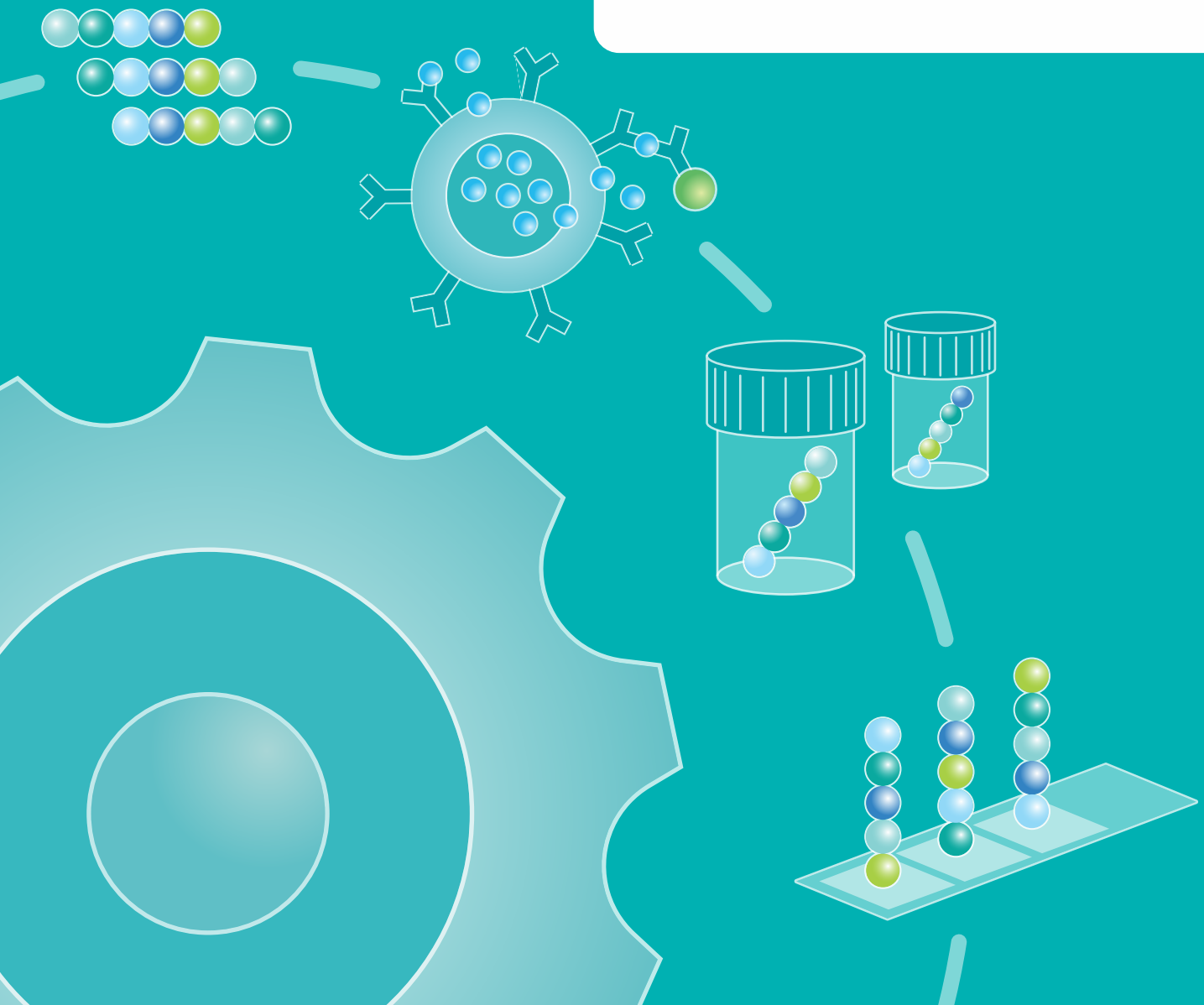




# Custom Peptide Services

- Peptide Libraries
- Peptide Pools
- Peptide (Micro-)Arrays
- Individual Peptides
- Modified & Cyclic Peptides
- Bioconjugates
- Clinical Peptides





# Choose JPT for all your peptide needs!



## History

JPT Peptide Technologies is a peptide manufacturer located in Berlin, Germany that has achieved worldwide credibility for its commitment to rigorous quality standards and a reputation for developing and implementing innovative peptide-based services and research tools for various applications.

## Technology & Application

Over the past 20 years, JPT has developed a portfolio of proprietary technologies as well as innovative products and services that have helped to advance the development of new immunotherapies, proteomics, and drug discovery.

## Quality Management

JPT is DIN EN ISO 9001:2015 certified and GCLP audited.



### We are the Peptide Experts!

JPT has a substantial track record providing custom peptides, peptidomimetics, and bioconjugates. We produce peptides in a range of purities, at different scales from µg to grams, and with many modifications.

### Top Quality Service!

We offer quick and personal consultation with experienced scientists and help you with the selection of peptide specifications, provide tips for storage, solubility and more. Take advantage of our rush order service for urgent projects.

### Proprietary Technologies

We developed several proprietary technologies that enable a wide range of applications at uncomparable prices. In addition, we offer the widest product portfolio of peptide-related products in the market.

### We have a >99% Success Rate!

We select and optimize our synthesis and purification methods and techniques for every synthesis. Therefore, we have a very high success rate (over 99%). We go the extra mile to get your peptides done!

### Our Quality Controls

JPT provides the most comprehensive portfolio of state-of-the-art analytical quality control procedures for peptides such as HPLC-MS, UPLC-HR-MS, MALDI-MS, ESI-TOF-MS, AAA, content determination and many more.

### Certified Quality Management

For more than a 20 years, JPT's operations run under a quality management system based on the latest ISO 9001 standards. We fulfill highest health and environmental standards and invite our customers to inspect our facilities.

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# JPT's Peptide Capacities

In September 2025, we moved into our "House of Peptides" in Berlin, Germany. This state-of-the-art facility will support our evolving needs and enhance the services we offer our valued clients and partners. This expansion demonstrates our commitment to growth, innovation, and continued excellence in the peptide industry.

- 8,500 m<sup>2</sup> (92,000 ft<sup>2</sup>) of state-of-the-art facilities
- Expanded production capacities and automation
- Improved working and safety conditions
- Enhanced energy efficiency

## Our capacities

Synthesis	Purification	Analytics / Fill & Finish
7 ultra-high throughput SPOT synthesizers	25+ preparative HPLCs (manual / automatic injection)	11 HPLC/UPLC-MSs (SingleQuad, Ion-Trap, QTOF)
33 mid scale synthesizers	Large variety of columns	2 MALDI (MALDI-TOF)
2 large scale synthesizers	30+ lyophilization devices	Cleanroom for microarray printing

## Our Custom Peptide Synthesis Services

	Quantity	Purity	Modifications	Optional Quantification	Quality Grade	Benefits
<b>Micro Scale Synthesis</b>	10 - 150 µg	crude with guarantee	modified aa, biotin, phosphorylation, stable-isotope labeled, etc.	OD	research use	1 mio peptides / year small to large libraries, low-cost, fast delivery
<b>Mid Scale Synthesis</b>	1 mg -1 g	crude to >95%	modified aa, biotin, phosphorylation, stable-isotope labeled, AQUA, cyclization etc.	Qtag, AAA	research use, immunomonitoring, cell therapy development, clinical trial immune monitoring	100k peptides / year endless modifications, all peptide formats, extensive range of Qcs
<b>Large Scale Synthesis</b>	>1 g	crude to >95%	modified aa, biotin, phosphorylation, stable-isotope labeled, cyclization, lipids, TFA removal etc.	Qtag, AAA	research use, immunomonitoring, cell therapy development, clinical trial immune monitoring	250 peptides / year endless modifications, extensive range of QCs, flexible Fill & Finish

## Peptide Synthesis & Purification

We produce peptides chemically, using the Fmoc solid-phase peptide synthesis strategy. This standard process consists of sequentially coupling amino acids (AAs) one after another on a resin support with the help of automated peptide synthesizers. After synthesis, the crude peptides are purified via high-performance liquid chromatography (HPLC) to remove incomplete or truncated sequences. Finally, the purified peptides are analyzed and verified by liquid chromatography–mass spectrometry (LC-MS) to confirm both their purity and molecular identity.

# Custom & Modified Peptides

## Custom Peptides

We are the Peptide Experts! With over 20 years of experience, we have developed unparalleled expertise in chemical peptide synthesis. Our proprietary technologies in peptide libraries, pools, microarrays, and micro scale synthesis set us apart as leaders in the field. From micro scale synthesis (10 - 150 µg) to intermediate peptide synthesis (1 mg - 1 g) and beyond, our state-of-the-art laboratories in Berlin, Germany, deliver customized solutions tailored to your needs.

### Custom Peptide Purity Options

- unpurified (peptide is detected by MS)
- unpurified with guarantee (target peptide is main product)
- > 70 % (HPLC-MS)
- > 80 % (HPLC-MS)
- > 90 % (HPLC-MS)
- > 95 % (HPLC-MS)

### Quality Control Options

We provide quality control for each peptide by MS or HRMS, HPLC or UPLC and offer a wide range of additional analyses for custom peptides, e.g.

- Amino acid analysis
- Solubility and stability tests
- Endotoxin and sterility testing

### Custom Peptide Scale

Choose between micro scale synthesis (10-150 µg), mid scale peptide synthesis (1 mg-1 g) and large scale (>1 g).

## Selected References

*" Antibody-based delivery of interleukin-2 modulates the immunosuppressive tumor microenvironment and achieves cure in pancreatic ductal adenocarcinoma syngeneic mice"*

Carbone et al., Journal of Experimental & Clinical Cancer Research (2025)

*" Exploring the role of ESR1 mutations in metastatic hormone receptor-positive breast cancer T cell immune surveillance disruption"*

Lopez et al., Breast Cancer Research (2025)

*" Proinflammatory chemokine CXCL14 activates MAS-related G protein-coupled receptor MRGPRX2 and its putative mouse ortholog MRGPRB2"*

Hamwi et al., Communications Biology (2024)



*The RV 144 HIV trial is considered as one of first successful HIV vaccine trials. It has become clear that the V2 loop of gp120 is an important site for immunogenicity and protection from HIV infection. The use of JPT's PepStar™ Microarray technology has been very useful for the correlation of the clinical outcome with humoral immune responses. As have the cyclic peptides been from JPT to validate these findings!*



J. Currier, Walter Reed Army Institute, Rockville, Maryland, USA

# Modified Peptides

We are experts in producing modified peptides, labeled and cyclic peptides as well as other peptide modifications and various peptide conjugates and peptide esters. We ensure that the most appropriate methods and techniques are selected for every peptide synthesis project. For many years our customers have grown to rely on our exceptional quality and large capacities.

## Our Service Includes

- Consultation with experienced scientists
- Development of a synthesis strategy by peptide chemists
- Production of building blocks
- We do not give up! Our success rate is > 99 %

## Capabilities

- Synthesis of non-commercial building blocks
- Peptide design and optimization
- Organic synthesis facilities
- Solution and solid phase techniques
- Conjugation of peptides to shuttle molecules, biologicals, and lipids
- Stabilizing peptides via disulfide and thioether bridges, or creation of stapled peptides
- Unusual modifications, peptide bond iso-esters, click chemistries and more

## Selected References

*"Extracellular vesicle surface engineering with integrins (ITGAL & ITGB2) to specifically target ICAM-1-expressing endothelial cells"*

Bergqvist et al., Journal of Nanobiotechnology (2025)

*"Decrypting lysine deacetylase inhibitor action and protein modifications by dose-resolved proteomics"*

Chang et al., Cell Reports (2024)

*"Integrated transcriptomic and proteomic analysis of primary human umbilical vein endothelial cells"*

Madugundu et al., Proteomics (2024)

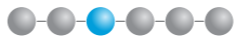
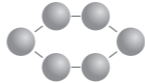
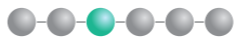

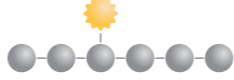
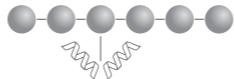


*Our research relies heavily on developing robust high-throughput screens with fluorescent peptides. We have found that JPT's are the best on the market because the signal-to-noise ratio is very high, providing the sensitivity we need for the screens. Their peptides always perform well. In addition, the knowledge, wonderful customer support, and fast turnaround time provided by JPT have been invaluable in us develop the best peptides for our assays.*



C. Koehler, UCLA, Los Angeles, CA, USA

## Peptide modifications and their common uses

Modification	Applications	Examples
 <b>Unnatural, Unusual Amino Acids</b>	<ul style="list-style-type: none"> <li>• Increase activity, selectivity and plasma stability in drug discovery</li> <li>• Induction or stabilization of secondary structures e.g. helices, sheets, turns</li> </ul>	<ul style="list-style-type: none"> <li>• D-amino acids, homo amino acids, N-methyl-, beta amino acids, gamma amino acids</li> <li>• Hydroxyproline, beta-alanine, citrulline, ornithine, pyroglutamic acid, etc.</li> </ul>
 <b>N-Terminal Modifications</b>	<ul style="list-style-type: none"> <li>• N-terminal acetylation to imitate the natural structure in a protein</li> <li>• Stabilization towards enzymatic degradation by exopeptidases</li> </ul>	<ul style="list-style-type: none"> <li>• Acetylation, urea, carbamate, sulfonamide, alkylamine</li> <li>• Chelators like DOTA, NOTA, NODAGA</li> <li>• Dyes</li> </ul>
 <b>(PTMs) Posttranslational Modifications</b>	<ul style="list-style-type: none"> <li>• Study of transcription, cell division, apoptosis, signal transduction, cell adhesion, cell growth, infection, immunological differentiation, bacterial proteins</li> <li>• Cys modifications for various applications e.g. proteomics experiments</li> </ul>	<ul style="list-style-type: none"> <li>• Methylation at arginine or lysine</li> <li>• Lys(GG)</li> <li>• Phosphorylation and phosphate analogs</li> <li>• Glycosylation</li> <li>• Lipidation</li> <li>• Methionine sulfoxide</li> </ul>
 <b>Internally Quenched / FRET Peptides</b>	<ul style="list-style-type: none"> <li>• Enzymatic assays</li> <li>• FRET experiments</li> </ul>	<ul style="list-style-type: none"> <li>• Large variety available, e.g. Abz/ Dnp, Mca/ Dnp, EDANS/ Dabcyl, FAM/ Dabcyl</li> </ul>
 <b>Cyclic Peptides</b>	<ul style="list-style-type: none"> <li>• Mimicry of secondary structures</li> <li>• Optimization of peptides (increased binding potency, selectivity, protease stability)</li> </ul>	<ul style="list-style-type: none"> <li>• Head-to-tail cyclization</li> <li>• Side-chain-to-side-chain</li> <li>• Head-to-side-chain</li> <li>• Side-chain-to-tail cyclization</li> </ul>
 <b>Isotope-Labeled Peptides</b>	<ul style="list-style-type: none"> <li>• See SpikeTides and SpikeMix</li> </ul>	<ul style="list-style-type: none"> <li>• Heavy lysine (U-13C6; U-15N2)</li> <li>• Heavy arginine (U-13C6; U-15N4)</li> <li>• Any amino acid can be 13C / 15 labeled</li> </ul>
 <b>C-Terminal Modifications</b>	<ul style="list-style-type: none"> <li>• C-terminal amide to imitate part of a parental protein sequence</li> <li>• No additional charges in the peptide</li> </ul>	<ul style="list-style-type: none"> <li>• Acid, amide, ester, aldehyde, pNA, Amc, hydrazide, CMK, biotin, labels and dyes</li> </ul>
 <b>Fluorescent Dye Labeled Peptides</b>	<ul style="list-style-type: none"> <li>• Protein binding studies</li> <li>• Localization experiments</li> </ul>	<ul style="list-style-type: none"> <li>• Examples: Abz, FITC, FAM, Alexa Fluor, TAMRA, Mca, Dylight, Cy3, Cy5</li> </ul>
 <b>Affinity Tagged Peptides</b>	<ul style="list-style-type: none"> <li>• Detection of tagged peptides (e.g. with labeled antibodies)</li> <li>• Separation of tagged peptides from untagged ones</li> </ul>	<ul style="list-style-type: none"> <li>• Biotin, desthiobiotin, maleimide and click chemistry</li> </ul>
 <b>Linker / Spacer / PEGylations</b>	<ul style="list-style-type: none"> <li>• Enhancing stability and bioavailability of peptides in vivo</li> </ul>	<ul style="list-style-type: none"> <li>• Beta-alanine, O1Pen, Ahx, O2Oc, Ttds, PEG with various lengths</li> </ul>
 <b>Peptide Dimers</b>	<ul style="list-style-type: none"> <li>• Increase in affinity (e.g. GPCR ligands)</li> <li>• Increased immune response (MAPs)</li> </ul>	<ul style="list-style-type: none"> <li>• Chemoselective dimerization methods by formation of Cys-maleimide thioethers, disulfides or triazoles</li> </ul>
 <b>Protein Conjugates / Immunogenic Peptides</b>	<ul style="list-style-type: none"> <li>• Generation of anti-peptide antibodies</li> </ul>	<ul style="list-style-type: none"> <li>• KLH, BSA, HSA, OVA</li> </ul>

# Bioconjugated Peptides

At JPT, we offer a complete conjugation service designed to meet your specific research needs. Leveraging our extensive experience, we provide:

## ✓ Custom Conjugation Chemistry

We help you select the most suitable conjugation chemistry:

- Click Chemistry: Copper or copper-free with alkyne-azide, or DBCO-azide reaction
- Maleimide-thiol
- NHS Ester-amine
- Crosslinkers (EDC, glutaraldehyde, SMCC...)

## ✓ Conjugate Selection

### • Protein Conjugation

Protein conjugates enhance antibody generation by linking peptides to carrier proteins (e.g., KLH, BSA, OVA, HSA) via thiol-maleimide chemistry, followed by dialysis to remove non-specific peptides. Alternatively, multiple antigenic peptides (MAPs) use a lysine core to present peptides without carriers, effectively stimulating immunity.

### • Lipid Conjugation

Lipid-peptide conjugation enhances biological activity, membrane affinity, cellular uptake, stability, or immunostimulatory potential. Typically, lipidation occurs at the peptide's N-terminus or side chain via thiol chemistry or amide bond formation. Common examples include:

- Fatty acids (e.g. palmitic acid, myristic acids etc.)
- PEG-lipid conjugates
- GPI-like anchors
- Pam2Cys / Pam3Cys
- Semaglutides and liraglutides

### • Oligonucleotide Conjugation

Peptide-oligonucleotide conjugates improve drug delivery by enhancing oligonucleotide stability, uptake, and targeting. Cell-penetrating peptides enable receptor-mediated endocytosis and support gene modulation for therapy.

### • Other Molecules

Want to conjugate drugs or any other molecules with our peptides? Reach out to us, and discuss your ideas!

## Selected References

*"PepH3-modified nanocarriers for delivery of therapeutics across the blood-brain barrier"*

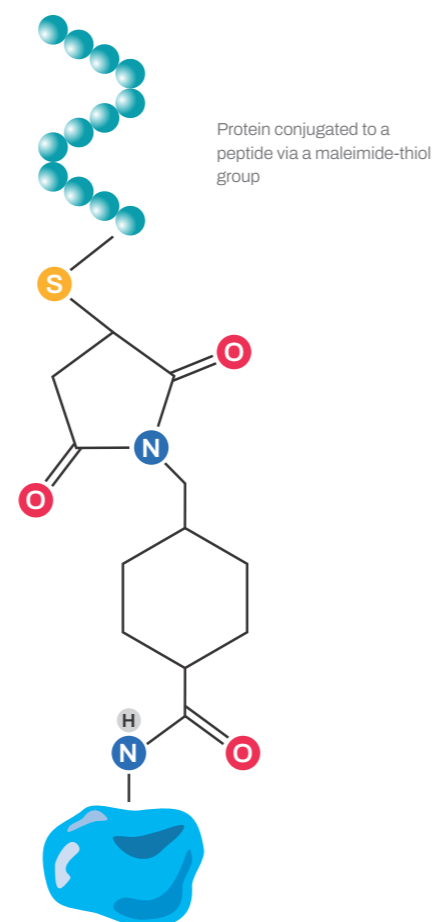
Szeckó et al., Fluids and Barriers of the CNS (2025)

*"The N-terminal Proline Hinge Motif Controls the Structure of Bovine Herpesvirus 1-encoded Inhibitor of the Transporter Associated with Antigen Processing Required for its Immunomodulatory Function"*

Graul et al., Journal of Molecular Biology (2023)

*"Sulfated Lactosyl Archaeol Archaeosome-Adjuvanted Vaccine Formulations Targeting Rabbit Hemorrhagic Disease Virus Are Immunogenic and Efficacious"*

Akache et al., Vaccines (2023)

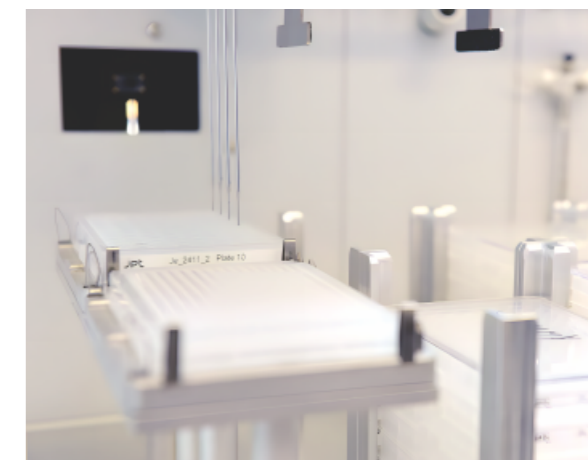


# Peptide Libraries

A peptide library is typically defined as a collection of peptides (>24) sharing similar specifications with respect to length, quantity, and purity. Such libraries can be tailored to different applications, with varying peptide characteristics and delivery formats depending on the research or development needs. JPT developed ultra-high throughput peptide synthesis technologies capable of producing over one million peptides annually. Building on this expertise, the PepTrack service was established, relying on two complementary synthesis platforms: micro scale and mid scale production.

## Our expertise covers the full spectrum of peptide library production

- Multiple synthesis scales ranging from 10 µg to several mg per peptide
- Flexibility from a few peptides to more than one million
- Standard and modified peptides
- Fully customizable packaging, including specific tubes, plates, and labeling options
- Automated fill & finish processes, supported by barcode readers for efficient handling



## Compound Management & Aliquotation Services

Our advanced infrastructure supports large scale peptide library production, compound management, and secure aliquotation with unmatched accuracy and traceability.

## Select your Peptide Library

- PepTrack Peptide Libraries
- BioTides Biotinylated Peptides

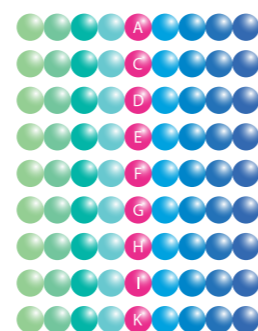
## Selection of JPT's Peptide Library Types

### Scrambled Library



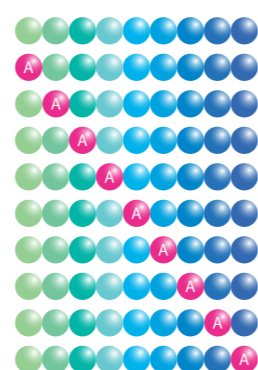
Scrambled libraries, created by permuting the original peptide sequence while preserving its amino acid composition, are used for sequence optimization, screening proteins of interest, and serving as negative controls.

### Positional Scanning Analysis



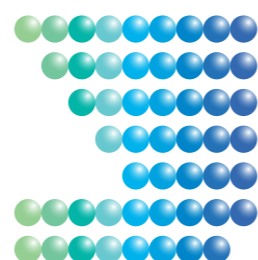
Truncation of the peptide sequence from both termini results in identification of the minimum epitope, substrate or binding motif.

### Alanine Scanning Analysis



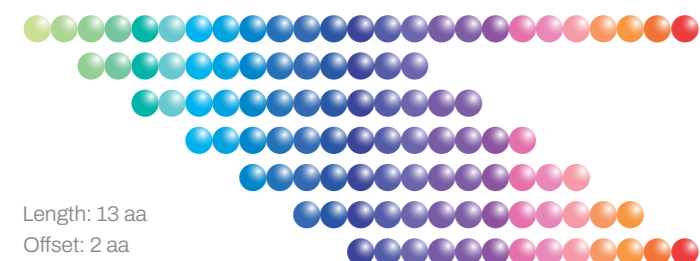
Each residue is substituted for an alanine enabling identification of key residues in your peptide sequence.

### Truncation Analysis



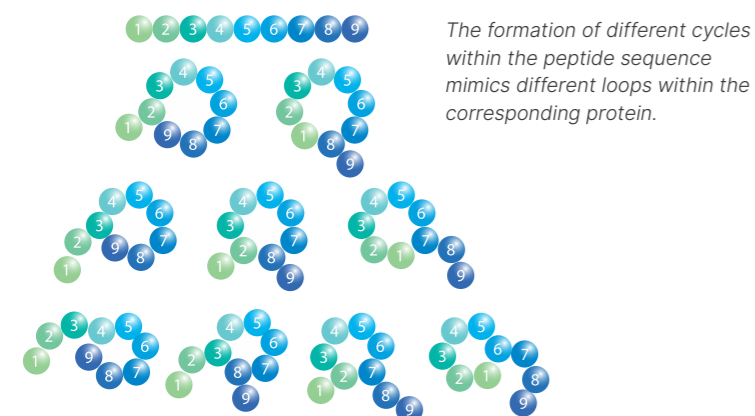
Truncation of the peptide sequence from both termini results in identification of the minimum epitope, substrate or binding motif.

### Overlapping Peptide Scan



An overlapping peptide scan is generated to identify epitopes, substrates or other binding sites within a given protein sequence. A free and easy-to-use tool for generation of overlapping peptide sequences can be found on our website (<https://www.jpt.com/support-contact/resources/pepsequencer>).

### Cyclization Library



## PepTrack Peptide Libraries

Our custom PepTrack Peptide Library service offers flexible solutions for T-cell stimulation, epitope mapping, SAR studies, and lead discovery. This includes PepTrack for medicinal chemistry and drug discovery to accelerate small molecule & peptide therapeutic research.

Optimized synthesis, purification, and analysis ensure accurate results, reduced toxicity, and extended peptide shelf-life.



### Selected References

*" Modifying the glycosylation profile of SARS-CoV-2 spike-based subunit vaccines alters focusing of the humoral immune response in a mouse model"*

Renner et al., Communications Medicine (2025)

*" Salivary proteomics and metaproteomics identifies distinct molecular and taxonomic signatures of type-2 diabetes"*

Samodova et al., Microbiome (2025)

*" Evaluation of three novel antigens and costimulatory agents for improvement of M. Tuberculosis specific interferon gamma release assays"*

Schwarzlose-Schwarck et al., BMC Infectious Diseases (2025)

PepTrack Peptide Libraries are delivered freeze-dried in multiwell plates or tube racks (micronics).

### PepTrack Options

	Purity	QA/QC*	Scale	Max. AA Length
Fast Track	Unpurified	5 % LC-MS	10-50 µg of target peptide	20
Fast Track PLUS	Unpurified	LC-MS for each peptide	10-50 µg of target peptide	20
Research Track	Unpurified (peptide detectable)	LC-MS for each peptide	1-4 mg or 5-10 mg	40
Research Track PLUS	Unpurified (main product = target peptide)	LC-MS for each peptide	1-4 mg or 5-10 mg	40
Development Track	> 70 %	LC-MS for each peptide	1-4 mg or 5-10 mg	40
Trial Track	> 90 % > 95 %	LC-MS for each peptide	1-4 mg or 5-10 mg	40

# BioTides

## Biotinylated Peptides

BioTides are designed for your binding assays using streptavidin coated beads, membranes, glass slides or ELISA plates. BioTides are synthesized by JPT's highthroughput synthesis method SPOT and represent the most economic source of biotinylated peptides.

### Applications

- Identification and optimization of kinase-, phosphatase-, acetyltransferase- and histone deacetylase-substrates via standard screening systems (AlphaScreen, FlashPlates, SPA-Beads etc.)
- Mapping of protein/protein interaction sites (ELISA-like assays, precipitation of interacting proteins)
- Production of peptide microarrays
- Loading of columns for affinity chromatography

### Product Specifications

- Amount of 50- 200 nmol per peptide
- Peptide length: 6- 20mers
- N-terminally biotinylated via a hydrophilic flexible linker, ensuring proper presentation of peptides
- Unpurified but capped after each synthesis step for removal of deletion and truncation sequences during re-immobilization to streptavidine matrices
- Incorporation of non-standard amino acids and other modifications possible

### Benefits

- Highly parallel synthesis approach
- Turnaround: > 10 000 peptides/week
- Ready-to-use freeze dried peptides in 96-well microtiter plates
- Low cost source for small scale biotinylated peptides

### Selected References

*"Therapeutic treatment of hepatitis E virus infection in pigs with a neutralizing monoclonal antibody"*

Hrabal et al., Scientific Reports (2025)

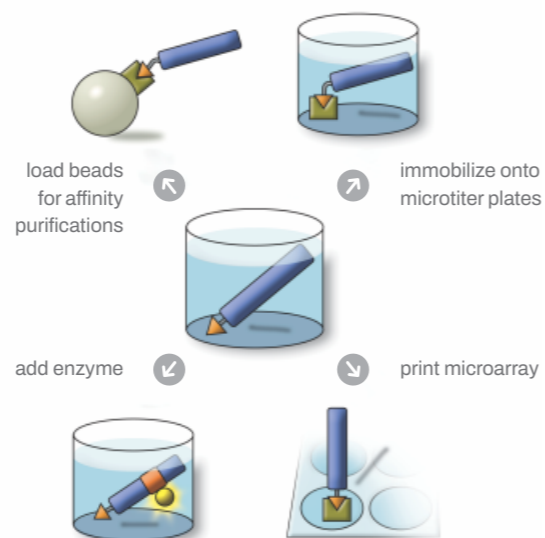
*"A foldon-free prefusion F trimer vaccine for respiratory syncytial virus to reduce off-target immune responses"*

Bakkers et al., Nature Microbiology (2024)

*"Linear epitopes of PRRSV-1 envelope proteins ectodomains are not correlated with broad neutralization"*

Castillo-Pérez et al., Porcine Health Management (2024)

Immobilization of BioTides for binding assays.



# Peptide Pools

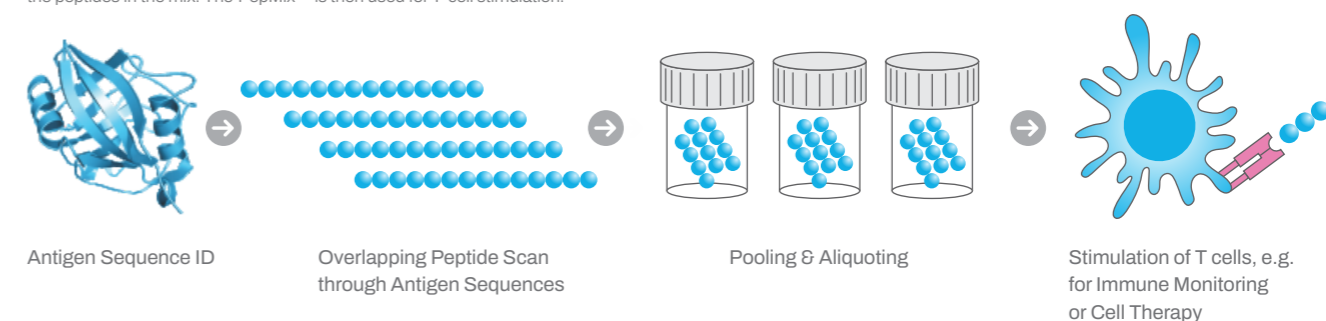
Peptide pools - such as overlapping peptides from antigens or proteotypic peptides - offer an efficient solution for testing multiple peptides in parallel, saving time and increasing experimental accuracy. Since the 1990s, JPT Peptide Technologies has been a pioneer in developing and patenting peptide pools, leveraging proprietary processes to lead innovation in the field. Our adapted peptide solutions have been cited in thousands of publications.

### JPT's peptide solutions

Using a peptide pool can significantly streamline your research by allowing simultaneous testing of multiple peptides, saving time and enhancing your results. Our two widely adopted technologies, SpotMix and PepMix™, are useful in T-cell stimulation assays for antigen epitope discovery and immune monitoring. JPT offers the broadest catalog of peptide pools along with a unique range of customized options, supporting a wide range of research applications.

Product	Technology	Application	Peptide Length	Quantity / Peptide	Purity	Standard Delivery
SpotMix	High-throughput SPOT technology	Antigen target discovery, T-cell epitope discovery, biological screening, etc.	5 - 20 aa	5 - 50 µg	Crude	2 weeks
PepMix™	Resin- (Fmoc) based synthesis	Immune monitoring, epitope identification, vaccine development	2 - 40+ aa	1 to 10+ mg	Crude to >95%	6 weeks

Production and use of PepMix™ Peptide Pools. From the antigen primary sequence we create an overlapping peptide scan. The corresponding peptides are synthesized, purified and pooled according to a validated pooling method ensuring presence of all the peptides in the mix. The PepMix™ is then used for T-cell stimulation.



## Delivery Formats

JPT can produce peptide pools containing up to 200 peptides, which are delivered in a variety of tube or microplate formats. Pools are lyophilized and tested for DMSO solubility and cytotoxicity.

## Pooling Strategy

At JPT, we can produce any type of pool. This includes peptides from an overlapping protein scan or a matrix pool. JPT has also developed ULTRA or PAN-Select pools, which pool peptides covering sequence diversity within an organism or selected immune-dominant epitopes, respectively.

### Selected References

*" CD24-Fc resolves inflammation and enhances anti-HIV CD8 T cells with polyfunctionality during HIV-1 infection under ART"*

Li et al., PLoS Pathogens (2025)

*" Immunogenicity of RSV Fusion Protein Adsorbed to Non-Pathogenic Bacillus subtilis Spores: Implications for Mucosal Vaccine Delivery in Nonclinical Animal Models"*

Xiao et al., Biomedicines (2025)



*"[...] we utilised the PepMix™ CEF Pool (extended) as well as a custom synthesized PepMix™ spanning the core region of HBV genotype D. [...] Our entire experience with JPT, from ordering/delivery to use in the lab was excellent. [...] JPT will remain our "go-to" company for purchasing peptides."*

**L. Pallett, Infection and Immunity, University College London, UK**

## PepMix™ Peptide Pools

JPT's PepMixes™ are synthetic peptide pools containing overlapping peptide scans through antigens or selected MHC restricted epitopes. Each peptide is analyzed to meet the requirements of T-cell assays. Peptides are pooled according to our proprietary validated protocol ensuring presence of all peptides in the pool.

**500+**  
ready-to-use  
catalog peptide pools

### Applications

Efficient in vitro stimulation of antigen-specific CD4+ and CD8+ T-cells

- For optimization and validation of T-cell assays
- As positive and negative controls
- Immune monitoring: vaccine development, disease diagnostics, immunogenicity testing (i.e. gene therapy)
- Personalized medicine & neo-antigens: cell & immunotherapy, tumor antigen vaccines, neo-epitope therapy development

### Catalog PepMix

We offer a unique range of 500+ ready-to-use peptide pools. Our catalog covers many antigenic proteins, TAAs, T-cell positive controls, immunotoxicity controls and many more

- Control Pools: CEF, CEFX, CMV pp65
- Viral proteins: HA-Influenza, Spike-SARS-CoV-2, Capsid-AAV8
- Bacterial proteins: CFP-10 or EspA from M.tuberculosis
- Cancer proteins: MeIA, BRAF, ErbB2

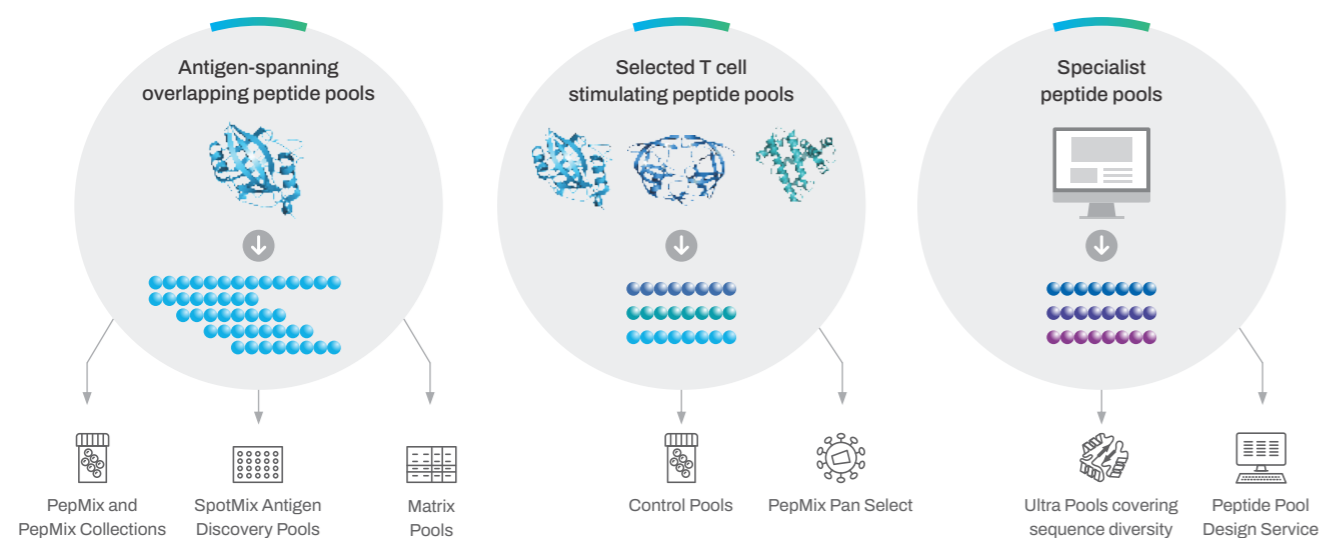
### Benefits ✓

- Produced under stringent quality management
- Individual peptides are controlled for identity and purity
- CoA and HPLC-MS data available for each individual peptide
- High batch-to-batch consistency
- No false positive T-cell responses by contaminating deletion peptides
- No toxic inhibition of T-cell responses due to purification of each peptide
- Low bioburden process
- ADCF policy

### Custom PepMix™

In addition to our expansive catalog we offer the synthesis of custom PepMix™ peptide pools according to your extensive specifications. Contact us to find our more!

Peptide Pool Formats

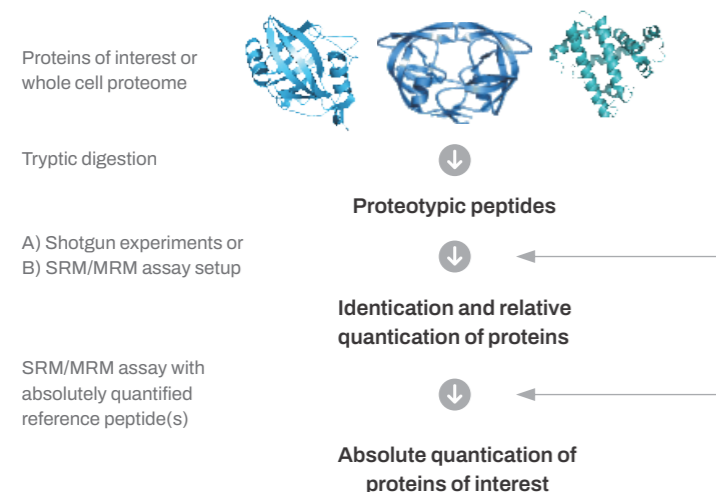


# Proteomics Peptides

## SpikeTides SIL Peptides

JPT has developed an innovative synthesis technology for producing small scale, stable isotope labeled peptides - known as SpikeTides\_L - that are ideal for high-throughput proteome-wide analysis using SRM (Selected Reaction Monitoring) or MRM (Multiple Reaction Monitoring) mass spectrometry. These peptides serve as internal reference standards for relative or absolute quantification of proteins in complex mixtures.

Traditional approaches for absolute quantification of peptides require costly purification steps, often driving peptide prices into the hundreds of dollars or euros. JPT addresses this challenge by incorporating its unique and proprietary Quanti-Tag (Q-tag or "TQ"), a small chemical tag attached to the proteotypic peptide. This alternative solution to AAA quantification enables accurate, cost-efficient quantification without the need for extensive purification. During sample digestion, the protease cleaves the bond between the peptide and the tag, releasing the pure proteotypic peptide for reliable mass spectrometric measurement.



### Selected References

"Food Allergen Quantitative Risk Assessment at a Crossroads: A Critical Evaluation of Laboratory Performance for Quantifying Total Egg and Milk Protein in Cookies"

Cubero-Leon et al., Foods (2025)

"MHC2-SCALE enhances identification of immunogenic neoantigens"

Gober et al., iScience (2025)

"A surgical window of opportunity trial evaluating the effect of the PCSK9 inhibitor evolocumab on tumoral MHC-I expression and CD8+ infiltration in glioma"

Singh et al., Nature Communications (2025)

"Identification and quantification of human relaxin proteins by immunoaffinity-mass spectrometry"

Rais & Drabovich, Journal of Proteome Research (2024)

Quantification of Proteins with JPT's Proteomics Tools.

- SpikeMix Peptide Pools
- SpikeTides\_L
- Quantified SpikeTides\_TQL

### SpikeTides Options

	Product Name	Purity*	Amount / peptide	Peptide Length	Quantification	Format
	Unquantified SpikeTides_L	Crude	10 – 50 nmol 0,5 – 10 mg	5 – 20 aa	-	Plates, tube racks
	Quantified SpikeTides_TQL	Purified >95%	10 – 150 nmol 1 – 10 mg	2 – 40 aa	Q-tag / AAA	Plates, vials

### SpikeMix

#### Peptide Pools

Our inexpensive stable isotope-labeled peptide pools and sets for use in mass spectrometry-based proteomics feature large numbers of heavy peptides, e.g., for cytokines, peptide hormones and tumor associated antigens.



As Director of the Protein Profiling at Yale Keck Biotechnology Resource Facility, I coordinated a collaboration between the Association of Biomolecular Resource Facilities (ABRF) standard proteomic research group (sPRG) and JPT Peptide Technologies to develop the ABRF cross-species SpikeMix™ Peptide Pool. The joint development turned out to be an extraordinarily effective endeavor and the resulting product was qualified in more than 52 proteomics labs around the globe. I was impressed by JPT's scientific and technological capabilities as well as their enthusiasm to drive the project forward.

C. M. Colangelo, Protein Profiling at Keck Biotechnology Resource Facility, Yale University, USA

### Protein Interaction Screen of Peptide Matrix (PRISMA)

Synthesized on a cellulose membrane, PRISMA is a useful tool for the identification of protein-protein interactions, exploring the interactome and decoding of post-translational modifications.



My group studies the proteomic composition of distinct chromatin domains, the mechanisms that operate to maintain the composition of histone modifications and the associated proteins. For precise and accurate identification and quantification of histone peptides that carry multiple post-translational modifications directly from biological samples JPT's SpikeTides™\_TQL peptide standards proved to be of excellent value for our research in various projects.

A. Imhof, Adolf-Butenandt Institute, University of Munich, Germany

# Immobilized Peptides

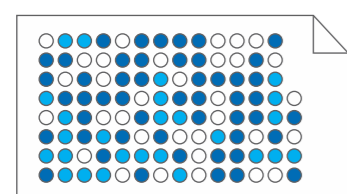
JPT uses its proprietary PepStar™, PepSpots and Peptide ELISA technologies for the production of peptide arrays, microarrays and ELISA. Peptides are immobilized onto surfaces such as cellulose membranes or glass slides. They can represent proteins or a whole proteome as well as specific peptide sequences. Each microarray batch passes rigorous quality control ensuring high batch-to-batch reproducibility.

## Benefits of Immobilized Peptides ✓

- Chemoselective and directed immobilization leads to proper presentation of binding sites
- Synthetic peptides have high-batch-to-batch reproducibility
- Post-translational modifications or other modifications possible

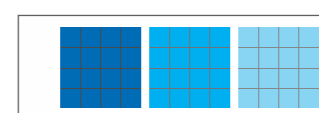
JPT's Array Platform	Formats	Application	Total sample volume	Throughput	Read-out sensitivity
PepSpots Arrays	Cellulose membrane	Epitope Mapping, Validation and Optimization (read-out via chemiluminescence)	> 1mL	+++	+
PepStar™ Peptide Microarrays	Glass slide	Immune Monitoring, Seromarker Discovery, Antibody Signature Profiling, Epitope Mapping & Optimization (read-out via fluorescence)	2 µL	++	++
Peptide ELISA	96 well plate or 12x8 well strips	Immune Profiling, Protein-Protein Interaction Studies (Chemiluminescent, colorimetric or fluorometric read-out in HRP assay)	20 µL	+	+++

### PepSpots Array



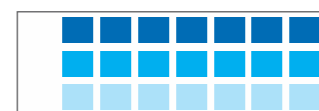
Flexible Layout  
400 peptides per membrane recommended  
1 Sample

### Peptide Microarrays



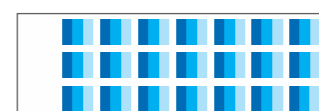
1 Sample

High-Density PepStar Microarray  
6912 peptides in 3 copies per slide



7 Samples

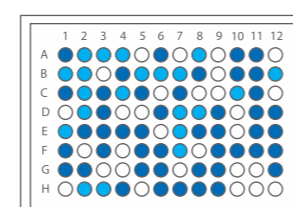
Multiwell 7-sample PepStar Microarray  
564 peptides in 7 x 3 miniarrays per slide



21 Samples

Multiwell 21-sample PepStar Microarray  
188 peptides in 21 miniarrays per slide (each with 3 copies per peptide)

### Peptide ELISA



Flexible Layout  
Max. 96 peptides per plate  
1 Sample/well

# PepSpots Peptide Arrays

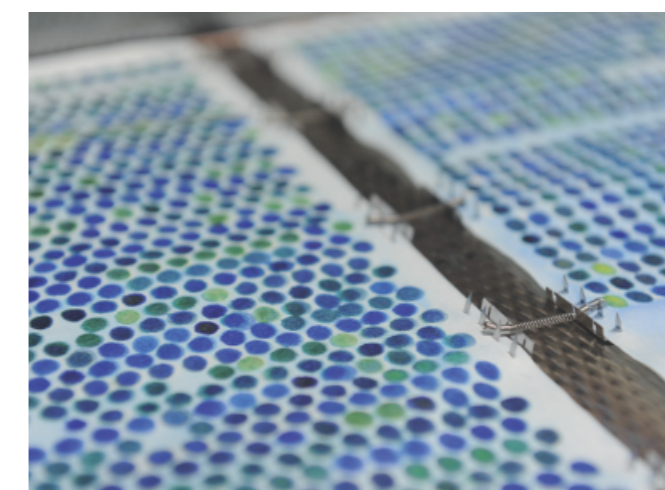
PepSpots peptides are synthesized directly on cellulose membranes via SPOT technology. The resulting PepSpots Peptide Arrays combine a reliable assay, easy experimental procedure (like ELISA), inexpensive equipment needs and a highly flexible array. Different array format are possible as well as post-translational and other peptide modifications.

## Applications

- Antibody epitope mapping
- Functional characterization of mapped epitopes
- Optimization of epitopes
- Characterization of protein-protein contact sites

## Benefits ✓

- Peptides attached via a flexible linker
- Membrane for direct use
- Readout via chemiluminescence
- Hydrophilic cellulose membranes minimize unspecific interactions
- Detection of low affinity interactions
- Easy standard protocols



## Selected References

*"Oncogenic non-V600 mutations evade the regulatory machinery of RAF including the Cdc37/Hsp90 chaperone and the 14-3-3 scaffold"*  
Wan et al., Theranostics (2025)

*"Generation of nanobodies with conformational specificity for tau oligomers that recognize tau aggregates from human Alzheimer's disease samples"*

McArthur et al., Biomaterial Science (2024)

*PPM1D activity promotes cellular transformation by preventing senescence and cell death"*

Stoyanov et al., Oncogene (2024)



*"[...] we are collaborating with JPT for many years and are very satisfied with the relationship which led to several well received publications. Especially, their unique array technology PepSpots™ helped us to enhance our knowledge [...]."*

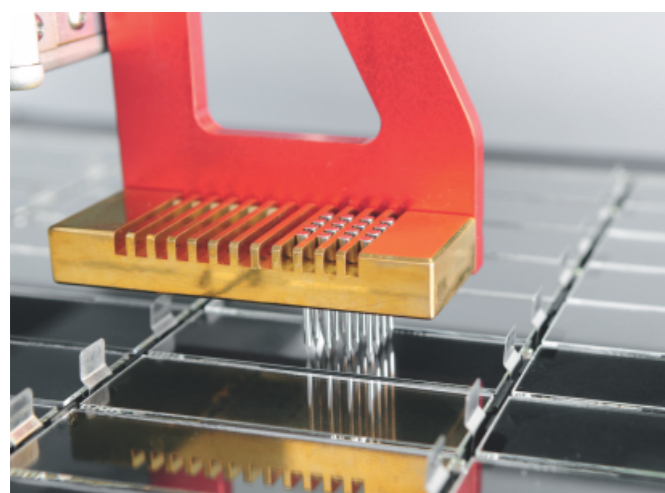
J. Schymkowitz, Vrije Universiteit Brussel, Belgium

# PepStar™ Customized Peptide Microarrays

PepStar™ Peptide Microarrays offer a powerful and cost-effective platform for immune monitoring, biomarker discovery, and epitope mapping. Using chemoselective coupling, peptides are covalently and directionally attached to glass slides during synthesis, ensuring high purity and reproducibility. Flexible layouts support overlapping peptide scans and incubation with antibodies, lysates, or patient samples. More reliable than protein arrays, PepStar™ is ideal for detecting and validating protein interactions. Peptide microarrays are available in three customizable formats, including high-density-, 7 sample or 21 sample multi-well, with follow-up options like ELISA.

## Applications

- Incubation with proteins, patient samples, cell lysates, enzymes
- Epitope mapping and optimization
- Antibody signature profiling
- Seromarker profiling
- Immune monitoring
- Protein-protein interactions



## Selected References

*"Purification and Epitope Mapping of Jug r 4, a Major Walnut Allergen"*

Gipson et al., Allergies (2025)

*"A Pentavalent HIV-1 Subtype C Vaccine Containing Computationally Selected gp120 Strains Improves the Breadth of V1V2 Region Responses"*

Shen et al., Vaccines (2025)

*"Suppression of Type I Interferon Signaling in Myeloid Cells by Autoantibodies in Severe COVID-19 Patients"*

Aoki et al., Journal of Clinical Immunology (2024)

## Benefits

- Patented synthesis of peptides warrants high batch-to-batch reproducibility
- Directed and chemoselective immobilization ensures availability of binding sites
- Provision of thousands of identical microarrays
- Low consumption of patient materials and proteins
- High shelf stability
- High assay sensitivity



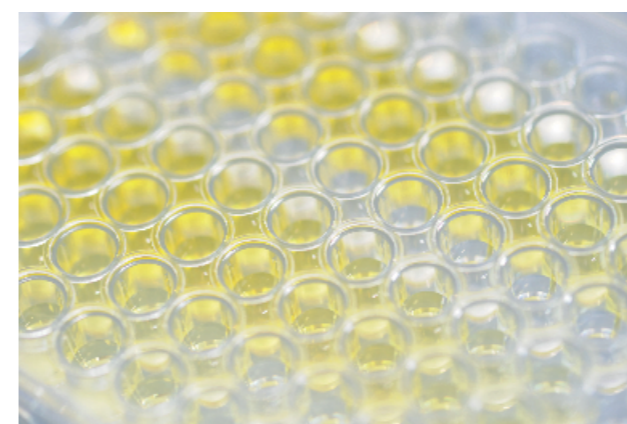
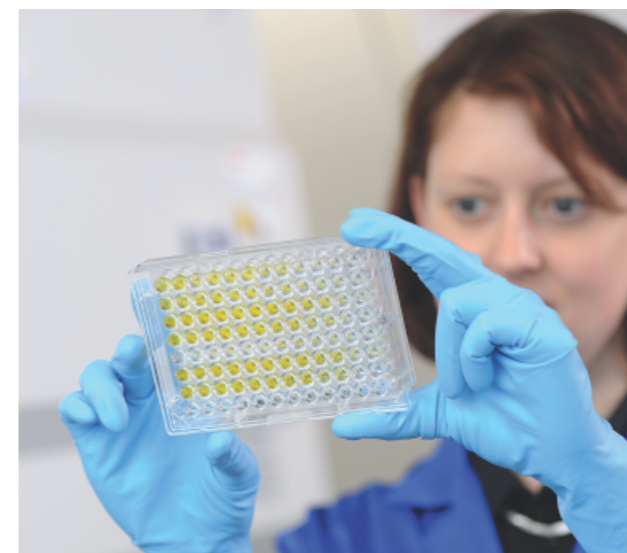
*[...] To map the epitopes of our newly generated specific anti-rat TAAR1 antibodies we used JPT's PepStar™ Peptide Microarrays. The peptide microarrays greatly contributed to our successful and recently published study. We were very satisfied with the exceptional product and service delivered by JPT Peptide Technologies as well as their scientific Customer Support which was always at our disposal.*

S. Obermüller, F. Hoffmann – La Roche Ltd., Roche Pharma Research and Early Development, Basel, Switzerland

# Peptide ELISA

Peptide ELISA (Enzyme-linked immunosorbent assay) enables analysis and screening on amino acid sequence level. For example, mapping of epitopes or defining protein interaction sites provide much more information than conventional ELISA.

We offer custom peptide ELISA plates with optional incubation and assay service and an off-the-shelf Histone Peptide ELISA for screening of PTM-specific antibodies, or enzymes.



## Selected References

*"Antibody landscape of C57BL/6 mice cured of B78 melanoma via immunotherapy"*

Hoefges et al., BioRxiv (2023)

*"Characterization of surface-exposed structural loops as insertion sites for foreign antigen delivery in calicivirus-derived VLP platform"*

Panasiuk et al., Frontiers in Microbiology (2023)

*"Cross-reactive CD4+ T cells enhance SARS-CoV-2 immune responses upon infection and vaccination"*

Loyal et al., Science (2021)

*"JNJ-64794964 (AL-034/TQ-A3334), a TLR7 Agonist, Induces Sustained Anti-HBV Activity in AAV/HBV Mice Via Non-Cytolytic Mechanisms"*

Herschke et al., Antiviral Research (2021)

## Peptide ELISA specifications

- Discovery Grade: Unpurified peptides but truncated sequences are removed during immobilization
- Validation Grade: Custom Peptides with full HPLC-MS analysis and guaranteed purity

## Applications for Peptide ELISA

- Antibody epitope mapping
- Immune profiling
- Determination of antibody titers
- Analysis of protein-protein interactions
- Analysis of enzymatic reactions
- Validation of microarray results

# Assay Services

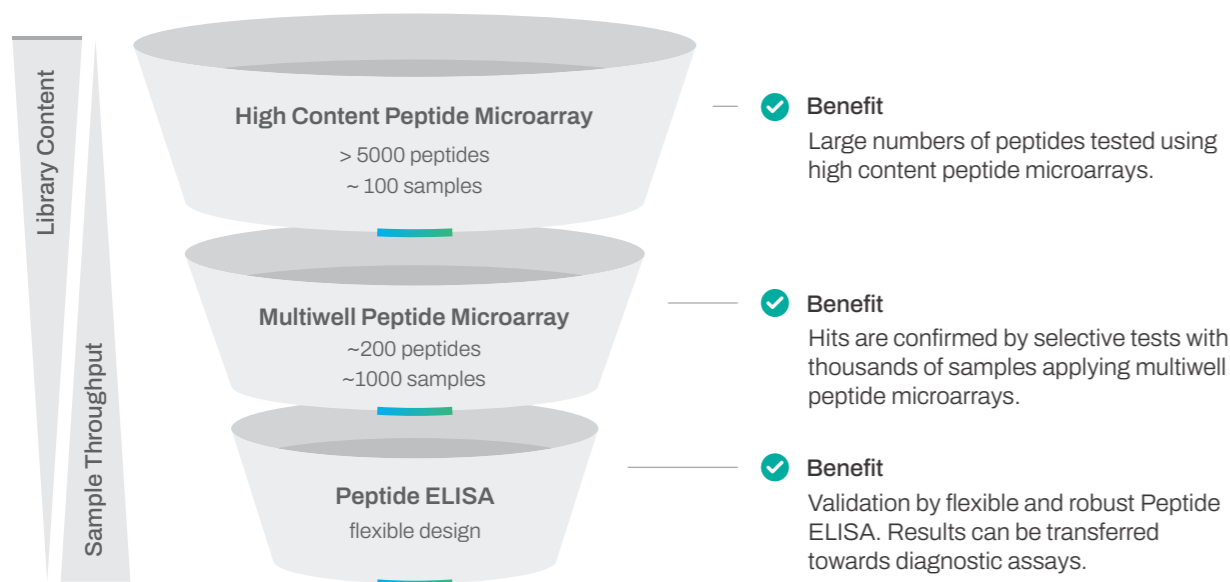
JPT offers comprehensive incubation and analysis services using its peptide microarray platforms PepStar™ and Peptide ELISA. Save time for assay set-up and optimization and take advantage of our experience in data evaluation.

## Applications

- Seromarker Profiling
- Receptor-ligand interaction studies
- Antibody epitope mapping
- Mimotope identification and optimization
- Enzyme substrate identification and optimization

## Benefits ✓

- Our proprietary peptide microarray platforms
- Well established and automated assay procedures
- Sample handling and profiling regulated by validated protocols and quality management.
- Strong bioinformatic support for array design and data interpretation



Send us a short outline of your project and we will:

- Suggest the appropriate array platform to be used
- Provide bioinformatic support for peptide and microarray design
- Provide project proposal and quotation
- Synthesize peptides and generate peptide microarrays
- Incubate microarrays with your sample and perform control experiments
- Evaluate and interpret data
- Provide comprehensive and confidential report



[...] JPT's PepStar™ Peptide Microarray platform as well as its full profiling service and data interpretation capabilities have been a reliable and robust approach to elucidate the molecular details of these protein-protein interactions.

J. Schultz, Carolus Therapeutics, Inc., San Diego, USA

# Quality Grades

Our enhanced production environment for Clinical Peptides & Pools goes beyond research requirements to meet the more stringent product requirements of immunotherapy as well as vaccine and drug development. With 20 years of experience, we have track record of contributing to a successful completion of trial projects backed by many publications. Thus, the resulting Clinical Grade & ISO Plus Peptides & Pools have been approved for specific clinical trials in the USA and in Germany.

## Quality Assurance and Control

- Vendor qualification
- Incoming material inspection
- ADCF policy
- Cleaning validation
- Full traceability
- QC/QA documentation
- Batch release control

## Optional Analyses

- Chemical analyses acc. to ICH guidelines, e.g. residual solvent and peptide content determination, amino acid analysis, UPLC measurement, stability and solubility testing
- Microbiological analyses, e.g. endotoxin and bioburden determination, sterility testing, bacteriostatic and fungistatic effect

## JPT's Peptide Quality Grades

Specification	RUO	ISO PLUS	Clinical Grade
<b>Applications</b>	<b>Target/Epitope Discovery &amp; Immune Monitoring</b>	<b>Clinical Immune Monitoring &amp; Immune Diagnostics</b>	<b>Immuno- &amp; Cell Therapy</b>
Incoming Material Inspection	X	X	X
Dedicated Raw Materials			X
Vendor Qualification	X	X	X
Order-Dedicated Personnel			X
ADCF Policy		X	X
Certificate of Analysis	X	X	X
Document Management & LIM-Systems	X	X	X
Documented Cleaning & Calibration			X
CMC: Batch Documentation & CoA based on IND Requirements		X	X
Line Clearance		X	X*
Optional: Certified Vials	X	X	X
Optional: Impurity ID & Qualification	report only	report only	report only
Optional Services: Residual Solvents; Sterility, Endotoxin; Monitored Storage...	X	X	X

\* spatial separation of processes



We pride ourselves on our competent service and swift response. Please do not hesitate to contact us for more information. We also welcome your feedback and comments.

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