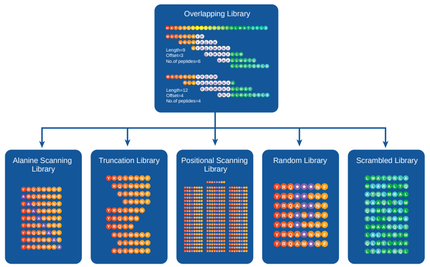
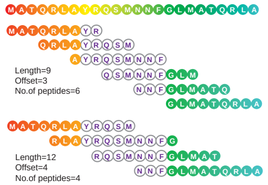
Peptide Library Design Tools

As a complement to our peptide library services, GenScript provides 6 free peptide library design tools to support research projects from structural biology to vaccine development.



Overlapping Library



An overlapping peptide library can be used for linear or continuous epitope mapping, which reveals which part of a given protein or peptide contains the essential amino acids that confer its activity, elicit immunogenicity, or bind to an antibody.

Applications:

- Epitope Mapping
- Vaccine Development

Alanine Scanning Library

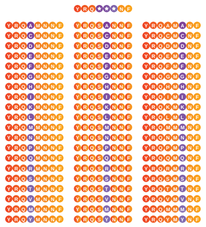
Alanine scanning libraries are designed to identify the specific amino acid residues responsible for a peptide's function, stability, and conformation. Alanine, the smallest chiral amino acid, is sequentially substituted for each non-alanine residue one at a time. Subsequently, corresponding changes in epitope activity can be measured.

Truncation Library

A truncation library allows researchers to determine the minimum length of an epitope required for activity. The library is generated through a systematic truncation of the peptide's sequence from each terminus. After the key residues have been identified via Alanine Scanning Library studies, truncation libraries can be used to determine the role of the sequences surrounding key residues.

Truncation library screening allows for the identification of peptides with enhanced proteolytic stability. It can serve as a tool to investigate the extent to which peptide drugs undergo metabolic degradation, which is a major consideration in bringing drugs to the market.

Positional Scanning Library



A positional scanning library is an important tool for peptide sequence optimization. Amino acids of interest at a given position(s), are substituted with all other natural amino acids, one at a time. This allows for amino acids that enhance peptide activity to be identified.

Positional scanning libraries have been used to identify T-cell epitopes in complex mixtures of proteins, or to locate substrates with interdependent subsites with only minimum synthesis and screening.

Random Library

A random library is an indispensable tool for sequence optimization. It has the ability to generate a unique suite of peptides that could have the potential for enhanced activity. Selected residues are randomly and simultaneously substituted with all of the other 20 natural amino acids via a shotgun approach.

Scrambled Library

A scrambled library has the highest variation of any peptide library. The library is constructed through sequence permutation of the original peptide.

Representing all possible alternative peptides, the scrambled library creates an ideal scenario for sequence optimization. It can be used to probe target molecules of interest including proteins, antibodies, and DNA.

For more on peptide library design and free design tools visit:

www.genscript.com › Peptide Services › Peptide Library › Design Library

Quotations and Ordering:

Peptide Library Online Quotation: https://www.genscript.com/account/peptidelibrary.html
Peptide Array Online Quotation: https://www.genscript.com/account/peptidearray.html

peptide@genscript.com

1-877-436-7274 (Toll-Free)
1-732-885-9188

1-732-210-0262
1-732-885-5878

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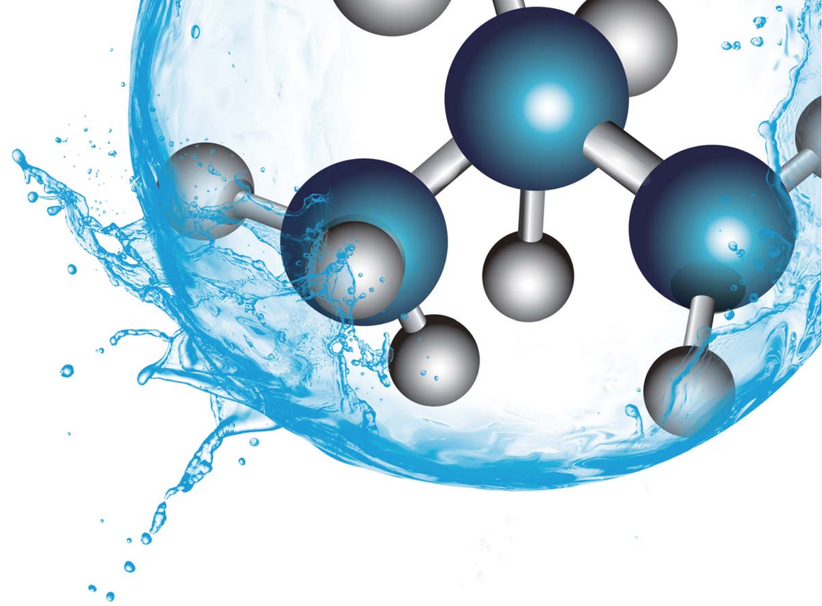
GenScript
Make Research Easy



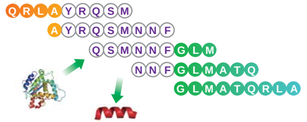
Peptide Library Services

- Peptide Library
- Peptide Array
- Peptide Pooling
- Epitope Mapping
- Peptide Library Design Tools

GenScript
Make Research Easy

Peptide Library Services

GenScript's high-throughput parallel peptide synthesis platform and 10,000 peptide/month synthesis capacity facilitate a range of cost-effective peptide library services to meet your research needs in structural biology, drug discovery, and vaccine development.



Service Specifications:

	Crude Peptide Library	Purified Peptide Library
Length	5-25 AA	5-25 AA
Purity	Crude	70% to 98%
Quantity	Up to 20 mg	Up to 15 mg
Turnaround time	3-4 weeks	3-4 weeks
Minimum order size	24 peptides	24 peptides
Deliverable format	Lyophilized peptides in 96-well plate or tube rack	
Quality documents	HPLC, MS, Certificate of Analysis for each peptide	
Modifications	Comprehensive: Biotin, fluorescent dyes, phosphorylation, methylation, acylation, acetylation, unnatural amino acids, and many more	

Delivery Specifications:

- Typical peptide library deliverable consists of lyophilized unbound peptides in a 96-well plate or tube rack.
- Certificate of Analysis, MS, and HPLC data

GenScript Peptide Library Advantages:

- **Competitive prices:** Most cost-efficient on the market, starting from $20/peptide.
- **High-throughput capacity:** More than 10,000 peptides/month.
- **Flexible purity choices:** Crude, desalt, >70%, >75%, >80%, >85%, >90%, >95%, and >98%.
- **No cross-contamination:** Peptides are supplied in individual well-labeled vials.
- **Stringent quality control:** GenScript provides Certificate of Analysis, MS, and HPLC validation data for each peptide.
- **Instant online quotations:** Conveniently submit your peptide library request through our online quotation system.
- **One-stop downstream services:** GenScript provides epitope mapping service, binding assay, and functional assay services for your drug discovery research.

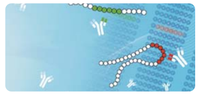
Instant Online Quotations:

To receive an instant quote go to **www.genscript.com** and click:

Peptide Services › **Peptide Library** › Get a Quote Now Via Secured Online Quotation

Peptide Array Services*

GenScript offers an extremely quick and cost-efficient peptide array service using SPOT technology to synthesize large numbers of peptides in small amounts on cellulose membranes for *in situ* assay and screening.



Service Specifications:

Available quantity	5-250 nmol for each crude peptide
Peptide length	5-15 AA**
Linker options	C- terminal (β-Alanine)2 or C-terminal amino acid
Quality control	MALDI-TOF QC on 5% of peptides and Certificate of Analysis
Modifications	Biotin, FITC, phosphorylation, and more
Turnaround time	Typically 2-3 weeks
Minimum order size	48 peptides

* Peptide Array Services not available in U.S.
**Each peptide in a peptide array must be the same length.

Delivery Specifications:

- Lyophilized peptides in 96-well plate.
- QC report containing MS spectra and Certificate of Analysis.
- Peptide location table.
- Note: Peptides may contain sodium salt due to the lyophilization procedure.

GenScript Peptide Array Advantages:

- **No cross-contamination:** Peptide synthesis is performed by automated instrumentation.
- **Stringent quality control:** MALDI-TOF QC on 5% of peptides and Certificate of Analysis.
- **Instant online quotations:** Convenient online quotations for your peptide array requests.
- **One-stop downstream services:** Epitope mapping service, binding assay, and functional assays for drug discovery research.

Instant Online Quotations:

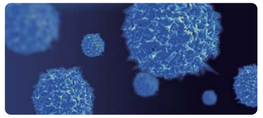
To receive an instant quote go to **www.genscript.com** and click:

Peptide Services › **Peptide Array** › Get a Quote Now Via Secured Online Quotation

Downstream Services

Peptide Pooling Service

Pools of peptides representing immunostimulatory epitopes in HIV, HCV, influenza, and other infectious diseases have proven useful for the stimulation of T-cells. GenScript can prepare customized peptide pools according to your customized specifications with pre-pooling LC-MS validation, and post-pooling marker validation QC options to demonstrate that all peptides are present in a given pool.

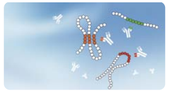


Service Specifications:

- Certificate of Analysis, MS, and HPLC validation data for each peptide before pooling
- LC-MS on marker peptides (up to 8) to guarantee presence of all peptides within the final pool (upon request)
- Lyophilized peptides in specified pool(s) delivered in a 96-well plate or 100-tube rack
- Free aliquoting (up to 10 vials)

Epitope Mapping Service*

Epitope mapping is vital in both vaccine and antibody drug development and largely facilitates drug design and the preparation of patent applications.



Service Specifications:

Service Includes	Description	Delivery Time
Binding activity test	ELISA/WB confirm the binding of submitted antigen and antibody	4-6 weeks
Glycosylation analysis (optional)	Comparison of the antibody-antigen binding activity of deglycosylation antigen with the submitted antigen	
Overlapping peptide library	Overlapping peptides are synthesized according to the protein sequences provided by the customer	
Detection	Screening of peptide library against customer samples: control detection (optional) and target detection	

*For more information visit: http://www.genscript.com/epitope_mapping.html

Key Features:

Advanced synthesis technology: Proprietary FlexPeptide™ technology ensures quality
Unparalleled accuracy: Minimized unspecific interactions by optimized detection methods
Comprehensive services: In-house peptide library synthesis and assay development
Fast delivery: Delivery starting from 4 weeks