



# The Industry Leader in Developing Reliable Biological Reagents and Products



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**MAKE RESEARCH EASY**

## Our Footprint

Established in 2002,  
GenScript is a leading  
biotech company  
empowering scientists  
**in over 100 countries.**



## Message from Our Chairman

### Dear Researcher,

When we founded GenScript in 2002, we had one important mission in mind: to make research easy, so innovation in biology would accelerate. Having worked in scientific research for many years, I witnessed huge frustration with reagents made in laboratories; issues with quality, speed, and reproducibility caused many delays and cost us tremendous efforts. So by industrializing the making of reagents, GenScript leveraged the power of technology to make **reliable, high-quality reagents with consistency and speed**. This effort empowered researchers across various disciplines in life sciences with the capabilities to achieve more with less.

To date, we have served many clients like you for more than 19 years. We have developed state-of-the-art technology platforms, including the proprietary high-throughput oligo synthesis, GenPlus™ high-throughput gene synthesis, the MolecularCloud™ Platform, PepPower™ automatic microwave-assisted peptide synthesis, high-throughput gene-to-antibody expression, and the MonoRab™ super sensitive rabbit monoclonal antibody generation platforms. These advanced technologies shaped the pillars of our core competence and helped GenScript to become the world's largest gene synthesis provider and a major player in customized reagent production. But, **we are more than our technologies**. We take pride in our deep understanding of researchers and laboratories, as we have over 1,800 employees with Ph.D. or Master's degrees, comprising about 40% of our total team members. **From the labs, for the labs:** we always care about your research more than anyone else because we know that your success is our success.

In the past decades, biology has taken giant leaps forward. Exciting innovations are happening in many areas, including next-generation sequencing, genome editing, synthetic biology, and immunotherapy. At GenScript, we firmly believe that we are at the dawn of a new age in which **revolutionary breakthroughs in biology will finally solve fundamental issues of our humanity**: from curing a variety of diseases and cleaning our environment to providing us safe and sustainable sources of food, we are eventually making our planet a better place to inhabit. This presents a great opportunity as well as a responsibility for all of us in biological sciences. I am confident that we as a community can work together to take advantage of this opportunity to benefit all while sharing the burden of the responsibility that comes with it.

From a humble beginning, GenScript has come a long way, as have the biological sciences. I want to thank everyone who has worked very hard in laboratories worldwide to take us and science this far. It has been a long yet rich journey for us and you, too. We think no one should embark on this journey alone. So we invite you to continue to take us along with you, let us support your growth, and together let's further advance the frontiers of biology to achieve our mission of *'Make Humans and Nature Healthier Through Biotechnology'*.

Sincerely yours,



Robin Meng  
Chairman



## GenScript's Story

## Our Culture

### Our Vision

“Become the Most Trustworthy  
Biotech Company in the World”

### Our Origin

Founded in 2002,  
in Piscataway, New Jersey, USA



### Our Mission

“Make People and Nature  
Healthier Through Biotechnology”

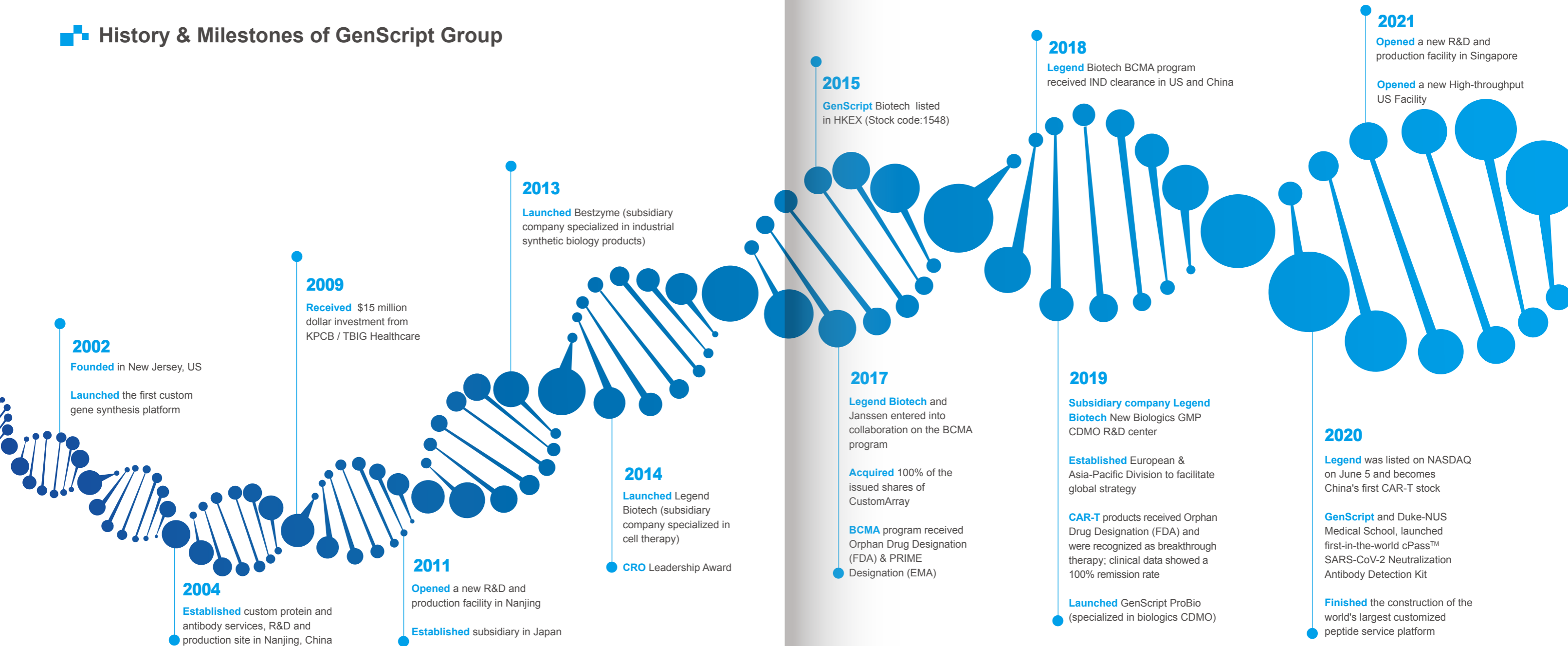
### Our People

~4,600 employees globally

## Core Values



# History & Milestones of GenScript Group



**2002**

**Founded** in New Jersey, US

**Launched** the first custom gene synthesis platform

**2009**

**Received** \$15 million dollar investment from KPCB / TBIG Healthcare

**2004**

**Established** custom protein and antibody services, R&D and production site in Nanjing, China

**2011**

**Opened** a new R&D and production facility in Nanjing

**Established** subsidiary in Japan

**2013**

**Launched** Bestzyme (subsidiary company specialized in industrial synthetic biology products)

**2014**

**Launched** Legend Biotech (subsidiary company specialized in cell therapy)

**CRO** Leadership Award

**2015**

**GenScript** Biotech listed in HKEX (Stock code:1548)

**2017**

**Legend Biotech** and Janssen entered into collaboration on the BCMA program

**Acquired** 100% of the issued shares of CustomArray

**BCMA** program received Orphan Drug Designation (FDA) & PRIME Designation (EMA)

**2018**

**Legend** Biotech BCMA program received IND clearance in US and China

**2019**

**Subsidiary company Legend Biotech** New Biologics GMP CDMO R&D center

**Established** European & Asia-Pacific Division to facilitate global strategy

**CAR-T** products received Orphan Drug Designation (FDA) and were recognized as breakthrough therapy; clinical data showed a 100% remission rate

**Launched** GenScript ProBio (specialized in biologics CDMO)

**2021**

**Opened** a new R&D and production facility in Singapore

**Opened** a new High-throughput US Facility

**2020**

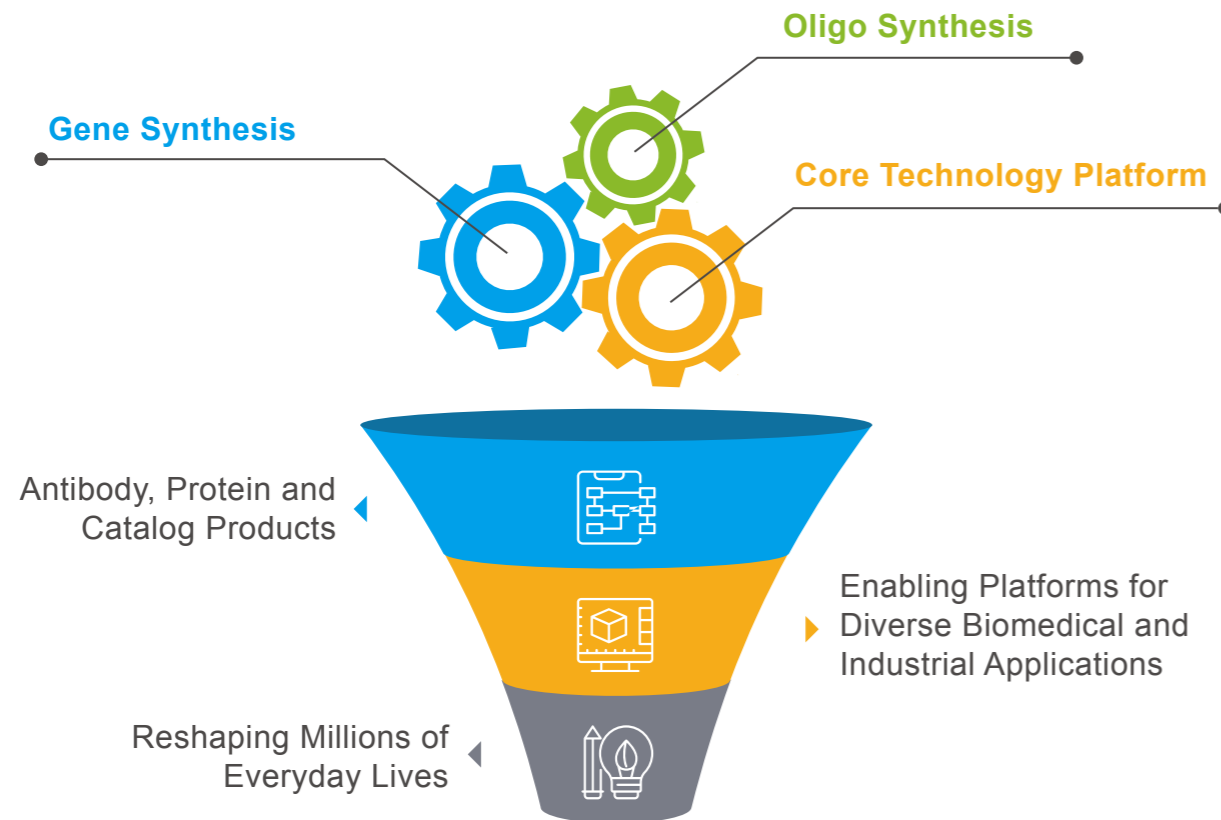
**Legend** was listed on NASDAQ on June 5 and becomes China's first CAR-T stock

**GenScript** and Duke-NUS Medical School, launched first-in-the-world cPass™ SARS-CoV-2 Neutralization Antibody Detection Kit

**Finished** the construction of the world's largest customized peptide service platform

## Our Science Engine

- ◆ Basic Research
- ◆ Synthetic Biology
- ◆ Gene and Cell therapy
- ◆ Protein and Antibody Engineering
- ◆ Diagnostics



## Our Human Engine



GenScript Grows when our People Grow








From the Labs, For the Labs

**Various** research and professional opportunities available for our team members to advance their career

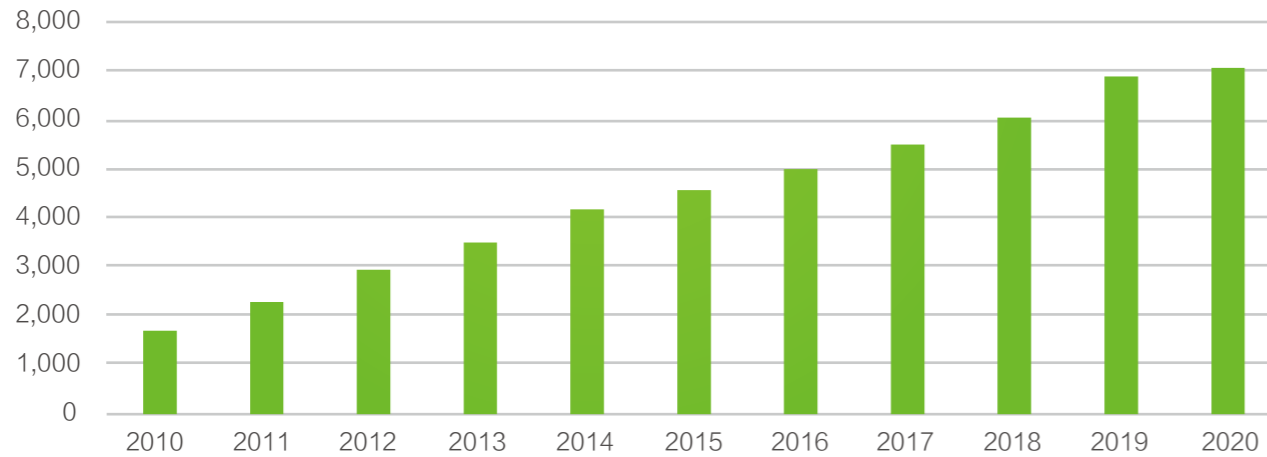
**1,800+** employees hold M.S. and Ph.D. degrees

## Awards & Achievements

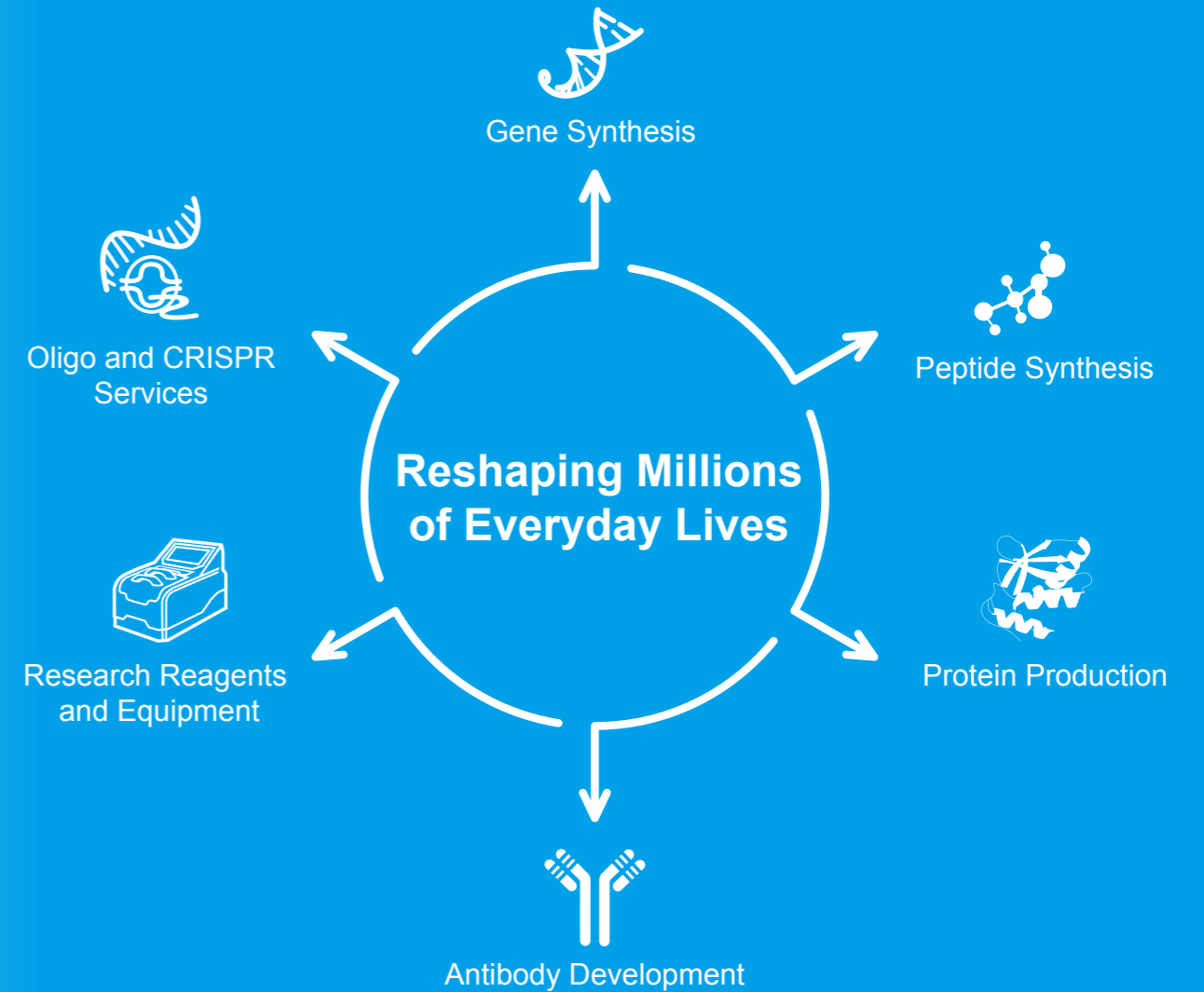
### Awards

-  CRO Leadership Award in Productivity and Regulatory Affairs
-  Recipient of the 2018 CiteAb Most Popular Custom Antibody Supplier Award
-  Recipient of the 2020 CiteAb Environmental Initiative Award for Tree Planting Program
-  One of the five founding members of the International Gene Synthesis Consortium (IGSC)
-  The only commercial entity invited to participate in the Synthetic Yeast Genome Project
-  Awarded ISO9001, ISO13485, AAALAC, and OLAW certificates
-  2018 Golden Lion Award winner for Best Innovative Listed Company, sponsored by Sina Finance

Citations of GenScript's Services & Products



## GenScript Life Science Capabilities



## Capabilities: Molecular Biology

### One-stop Solution For All Your Custom Gene Synthesis Needs

From Gene Synthesis To Plasmid Prep



Largest gene provider since 2008



99.95% success rate



>99% on-time delivery rate



#### GenBrick™ – DNA up to 200kb

Proprietary technology for accurate and efficient one-step assembly DNA fragments



#### GenSmart™ Platforms

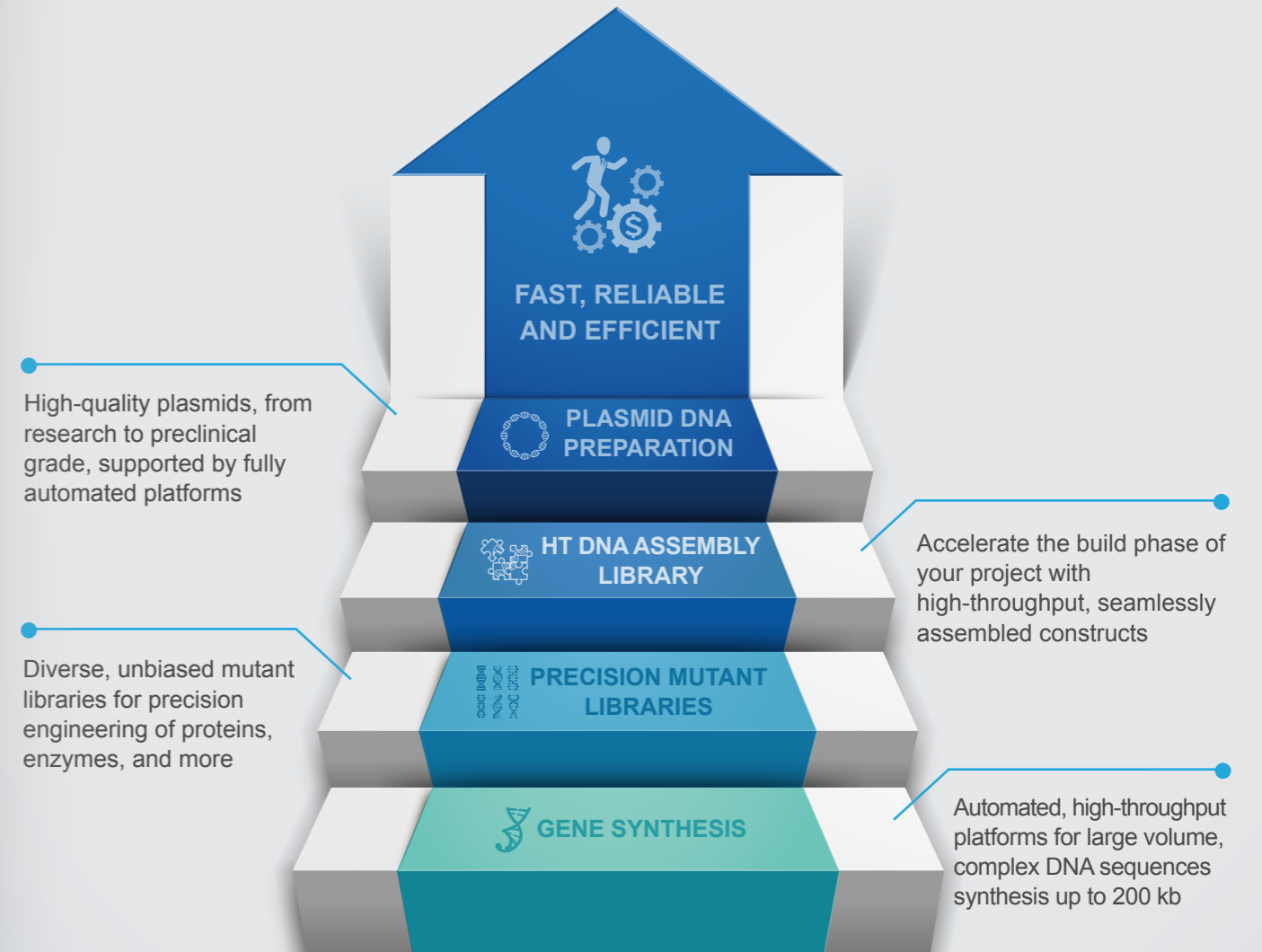
Intelligent approach to your Design, Optimization and Instant Quote processes



#### VectorArk™ and CloneArk™

Reliably Archive, Share and Reuse on a single platform

## Capabilities: Synthetic Biology



## Capabilities: Genome Editing

### One-Stop CRISPR Reagents & Services

Powered by high purity sgRNA, Cas9 protein, and ssDNA HDR templates synthesis capabilities



From Screening To  
Precise Editing



From Basic Research To  
Gene & Cell Therapies



From Discovery To  
Early Clinical Studies

## Capabilities: Peptide Synthesis

### Dedicated Team of Professionals

- 170 Production Scientists
- 20 R&D Scientists
- >50% of Team Members with >3 years of Peptide Synthesis Experience

### Unmatched Quality Control and Quality Assurance

- AccuPep QC+
- ISO9001: 2015 Certified
- Total Quality Management



### PepHTS™ Library Platform

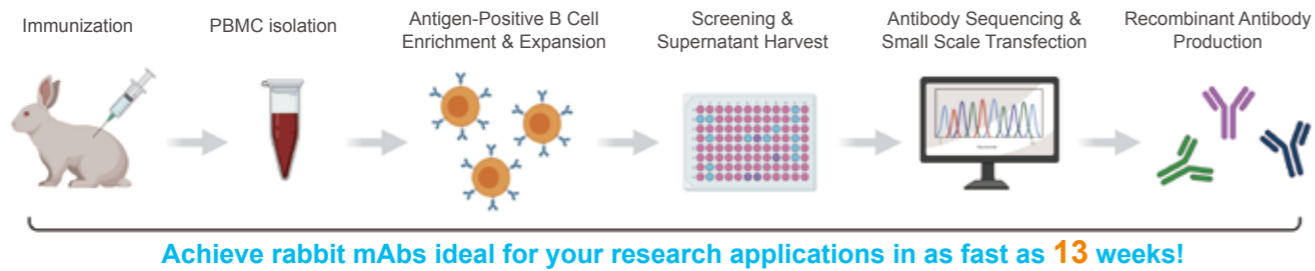
- Fast Turnaround Time
- High-Throughput
- Flexible Service
- Reliable Quantity

### Proprietary Technology

- NeoPre™ Algorithm
- HiSyn™ Technology
- >16 Patents for Peptide Services

**Capabilities: High-Efficiency Custom Antibody Generation**

**Higher positive clone rates and diversity with B-cell cloning**



**Accelerated Monoclonal Antibody Discovery via Single B Cell Screening**

Rapidly identify a diverse repertoire of high-affinity mAbs within **24 hours!**

- High-throughput, automated Optofluidic™ screening technology via the Beacon® Platform
- Access >99% of antibody repertoire for maximal mAb diversity
- Ideal for IVD immunoassay development and difficult immunogens

**Capabilities: Transient Mammalian Expression**



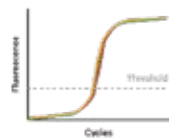
**High-Density (HD) Transient Mammalian Expression Services**

Let our Experts unleash the full potential of your recombinant antibody expression

## High-Efficiency Viral Vector Packaging

- ✓ Maximal production efficacy
- ✓ Intact, functional viral particles
- ✓ Highly customizable viral titers and volumes

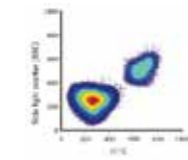
### Physical Titer



qPCR



p24 ELISA

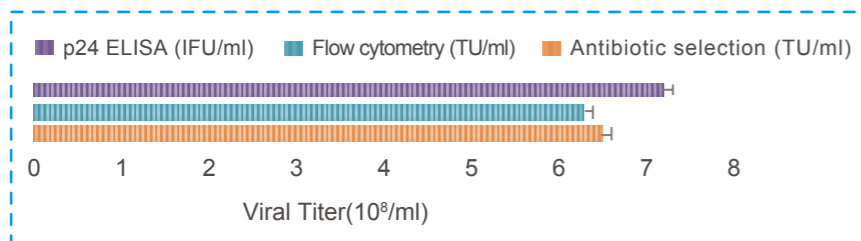


Flow Cytometry



Antibiotic Selection

Multiple physical and functional viral titer methods available



Optimal production protocol ensures consistent titer result

## High-Quality Lentivirus particles

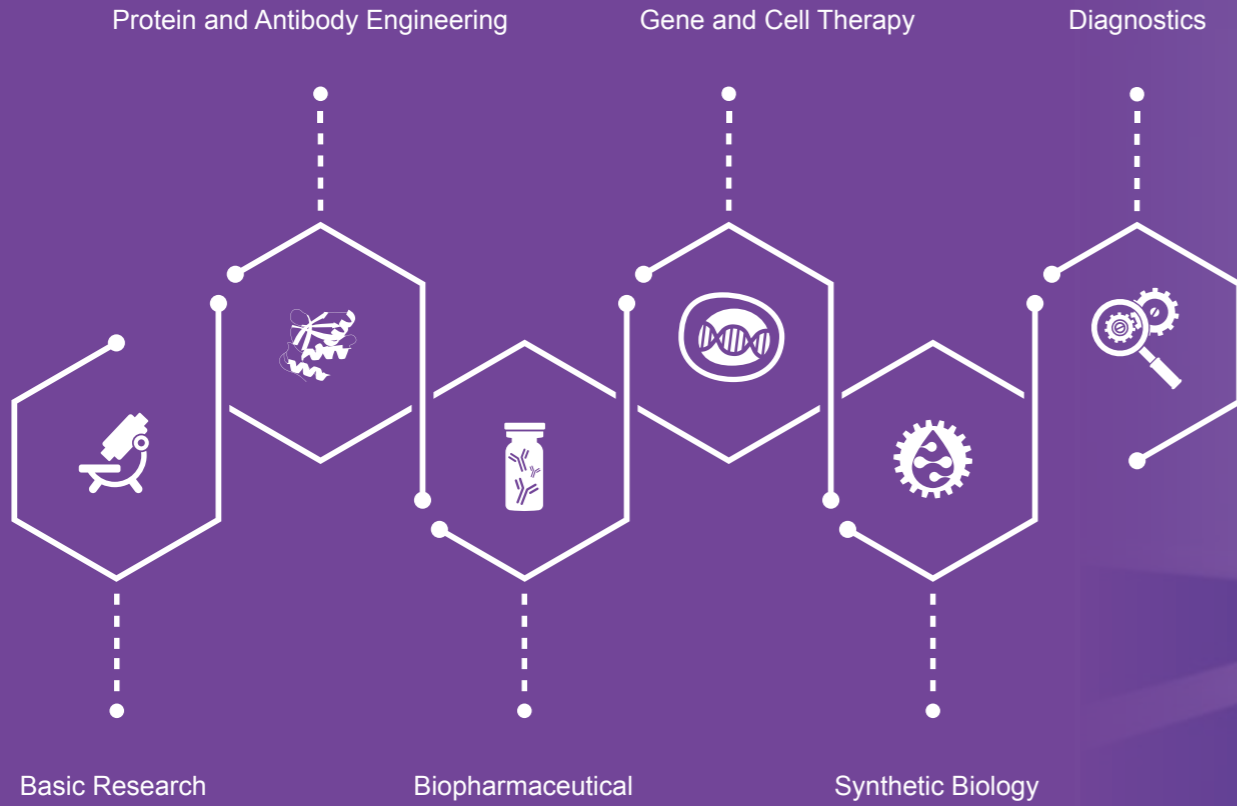
- ✓ Superior performance
- ✓ Better transduction efficacy

### Side-by-side comparison of GenScript and Competitor Lentiviruses bearing GFP-reporter genes

	GENSCRIPT	COMPETITOR 1	COMPETITOR 2
Bright Field			
GFP			

**Superior Performance:** GenScript Lentiviruses have a better transduction efficacy as indicated by higher proportion of GFP positive cells

## Enabling platforms for diverse biomedical and industrial applications



## Applications: Basic Research

**GenScript is THE #1 gene provider**

Synthesizing 30% of all synthetic genes worldwide



**600,000+** projects delivered

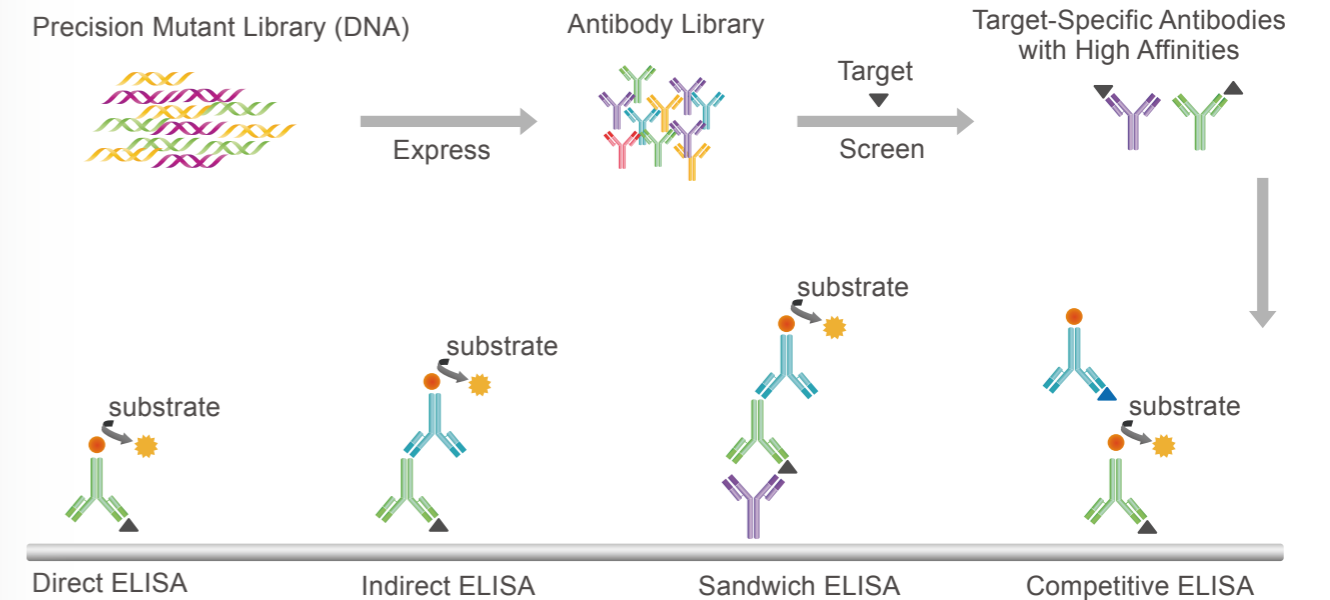
**>100,000** customers from over 100 countries

**>64,700** publications cited

## Applications: Protein and Antibody Engineering

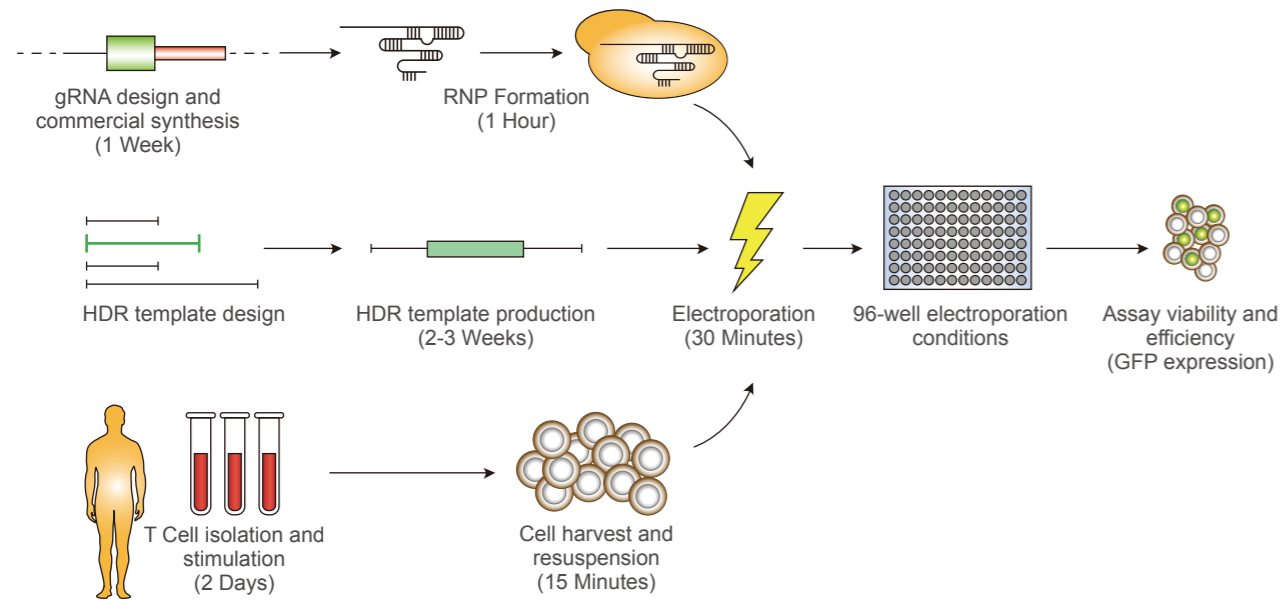
GenScript provides a series of molecular biology, protein, and antibody solutions to help maximize the success of your protein and antibody engineering projects and help you accomplish more in your research.

Application Note: GenScript offers high-quality mutant libraries, called Precision Mutant Libraries, for various protein and antibody engineering interests. These libraries enable codon optimization, elimination of stop or unwanted codons, incorporation of user-defined codons, and even distribution of amino acids with little bias. Such smart libraries contain only desired mutants, thus saving valuable time and effort during the screening and characterization process, speeding up the engineering workflow, and reducing the overall cost of downstream expenses.



## Applications: Gene & Cell Therapy

Recent advances and successes in chimeric antigen receptor T cells (CAR-T) cell therapy have demonstrated its great potential for treating various cancers, especially blood cancers. With the maturation of CRISPR/Cas9 technology, it is now possible to insert large genes at specific genetic sites in human primary T cells for CAR expression without using viral vectors.



**Case Study:** This case study demonstrates the benefits of using long single-stranded DNA (ssDNA or ssODN) as non-viral CRISPR HDR templates in T cell engineering. To make ssDNA more readily available for cutting-edge researchers, GenScript has developed proprietary enzymatic approaches for producing ssDNAs with non-detectable levels of dsDNA and minimum DNA base damage.

## Applications: Diagnostics

Synthetic biology-based diagnostics provide real-time, dynamic, sensitive, highly-specific, and non-invasive methods for detecting and monitoring cancer cells, metabolic parameters, infectious agents, therapeutics, and exposure to toxins. The development of dual-functioning diagnostic-therapeutic platforms is also changing the definition and application of diagnostics in medicine towards a more comprehensive and integrated approach in patient care.



Species  
Independent



Isotype  
Independent



High  
Specificity



High  
Sensitivity



Safe &  
Scalable

**Star Product:** The GenScript cPass™ SARS-CoV-2 Neutralization Antibody Detection Kit, also known as SARS-CoV-2 Surrogate Virus Neutralization Test (sVNT) Kit, is the first-in-the-world "rapid smart test kit", with the capability of measuring functional neutralizing antibodies (NAbs) within an hour in most research or clinical labs.

GenScript has acquired CE mark (Europe) and HSA provisional approval (Singapore) and has been issued Emergency Use Authorization (EUA) by U.S. FDA.

## Introducing Our New High-Throughput US Facility

50,000 sq. ft. of Cutting Edge Technology to bring you **FASTER, MORE CONSISTENT AND SUPERIOR SERVICES**

### Now closer to you

- Located in Piscataway, NJ
- Supply Chain Resiliency
- 8 Day Turn Around Time

### Poised to deliver

- >4 million base pairs/month
- >4000 genes/month
- >19 years of experience

### Team of dedicated professionals

- In the trusted hands of 70 Ph.D. level professionals

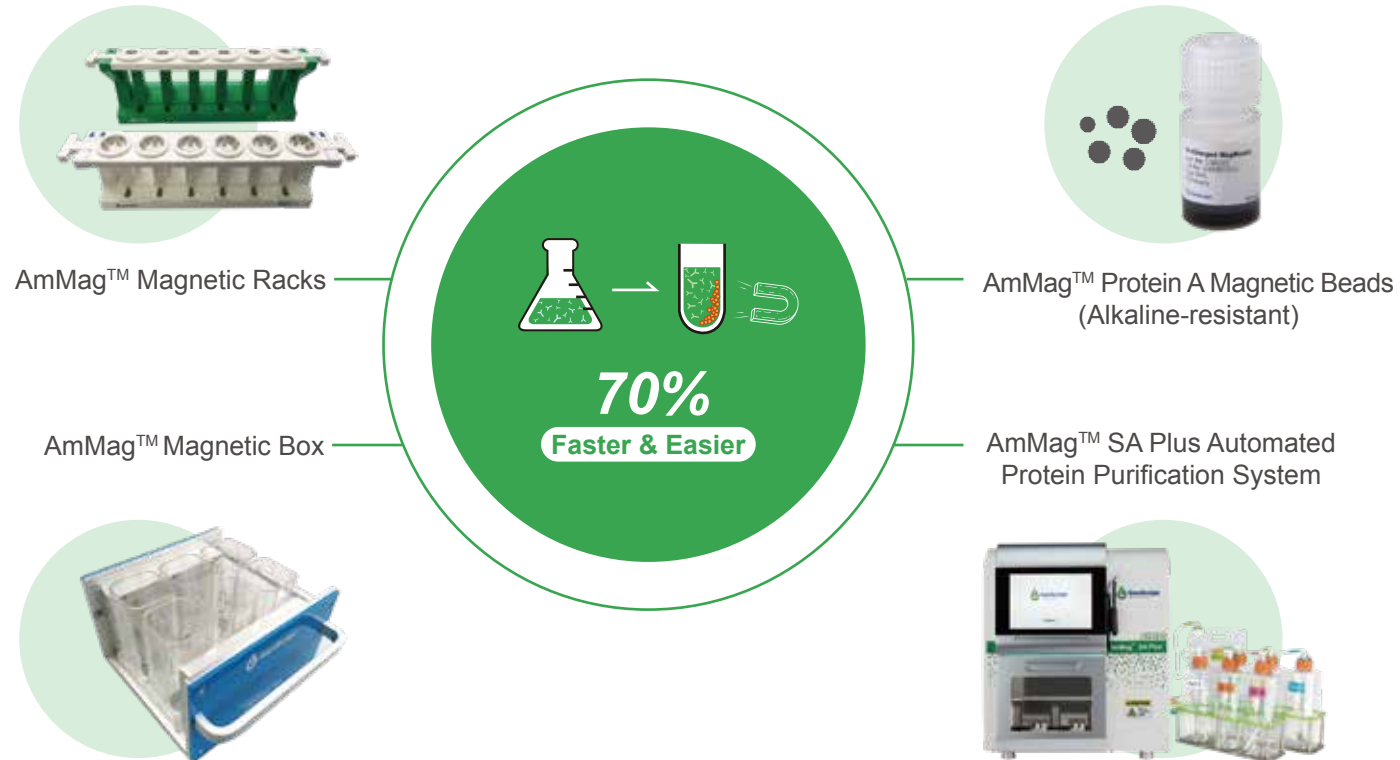
### Fully Automated Production

- 10X capacity expansion made possible by
- >10 automated liquid handlers
  - Full 768 Oligo synthesizers

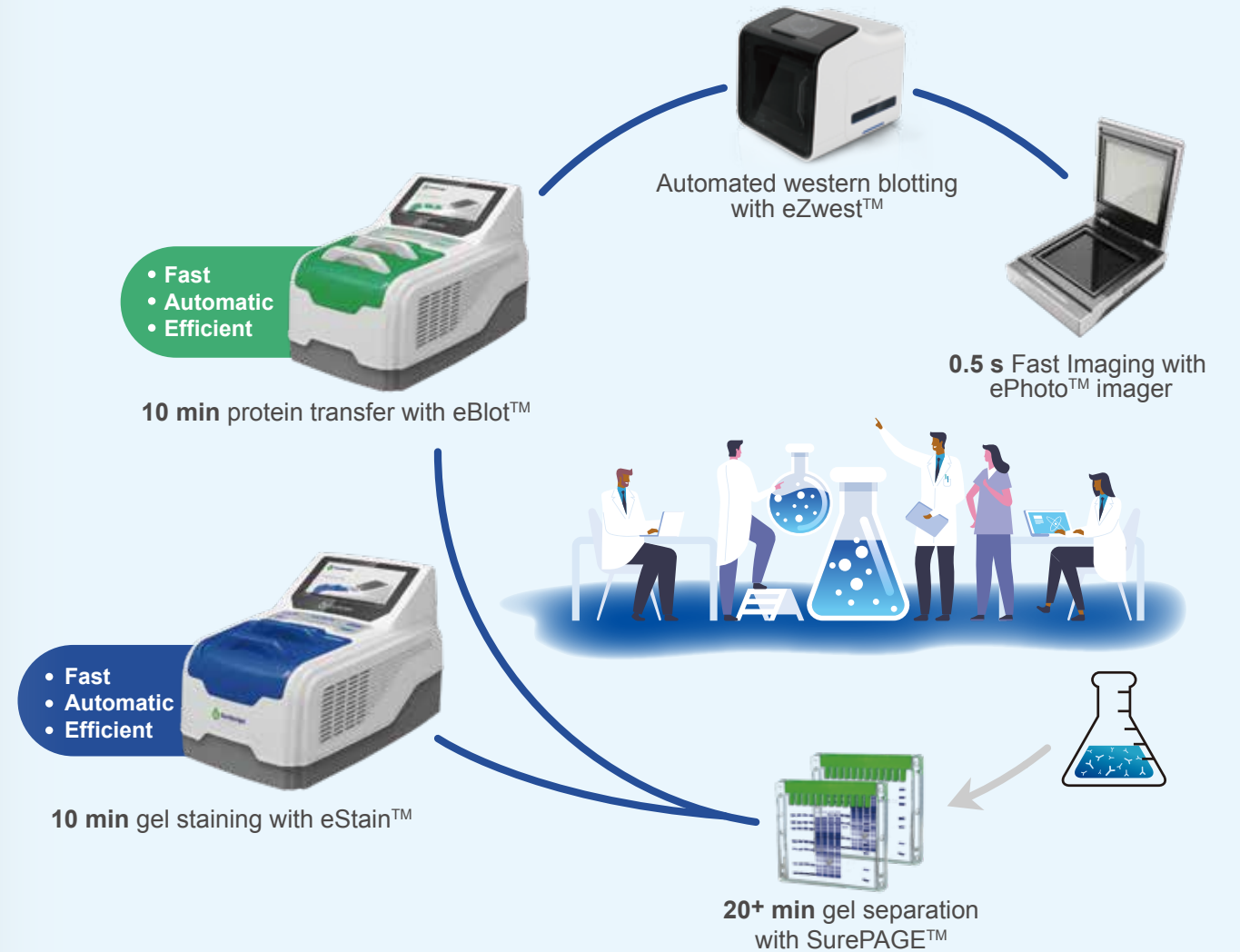


## Innovative Products: Protein and Antibody Purification

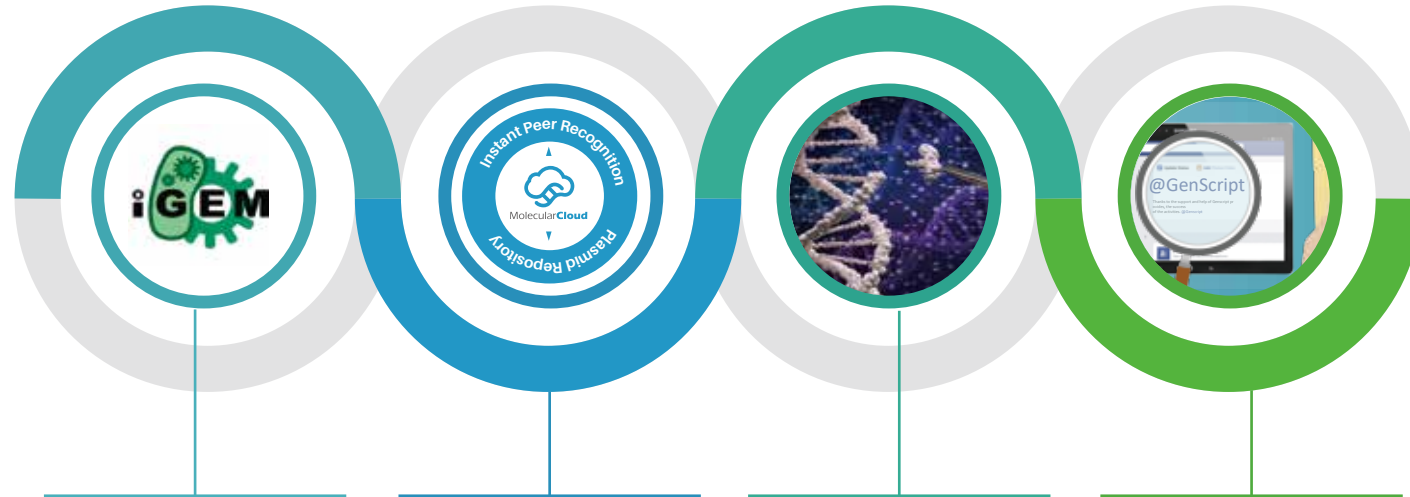
Reduce Antibody Purification Time from Days to Hours  
with the AmMag™ Magbeads Purification Platform



## Innovative Products: One-Stop Solution for Protein Analysis



## Programs & Partnerships



A premium partner of the **International Genetically Engineered Machine (iGEM)** Competition that awards and trains the most innovative synthetic biologists.

**MolecularCloud™** is a **free and centralized online platform**, featuring a biological material repository, conversation panel, and Cloud Scientist program to support and connect the worldwide research community beyond scientific achievements.

**CRISPR/Cas9 Licensing Agreement** with Broad Institute and ERS Genomic to enhance our CRISPR offering for gene and cell therapy research.

**GenScript Scholar Club Program** promotes and rewards scientific accomplishments of GenScript's customers across the globe.

## Spotlight on Customers' Success

### Over 19 Years of Partnership

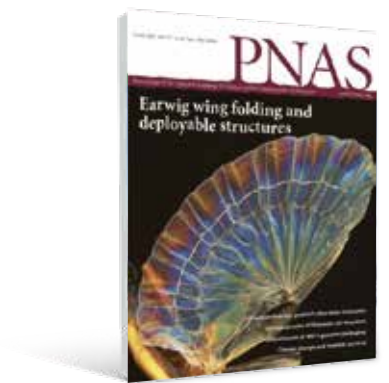
More than **64,700** successful customer research publications in high-impact journals



**194** in Cell



**177** in Nature



**539** in PNAS

All made possible by

- our customers' innovative drive and hard work
- our reliable customized services and products