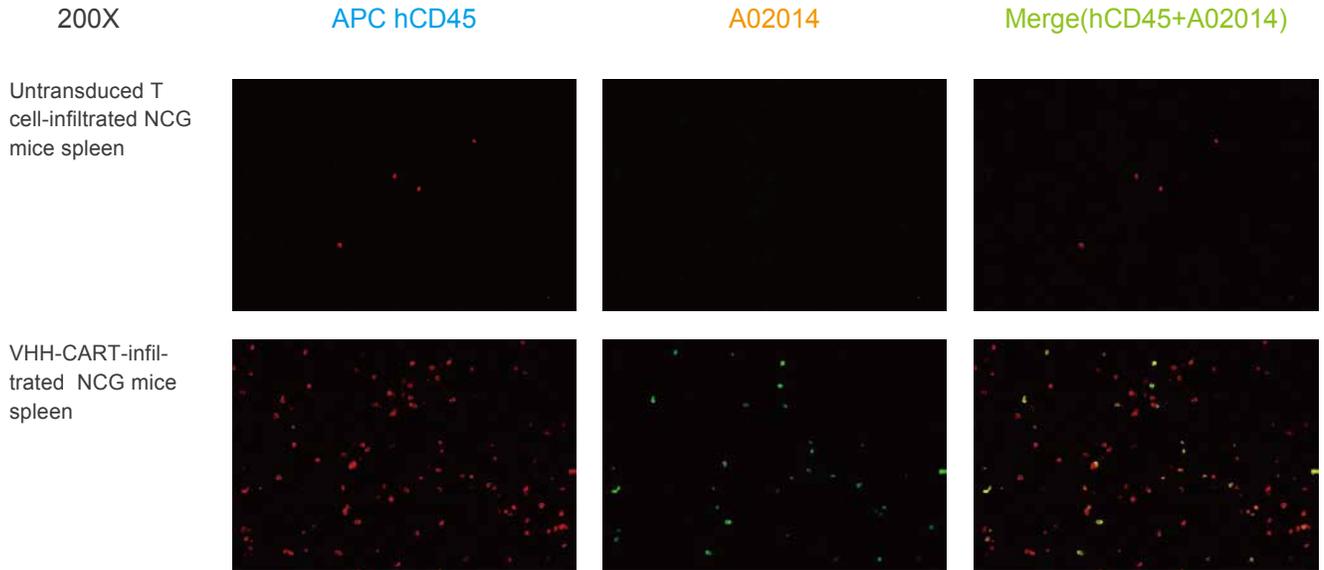
• IHC Validation

VHH-CAR-T infiltrated liver



• Immunohistochemical analysis of VHH-transduced CAR-T cells infiltrated liver tissue of PDX mouse. VHH was labelled with MonoRab™ Rabbit Anti-Camelid VHH Cocktail (Cat. No. A02014) at 1 μ g/ml, followed by incubation of biotinylated anti-rabbit IgG (H+L) (2.5 μ g/ml). The final signal was amplified by ABC (Avidin-Biotin Complex) Kit.

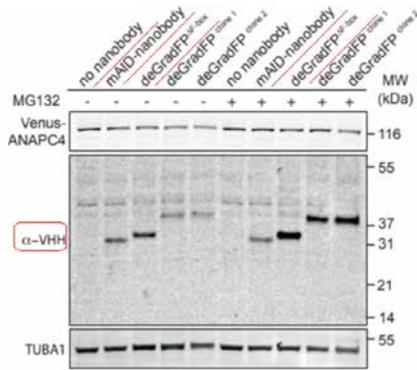
Positive staining was shown in the membrane or cytoplasm of VHH-transduced CAR-T cells infiltrated into liver tissue. Counterstained with hematoxylin.



- Immunofluorescence analysis of VHH-transduced CAR-T cells infiltrated NCG mouse spleen, VHH was labelled with MonoRab™ Rabbit Anti-Camelid VHH Cocktail (Cat. No. A02014) at 0.5 µg/ml, and anti-rabbit IgG (H+L) (Alexa Fluor 488) was used as secondary antibody at 1/500 (4 µg/ml) (Green).
- APC hCD45 monoclonal antibody was used to define all infused T cells at 1/50 (0.5 µg/ml) (Red).
- Confocal images showed cytoplasmic staining in infiltrated VHH-transduced CAR-T cells in the NCG mouse spleen. The untransduced infiltrated T cells showed a negative signal with A02014.

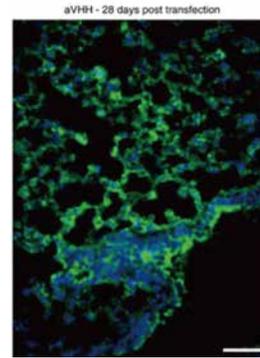
Customer Validation

Western Blot



Source: Pooja Munnial Tiwari. Engineered mRNA-expressed antibodies prevent respiratory syncytial virus infection. Nat Commun.2018; 9: 3999 (Cat No A01860).

IF



Source: Katrin Daniel. Conditional control of fluorescent protein degradation by an auxin-dependent nanobody. Nat Commun. 2018; 9: 3297 (Cat No A01860).

Product

Product type	Species specificity	Unconjugated	Conjugated						
			HRP	Biotin	iFluor 488	iFluor 555	iFluor 647	PE	FITC
Anti-Camelid VHH,mAb	Llama, Camel, Alpaca	A01860	A01861	A01995	A01862	A01863	A01994		
Anti-Humanized VHH,mAb	Humanized, Llama, Camel, Alpaca	A02165	A02167	A02166	A02168	A02169	A02170		
Anti-Camelid VHH,mAb Cocktail	Llama, Camel, Alpaca	A02014	A02016	A02015	A02021	A02020	A02019	A02018	A02017

Chapter 7

IVD Antibodies

- COVID-19 Products
- IVD Raw Materials
- Antigens
- Other Products

IVD Antibodies

In Vitro Diagnostics (IVD)

GenScript offers various of high-quality IVD antibodies for several scientific applications including time-resolved fluorescence immunoassay (TRFIA), fluorescent lateral flow immunoassay (LFIA), gold immunochromatographic assay (GICA), chemiluminescent immunoassay (CLIA), latex particle-enhanced turbidimetric immunoassay (LETIA), and enzyme-linked immunosorbent assay (ELISA) for IVD kit development.

Features

High capacity,
5-20 g per
batch

High specificity,
sensitivity, and
consistency

Humanized
antibody for
positive control,
and mouse/rabbit
antibody pairs for
diagnostic targets

Multiple scientific
applications,
including CLIA,
ICA, TRFIA,
ELISA

Widely used by
customers

Type	Product	Cat No	Host	Note
COVID-19 Protein	SARS-CoV-2 Nucleocapsid Protein	T80103	<i>E. coli</i>	N-His
	SARS-CoV-2 Spike Protein (RBD)	T80301	<i>Insect</i>	C-His
		T80302	<i>HEK 293</i>	
		T80307	<i>HEK 293</i>	C-Mouse Fc
	SARS-CoV-2 Spike Protein S1	T80202	<i>HEK 293</i>	C-His
	Human Angiotensin-Converting Enzyme 2 (ACE-2)	T80801	<i>CHO</i>	C-human Fc

Type	Variant	Product	Cat No	Host	Note
COVID-19 Protein Variants	United Kingdom ^{NEW}	SARS-CoV-2 S1 protein, N501Y	T80207	<i>HEK 293</i>	
		SARS-CoV-2 Spike protein (S1, del 69-70, His Tag)	T80206	<i>HEK 293</i>	
		SARS-CoV-2 Spike protein (S1, D614G, His Tag)	T80225	<i>HEK 293</i>	
		SARS-CoV-2 Spike protein (S1, P681H, His Tag)	T80213	<i>HEK 293</i>	
		SARS-CoV-2 Spike protein (S1, del 69-70, N439K, His Tag)	T80211	<i>HEK 293</i>	C-terminal His
		SARS-CoV-2 Spike protein (S1, del Y144, His Tag)	T80210	<i>HEK 293</i>	
		SARS-CoV-2 Spike protein (S1, A222V, His Tag)	T80208	<i>HEK 293</i>	
		SARS-CoV-2 Spike protein (S1, A570D, His Tag)	T80209	<i>HEK 293</i>	
		SARS-CoV-2 Spike protein (RBD, N501Y, His & Avi Tag)	T80308	<i>HEK 293</i>	C-terminal Avi & His

Type	Variant	Product	Cat No	Host	Note
COVID-19 Protein Variants	South Africa ^{NEW}	SARS-CoV-2 Spike protein (S1, N501Y, His Tag)	T80207	HEK 293	
		SARS-CoV-2 Spike protein (S1, E484K, His Tag)	T80215	HEK 293	C-terminal His
		SARS-CoV-2 Spike protein (S1, K417N, His Tag)	T80216	HEK 293	
		SARS-CoV-2 Spike protein (S1, E484K, K417N, N501Y, His Tag)	T80217	HEK 293	
		SARS-CoV-2 Spike protein (RBD, N501Y, His & Avi Tag)	T80308	HEK 293	
		SARS-CoV-2 Spike protein (RBD, E484K, His & Avi Tag)	T80311	HEK 293	C-terminal Avi & His
		SARS-CoV-2 Spike protein (RBD, K417N, Avi & His Tag)	T80312	HEK 293	
		SARS-CoV-2 Spike protein (RBD, E484K, K417N, N501Y, His & Avi Tag)	T80313	HEK 293	
	Other ^{NEW}	SARS-CoV-2 Spike protein (S1, N439K, His Tag)	T80212	HEK 293	C-terminal His
		SARS-CoV-2 Spike protein (S1, Y453F, His Tag)	T80214	HEK 293	
		SARS-CoV-2 Spike protein (RBD, N439K, His & Avi Tag)	T80309	HEK 293	C-terminal Avi & His
		SARS-CoV-2 Spike protein (RBD, Y453F, His & Avi Tag)	T80310	HEK 293	
	Brazil ^{NEW}	SARS-CoV-2 Spike protein (S1, E484K, K417T, N501Y, His Tag)	T80218	CHO	C-terminal His
		SARS-CoV-2 Spike protein (RBD, E484K, K417T, N501Y, Avi & His Tag)	T80317	CHO	C-terminal Avi & His
	US, California ^{NEW}	SARS-CoV-2 Spike protein (S1, W152C, L452R, D614G, His Tag)	T80220	CHO	C-terminal His
		SARS-CoV-2 Spike protein (RBD, L452R, Avi & His Tag)	T80319	CHO	C-terminal Avi & His
	India ^{NEW}	SARS-CoV-2 Spike protein (S1, E484Q, L452R, His Tag)	T80221	CHO	C-terminal His
		SARS-CoV-2 Spike protein (S1, T95I, G142D, E154K, L452R, E484Q, D614G, P681R, His Tag)	T80222	CHO	C-terminal His
SARS-CoV-2 Spike protein (S1, T19R, G142D, L452R, E484Q, D614G, P681R, His Tag)		T80224	CHO	C-terminal His	
	SARS-CoV-2 Spike protein (RBD, E484Q, L452R, Avi & His Tag)	T80321	CHO	C-terminal Avi & His	
India Delta ^{NEW}	SARS-CoV-2 Spike protein (S1, T19R, G142D, del 156-157, R158G, L452R, T478K, D614G, P681R, His Tag)	T80223	CHO	C-terminal His	
	SARS-CoV-2 Spike protein (RBD, L452R, T478K, Avi & His Tag)	T80323	CHO	C-terminal Avi & His	
Nigeria ^{NEW}	SARS-CoV-2 Spike protein (S1, Q52R, del 69-70, E484K, Q677H, D614G, His Tag)	T80219	CHO	C-terminal His	

Type	Product	Cat No	Clone ID	Type
Quality Control Antibody	SARS-CoV-2 Nucleocapsid Antibody	V80101	N22HC	Recombinant Human mAb
		V80110	N22IgM ^{NEW}	
		V80134	N22IgA ^{NEW}	
	SARS-CoV-2 Spike S1 Subunit Antibody	V80201	S13HC	Recombinant Human mAb
		V80301	S13IgM	
		V80302	R323IgM ^{NEW}	
		V80303	IgA2001 ^{NEW}	
	SARS-CoV-2 Neutralizing Antibody Standard ^{NEW}	V80102	/	Neutralizing antibody standard
	SARS-CoV-2 (Omicron) Neutralizing Antibody Standard ^{NEW}	V80402	/	Neutralizing antibody standard

Type	Product	Cat No	Clone ID	Type	Recommended pairs (Capture-Detection)
Paired Antibody	SARS-CoV-2 Nucleocapsid Antibody ^{NEW}	V80131	N339	Rabbit mAb	N338-N34 N340-N341 N341-N339
		V80132	N340		
		V80133	N341		
		V80129	N34		
	SARS-CoV-2 Spike S1 Subunit Antibody	V80135	N338	Mouse mAb	
	SARS-CoV-2 Spike S1 Subunit Antibody	V80202	5B7D7	Mouse mAb	5B7D7-5E10G8
		V80206	5E10G8		

Type	Marker	Cat No	Clone ID	Type
Secondary Antibody	Human IgG Fc	V90401	50D4	Mouse mAb
	Human IgM μ Chain ^{NEW}	V90502	M3HC	Recombinant Human mAb

Disease/assay type	Marker	Cat No	Clone ID	Type	Recommended pairs (Capture-Detection)	Test applications			
Bone Metabolism	25-OH VD3 	V00101	32F9C4	Mouse mAb	-	ELISA/CLIA/LFIA/GICA			
		V00201	2E16	Mouse mAb	-	ELISA/LFIA/CLIA			
	25-OH VD2 & VD3 	V00202	D23HC	Recombinant Human mAb					
		V08701	8H4HC	Recombinant Human mAb					
	PTH 	V08702	NT7HC	Recombinant Human mAb	M18-3-8H4HC 8H4HC-NT7HC	ELISA			
		V08703	M18-3	Mouse mAb	8H4HC-NT7M				
		V08704	NT7M						
	cTnI 	V00301	5C7	Mouse mAb	(32CD+6D11)-5C7 5C7-24E40HC 32CD-5C7	ELISA/GICA/CLIA/LFIA/ Microfluidic Immunoassay			
		V00302	6D11						
		V00303	32CD						
V00306		5C7HC	Recombinant Human mAb	(32CD+6D11)-5C7HC					
V00308		24E40HC							
cTnT 	V00401	25C11	Mouse mAb	26D7-25C11 1H5C2-4B6 4B6H2-12F6	ELISA				
	V00402	26D7							
	V00403	1H5C2							
	V00404	4B6							
	V00405	4B6H2							
	V00406	12F6							
Myoglobin 	V00501	15C2	Mouse mAb	15C2-16D3 16D3-15C2 M8D-M8A	ELISA/LTIA/TRFIA/CLIA/ GICA/Microfluidic Immunoassay				
	V00502	16D3							
	V00503	M8A							
	V00504	M8D							
BNP 	V00601	13C1	Mouse mAb	13C1-14D5 13C1-60C5	ELISA/CLIA/LFIA/ Microfluidic Immunoassay				
	V00602	14D5							
	V00605	60C5							
	NT-proBNP 	V00710				20F13	Mouse mAb	3B42HC-22B11 10B11-22B11 22B11- 20C1	ELISA/LFIA/CLIA
		V00711				20C1			
		V00704				3B42HC	Recombinant Human mAb		
V00705	10B11	Rabbit mAb							
V00706	22B11								
h-FABP 	V00901	27C1C	Mouse mAb	27C1C-HC29 28D1E-27C1C 27C1C-28D1E	ELISA/CLIA/LTIA/TRFIA				
	V00902	28D1E							
	V00904	HC29	Recombinant Human mAb						
S100 	V01001	2AC	Mouse mAb	2AC-2BD1 B7B-2BD1	ELISA/CLIA				
	V01002	2BD1							
	V01003	B7B							
Lp-PLA2	V01101	9C42	Mouse mAb	9C42-10D46	ELISA/LTIA/LFIA/TRFIA				
	V01102	10D46							
CK-MB 	V01301	1F7	Mouse mAb	8D8HC-1F7 1F7-8D8 8D8-2F1	ELISA/CLIA/LFIA/TRFIA/ Microfluidic Immunoassay				
	V01302	8D8							
	V01303	2F1							
	V01304	8D8HC	Recombinant Human mAb						

Disease/assay type	Marker	Cat No	Clone ID	Type	Recommended pairs (Capture-Detection)	Test applications
Cardiovascular markers	cMyBp-c	V01201	9B11C5	Mouse mAb	9B11C5-2G2F3	ELISA
		V01202	2G2F3			
	D-dimer	V01402	18D4	Mouse mAb	16D25-15C18 16D25-18D4 15C18-18D4 15C18-16D25	ELISA/LFIA/CMIA/TRFIA/ GICA/LTIA
		V01403	15C18			
		V01404	16D25			
		V01408	1F3			
	FDP	V11001	6B6	Mouse mAb	6B6-1F3	ELISA/LETIA
	hsCRP	V01501	11C2	Mouse mAb	11C2-12D6 5D2-12D6	ELISA/LTIA/LFIA/TRFIA
		V01502	12D6			
		V01507	5D2			
ST2	V06101	6B3	Mouse mAb	6B3-8H6 6B3-16G5	ELISA/LFIA	
	V06102	8H6				
	V06103	16G5				
Kidney injury markers	NGAL	V01601	5A9D12	Mouse mAb	5A9D12-4C10A7	ELISA/Microfluidic Immunoassay/LTIA/LFIA/ GICA
		V01602	4C10A7			
Fertility and pregnancy	PAPP-A	V01701	19D1	Mouse mAb	1AC2-19D1	ELISA
		V01702	1AC2			
	AMH	V05201	38C9	Mouse mAb	38C9-39D7 38C9-103D6 39D7-103D6 A9C27-39D7 A10C27-38C9	ELISA/CLIA/LFIA
		V05202	39D7			
		V05204	103D6	Rabbit mAb		
		V05206	A9C27	Mouse mAb		
	V05207	A10C27				
	HCG	V07002	5B8	Mouse mAb	5B8-46H8 5B8-5A8 5A8-5B8	ELISA/CLIA/TRFIA
		V07003	46H8			
		V07004	5A8			
Infection and inflammatory	CRP	V01502	12D6	Mouse mAb	2R4-12D6	LTIA/ELISA
		V01505	2R4			
	PCT	V01803	18D2	Mouse mAb	18D2 -PE21 PE9-12C5 PE21-PE9 E72-16A1 PE9-16A1 18D2-16A1 16A1-PE9 18M3-16A1 PE9-18D2 16A1-12C5 18M3-PE9 E72-16A1	ELISA/CLIA/TRFIA
		V01804	16A1			
		V01805	18M3			
		V01807	PE21			
		V01809	PE9			
	Calcitonin	V01902	12C5	Mouse mAb	18M3-PE9 E72-16A1	ELISA/CLIA/TRFIA/LTIA/ CLIA
		V01904	E72			
	SAA	V02001	8C7	Mouse mAb	8C7-6F9 6F9-8C7 MLB2-ML95 MLB2-8C7	ELISA/LFIA/TRFIA/LTIA/ CLIA
V02002		6F9				
V02006		MLB2				
V02007		ML95				
IL6		V06401	55E9	Mouse mAb	55E9-55C6 55C6-55E9	ELISA/CLIA
		V06402	9D4			
		V06403	55C6	Rabbit mAb	125B3-55C6 9D4-125B3 35E1-55C6	
	V06405	35E1				
V06407	125B3					

Disease/assay type	Marker	Cat No	Clone ID	Type	Recommended pairs (Capture-Detection)	Test applications
Tumor markers	PIVKA II ^{HOT}	V06701	1C5	Mouse mAb	1C5-2D7 6C4-2D7	ELISA/CLIA
		V06702	2D7			
		V06703	6C4			
	Pepsinogen I ^{HOT}	V05601	5F2	Mouse mAb	5E3-5F2 1H5-5F2 8C4-1H5	ELISA/LTIA/TRFIA/ CLIA/LFIA
		V05603	1H5			
		V05604	8C4			
	Pepsinogen II ^{HOT}	V05701	61C4	Mouse mAb	7E8-61C4 7E8-5D5 7E8-1H9 7G1-8F5	ELISA/LTIA/TRFIA/ CLIA/LFIA
		V05702	5D5			
		V05703	1H9			
		V05704	7E8			
		V05705	7G1			
	CA72-4	V08001	44E48	Mouse mAb	44E48-D31 44E45-D31	ELISA/CLIA
		V08002	D31			
		V08003	44E45			
	CA125 ^{HOT}	V05901	C33	Mouse mAb	D34-C33	ELISA/CLIA/LFIA
		V05902	D34			
	CA15-3 ^{NEW}	V08601	15D3HC	Recombinant Human mAb	25E3-15D3HC	ELISA/CLIA
		V08602	25E3	Mouse mAb		
	SCC	V08501	SC1	Mouse mAb	SC9-SC1 SC4-SC1	ELISA/CLIA
		V08502	SC4			
		V08503	SC9			
	Ferritin ^{NEW}	V09001	1C2	Mouse mAb	1C2-1H3 1H3-1C2	ELISA/CLIA
		V09002	1H3			
	ProGRP ^{NEW}	V09801	1C10	Mouse mAb	1C10-11B5 11B5-1C10	ELISA
		V09802	11B5			
	CA199 ^{NEW}	V08401	19C7HC	Recombinant Human mAb	19C7HC-19C7HC 9H9-19C7HC	ELISA/CLIA
		V08402	9H9	Mouse mAb		
CA242 ^{HOT}	V06001	1A6	Mouse mAb	1A6-1E1HC	ELISA/CLIA	
	V06002	1E1HC	Recombinant Human mAb			
CEA	V06201	RC66	Mouse mAb	RC66-RC67	ELISA/CLIA	
	V06202	RC67				
AFP	V06301	RC6A	Mouse mAb	RC6A-RC6B	ELISA/LFIA	
	V06302	RC6B				
PSA	V07301	8A12	Mouse mAb	7H2 - 8A12 8A12 - 7H2	ELISA/CLIA/LFIA	
	V07302	7H2				
NSE ^{HOT}	V08901	19A1	Mouse mAb	19E2-19A1	ELISA/CLIA	
	V08902	19E2				
S100	V01001	2AC	Mouse mAb	2AC-2BD1 B7B-2BD1	ELISA/CLIA/LFIA	
	V01002	2BD1				
	V01003	B7B				

Disease/assay type	Marker	Cat No	Clone ID	Type	Recommended pairs (Capture-Detection)	Test applications		
Serology	Human IgE	V05301	RC7H	Mouse mAb	RC13-RC7H	ELISA		
		V05302	RC13					
Diabetes & Metabolism	Hemoglobin ^{HOT}	V07502	3B2	Mouse mAb	3B2-4G1	ELISA/TRFIA/LFIA		
	HbA1c ^{HOT}	V07602	4G1					
Hormones	TSH ^{HOT}	V08101	26A7	Mouse mAb	26A7-CA8 26A7-CT1 CA8-CT1	ELISA/LFIA/CLIA		
		V08102	CA8					
		V08103	CT1					
	T3 ^{HOT}	V06501	HCT3	Recombinant Human mAb	-	ELISA/LFIA/CLIA		
	T4 ^{HOT}	V06601	HCT4	Recombinant Human mAb	-	ELISA/LFIA/CLIA		
	Progesterone ^{NEW}	V09201	5F2HC	Recombinant Human mAb	-	ELISA/LFIA/CLIA		
	Testosterone ^{NEW}	V10601	7B7HC	Recombinant Human mAb	-	ELISA/LFIA/CLIA		
		V10602	8A4HC	Recombinant Human mAb	-	ELISA/LFIA/CLIA		
	Estradiol ^{NEW}	V28801	2H3HC	Recombinant Human mAb	-	ELISA/LFIA/CLIA		
	Estriol ^{NEW}	V14201	3H3HC	Recombinant Human mAb	-	CLIA		
Infectious Diseases	HCV ^{NEW}	V10803	45F4	Recombinant Human mAb	45F4-29D	CLIA		
		V10805	29D	Mouse mAb				
	HIV-1 p24 ^{NEW}	V10901	P152	Mouse mAb	P152-15B2HC 5A4-15B2HC P152-5A4 15B2HC-5A4 M564-P152	ELISA/CLIA		
		V10902	M564					
		V10903	5A4					
		V10904	15B2HC	Recombinant Human mAb				
		V10905	185HC					
V10906	15B1HC							
Alzheimer's disease	β -amyloid	V28701	25G13	Mouse mAb	25G13-6E8 6E8-25G13 A40-6E8	ELISA/CLIA		
		V28702	6E8					
		V28704	A40					
IHC	ALK ^{HOT}	V02101	4A4	Mouse mAb	-	IHC		
	PD-1	V02201	2E5	Mouse mAb				
	PD-L1	V02302	2B3	Rabbit mAb				
		V02303	1H3					
	MSH6	V08201	3B6	Rabbit mAb				
	Human Kappa Light Chain ^{HOT}	V06801	2F1C1	Mouse mAb			-	IHC/Flow Cytometry Assay
	Human Lambda Light Chain ^{HOT}	V06901	2D54					
Tool Antibodies	FITC ^{HOT}	V90101	F11	Rabbit mAb	-	ELISA/CLIA		
	Biotin ^{HOT}	V90201	53C8					
	Mouse IgG (H&L)	V90301	76F10					
	Human IgG Fc	V90401	50D4				Mouse mAb	
	Human IgM μ Chain ^{NEW}	V90502	M3HC				Recombinant Human mAb	

Antigens

Product	Cat No	Source
25-OH VD3-BSA ^{HOT}	T00101	Chemical synthesis
25-OH VD3-HRP	T00102	Chemical synthesis
PIVKA II	T06702	<i>E.coli</i>
PGII	T05701	<i>CHO</i>
SAA	T02002	<i>E.coli</i>
D-dimer ^{NEW}	T01401	Nature
FDP ^{NEW}	T11001	Nature
β-Amyloid (1-42), human ^{NEW}	RP10017	Chemical synthesis

Others

Product	Cat No
Alkaline Phosphatase (ALP) Conjugate Stabilizer ^{NEW}	H00401
Magnetic Beads Stabilization Buffer 01 ^{NEW}	H00601
Magnetic Beads Stabilization Buffer 02 ^{NEW}	H00602
VDBP Dissociation Buffer ^{NEW}	H00501

Chapter 8

COVID - 19

Related Products

- cPass™ Kit

cPass™ SARS-CoV-2 Neutralization Antibody Kit

Studies have shown that NAb's play an important role in the development of immunity to a disease and are important considerations in vaccine development efforts. There is still much to learn about the NAb's that result from SARS-CoV-2 infection. The cPass™ SARS-CoV-2 Neutralization Antibody Kit (for research use only) is an extremely useful, first-of-its-kind research assay that facilitates the specific detection of NAb's in a sample.



Herd Immunity



Immunity Passport

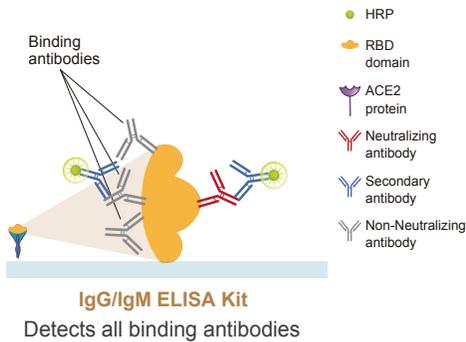


Therapy Validation

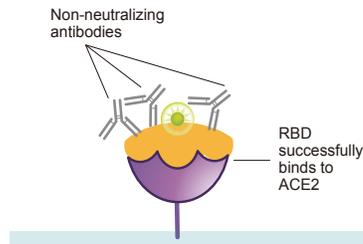


Vaccine Efficacy

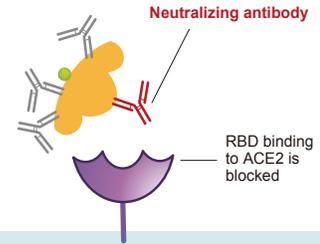
Currently Available Antibody Tests



cPass™ Negative Test



cPass™ Positive Test



cPass™ SARS CoV-2 Neutralization Antibody Detection Kit
Specifically detects neutralizing antibodies

Comparison between PRNT and cPass™ Test (Research Use Only)

	Plaque Reduction Neutralization Test		
	Positive (n=26)	Negative (n=40)	
GenScript SARS-CoV-2 Surrogate Virus Neutralization Test Kit	Positive	26	2
	Negative	0	38
	Positive Percent Agreement	100% (95% CI 87.1 - 100.0%)	
	Negative Percent Agreement		95.0% (95% CI 83.5 - 98.6%)

A direct comparison between the gold standard Plaque Reduction Neutralization Test (PRNT) and the cPass™ SARS-CoV-2 Neutralization Antibody kit. A study of 66 (26 positive and 40 negative) samples showed excellent correlation of results between the cPass™ kit and PRNT.

The only EUA approved & patented neutralizing antibody test on the market.



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