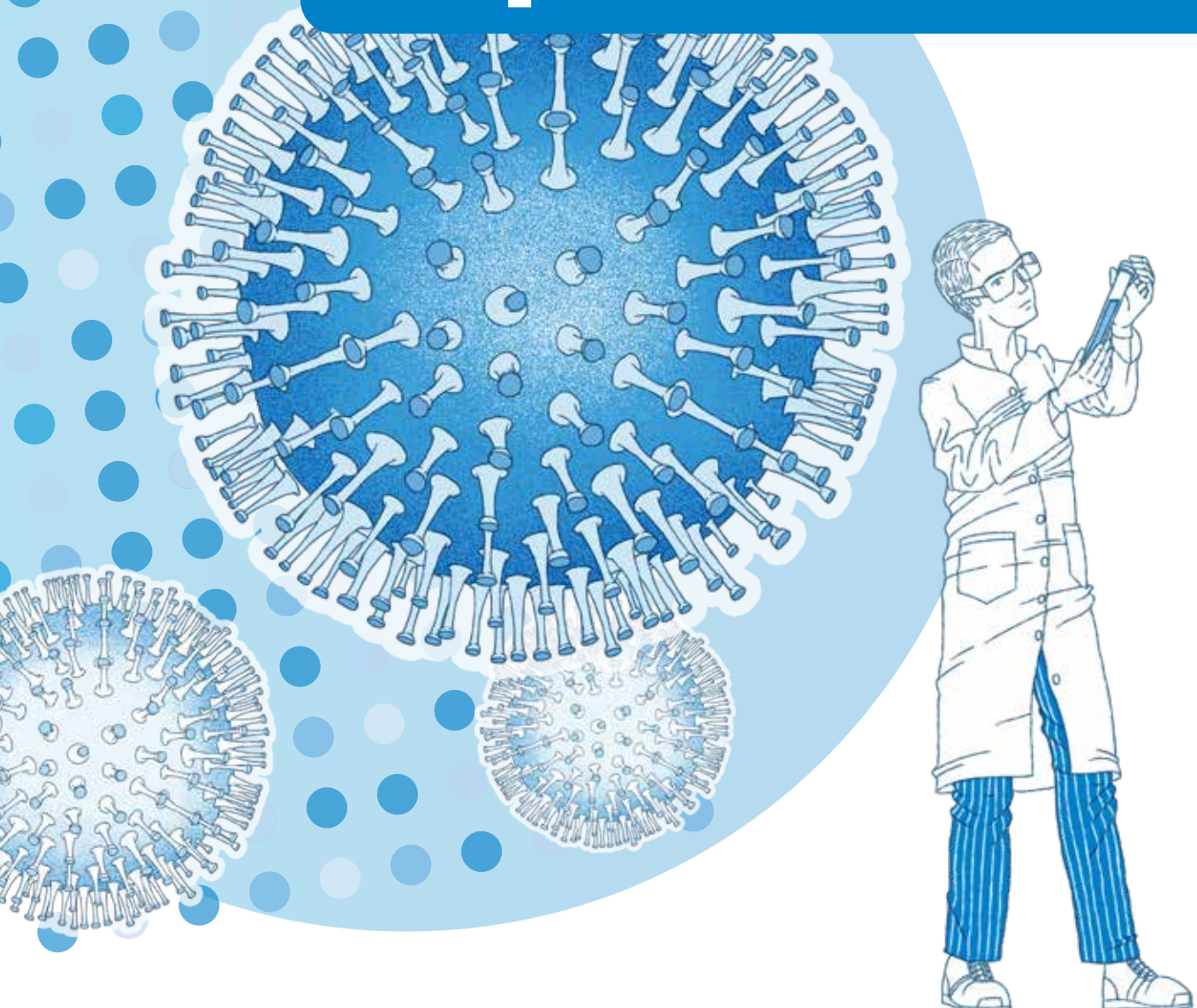


peptides&elephants'

Viral

Peptide Pools



Peptide Pools for Infectious Disease Research

Peptide pools typically represent a complete protein by mapping its primary amino acid sequence into 15mer peptides, each overlapping by 11 amino acids. Alternatively, they can contain multiple non-contiguous peptide sequences that represent key immunodominant epitopes – from one or from various pathogens. The 15-amino acid length is a good compromise, ensuring epitopes can bind to both MHC Class I and II binding grooves.

Peptide Pools stimulate antigen-specific CD4+ and CD8+ T cells efficiently and cost-effectively. The activated T cells can then be detected, quantified or isolated for analysis based on released cytokines and upregulated activation markers.

Peptides offer several benefits over proteins in T cell stimulation tests: They can be synthesized reproducibly under the strict requirements of ISO 9001:2015. Protein expression systems are not required, and at the same time sequences can be varied as needed and post-translational modifications can be introduced as required.

Peptide pools were first used in immunological research in 1980. However, their full potential was not recognized until more than 40 years later. Today, peptide pools are employed in a wide range of immunological research fields. Examples are:

- antigen and epitope discovery
- immune monitoring in research and clinical trials
- in-vitro T-cell activation and expansion in adoptive cancer immunotherapies
- development of diagnostic tests.

peptides&elephants' Viral Peptide Pools

One unit of peptides&elephants' peptide pools allows the stimulation of $2,5 \times 10^8$ cells. Large peptide pools are delivered in two or more sub pools.

Positive Controls

CEF control Peptide Pool (>95% HPLC, advanced): 32 peptides from cytomegalovirus, Epstein-Barr virus, and influenza virus that match common HLA class I alleles

CEF (classic) Peptide Pool (>95% HPLC): 23 peptides from cytomegalovirus, Epstein-Barr virus, and influenza virus that match common HLA class I alleles

Cytomegalovirus (CMV)/Human herpesvirus 5 (HHV-5)

CMV Sub Peptide Pool (>95% HPLC): 14 peptides that match common HLA class I alleles

HCMVA (IE1) Peptide Pool: 120 overlapping peptides, from a peptide scan through IE-1

HCMVA (IE2) Peptide Pool: 143 overlapping peptides, from a peptide scan through IE-2

HCMVA (pp65) Peptide Pool: 138 overlapping peptides, from a peptide scan through 65 kDa phosphoprotein (pp65)

HHV5 UL44 Peptide Pool: 106 overlapping peptides, from a peptide scan through DNA polymerase processivity factor

Epstein-Barr virus (EBV)/Human herpesvirus 4 (HHV-4)

EBV control Peptide Pool (>95% HPLC): 26 peptides that match common HLA class I alleles

EBV (BZLF1) Peptide Pool: 59 overlapping peptides, from a peptide scan through Trans-activator protein BZLF1

EBV (EBNA-3a) Peptide Pool: 234 overlapping peptides, from a peptide scan through Epstein-Barr nuclear antigen 3 (EBNA3a)

EBV (EBNA-3b) Peptide Pool: 234 overlapping peptides, from a peptide scan through Epstein-Barr nuclear antigen 4 (EBNA3b)

EBV (GP350/GP340) Peptide Pool: 224 overlapping peptides, from a peptide scan through Envelope glycoprotein GP350/GP340

EBV (LMP1) Peptide Pool: 94 overlapping peptides, from a peptide scan through Latent membrane protein 1 (LMP1)

EBV (LMP2) Peptide Pool: 122 overlapping peptides, from a peptide scan through Latent membrane protein 2 (LMP2)

EBV (LMP2A) Peptide Pool: 27 overlapping peptides, from a peptide scan through Latent membrane protein 2A (LMP2A)

EBV BARF1 Peptide Pool: 53 overlapping peptides, from a peptide scan through Secreted protein BARF1

EBV EBNA-1 Peptide Pool: 158 overlapping peptides, from a peptide scan through Epstein-Barr nuclear antigen 1 (EBNA1)

EBV EBNA-2 Peptide Pool: 119 overlapping peptides, from a peptide scan through Epstein-Barr nuclear antigen 2 (EBNA2)

Hepatitis B virus (HBV)

HBV control Peptide Pool (>95% HPLC): 9 peptide epitopes that match common HLA class I alleles

HBV Protein P Peptide Pool: 209 overlapping peptides, from a peptide scan through Protein P

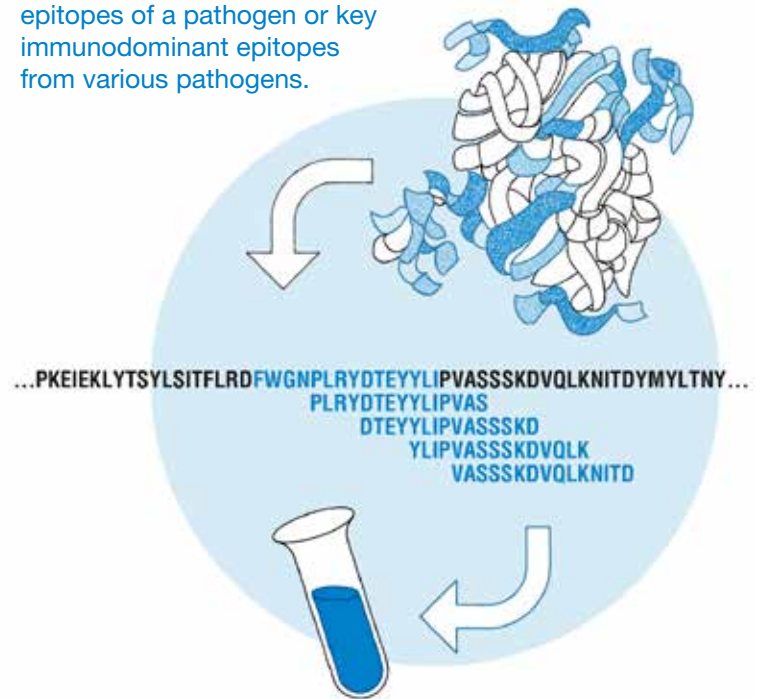
Hepatitis C virus (HCV)

HCV Sub Peptide Pool (>95% HPLC): 21 peptides that match common HLA class I alleles

Herpes simplex virus 1/Human herpesvirus 1 (HHV-1)

HHV1 Envelope Glycoprotein D Peptide Pool: 96 overlapping peptides, from a peptide scan through Envelope glycoprotein D

Peptide Pools cover complete proteins, all identified epitopes of a pathogen or key immunodominant epitopes from various pathogens.



Peptide Pools stimulate antigen-specific **CD4+** and **CD8+ T cells** efficiently and cost-effectively.

Human herpesvirus 6B (HHV-6)

HHV6 (U54) Peptide Pool: 112 overlapping peptides, from a peptide scan through U54

HHV6 (U90) Peptide Pool: 267 overlapping peptides, from a peptide scan through Protein U90

Human herpesvirus 8 (HHV-8)

HHV8 (K8.1) Peptide Pool: 55 overlapping peptides, from a peptide scan through Glycoprotein gp35/37 (Glycoprotein K8.1)

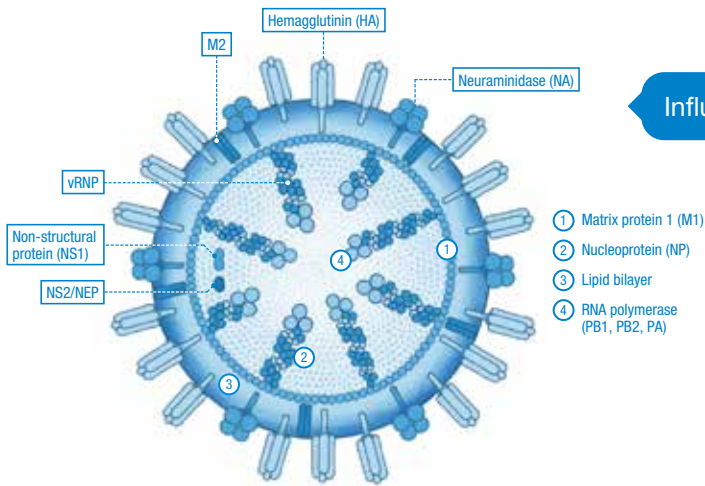
HHV8 (K8) Peptide Pool: 57 overlapping peptides, from a peptide scan through K8 alpha

HHV8 K6 Peptide Pool: 21 overlapping peptides, from a peptide scan through Interleukin 8-like CC chemokine (gene K6)

Human immunodeficiency virus (HIV)

HIV control Peptide Pool (95% HPLC): 22 peptides that match common HLA class I alleles

HIV-1 B Gag Peptide Pool: 123 overlapping peptides, from a peptide scan through Gag polypeptide of Human immunodeficiency virus type 1 group M subtype B



Influenza A virus

Human papillomavirus (HPV)

HPV Sub Peptide Pool (>95% HPLC): 14 peptides that match common HLA class I alleles

HPV16 (L1) Peptide Pool: 124 overlapping peptides, from a peptide scan through Protein L1 of HPV 16

HPV16 (L2) Peptide Pool: 116 overlapping peptides, from a peptide scan through Protein L2 of HPV 16

HPV16 E2 Peptide Pool: 89 overlapping peptides, from a peptide scan through Regulatory protein E2 of HPV 16

HPV16 E5 Peptide Pool: 18 overlapping peptides, from a peptide scan through Probable protein E5 of HPV 16

HPV16 E6 Peptide Pool: 37 overlapping peptides, from a peptide scan through Protein E6 of HPV 16

HPV16 E7 Peptide Pool: 22 overlapping peptides, from a peptide scan through Protein E7 of HPV 16

HPV18 (L1) Peptide Pool: 140 overlapping peptides, from a peptide scan through Protein L1 of HPV 18

HPV18 (L2) Peptide Pool: 113 overlapping peptides, from a peptide scan through Protein L2 of HPV 18

HPV18 E2 Peptide Pool: 89 overlapping peptides, from a peptide scan through Regulatory protein E2 of HPV 18

HPV18 E5 Peptide Pool: 16 overlapping peptides, from a peptide scan through Probable protein E5 of HPV 18

HPV18 E6 Peptide Pool: 37 overlapping peptides, from a peptide scan through Protein E6 of HPV 18

HPV18 E7 Peptide Pool: 24 overlapping peptides, from a peptide scan through Protein E7 of HPV 18

Human T-cell leukemia virus 1 (HTLV-1)

HTLV-1 (TAX) Peptide Pool: 86 overlapping peptides, from a peptide scan through Protein Tax-1

HTLV-1 basic zipper factor (HBZ_HTL1A) Peptide Pool: 50 overlapping peptides, from a peptide scan through Human HTLV-1 basic zipper factor

Influenza A virus

Influenza control Peptide Pool (>95% HPLC): 17 peptides that match common HLA class I alleles

Influenza A (H1N1) HA Peptide Pool: 139 overlapping peptides, from a peptide scan through Hemagglutinin

Influenza A (M1) Peptide Pool: 61 overlapping peptides, from a peptide scan through Matrix protein 1

Lymphocytic choriomeningitis mammarenavirus (LCMV)

LCMV NP (strain Armstrong) Peptide Pool: 137 overlapping peptides, from a peptide scan through Nucleoprotein of LCMV strain Armstrong

WE-NP Peptide Pool: 137 overlapping peptides, from a peptide scan through Nucleoprotein

Measles virus (MeV)

Hemagglutinin glycoprotein Peptide Pool: 152 overlapping peptides, from a peptide scan through Hemagglutinin glycoprotein

NCAP-MEASF Peptide Pool: 129 overlapping peptides, from a peptide scan through Nucleoprotein

Polyomavirus (PyV)

BKV VP1 Peptide Pool: 88 overlapping peptides, from a peptide scan through Major capsid protein VP1 from BK polyomavirus

BKV (BK-Virus LT) Peptide Pool: 171 overlapping peptides, from a peptide scan through Large T antigen of BK polyomavirus

JC polyomavirus (Large T antigen) Peptide Pool: 170 overlapping peptides, from a peptide scan through Large T antigen of JC polyomavirus

JC polyomavirus (VP1) Peptide Pool: 86 overlapping peptides, from a peptide scan through Major capsid protein VP1 of JC polyomavirus

Rabies virus

Rabies virus (Glycoprotein) Peptide Pool: 129 overlapping peptides, from a peptide scan through Glycoprotein

Respiratory Syncytial Virus (RSV)

RSV control Peptide Pool (>95% HPLC): 28 peptides that match common HLA class I alleles

RSVA (Fusion Glycoprotein F0) Peptide Pool: 141 overlapping peptides, from a peptide scan through Fusion Glycoprotein F0 of RSV A

RSV1 (Fusion Glycoprotein F0) Peptide Pool: 141 overlapping peptides, from a peptide scan through Fusion Glycoprotein F0 of RSV B

RSVA (Major surface glycoprotein G) Peptide Pool: 72 overlapping peptides, from a peptide scan through Major surface glycoprotein G of RSV A

RSVB (Major surface glycoprotein G) Peptide Pool: 72 overlapping peptides, from a peptide scan through Major surface glycoprotein G of RSV B

SARS-CoV-2

SARS-CoV-2 (M-Protein) Peptide Pool: 53 overlapping peptides, from a peptide scan through Membrane protein

SARS-CoV-2 (N-Protein) Peptide Pool: 102 overlapping peptides, from a peptide scan through Nucleoprotein

SARS-CoV-2 (NS6) Peptide Pool: 13 overlapping peptides, from a peptide scan through the entire Non-Structural protein 6

SARS-CoV-2 (NS7a) Peptide Pool: 28 overlapping peptides, from a peptide scan through the entire Non-structural protein 7A

SARS-CoV-2 (NS7b) Peptide Pool: 8 overlapping peptides, from a peptide scan through the entire Non-structural Protein 7b

SARS-CoV-2 (NS8) Peptide Pool: 28 overlapping peptides, from a peptide scan through the entire Non-structural protein 8

SARS-CoV-2 (ORF10) Peptide Pool: 7 overlapping peptides, from a peptide scan through the entire ORF10 Protein

SARS-CoV-2 (ORF3a) Peptide Pool: 66 overlapping peptides, from a peptide scan through Protein ORF3a

SARS-CoV-2 (ORF9b) Peptide Pool: 22 overlapping peptides, from a peptide scan through the entire Protein 9b

SARS-CoV-2 (ORF9c) Peptide Pool: 16 overlapping peptides, from a peptide scan through Uncharacterized ORF9c protein

SARS-CoV-2 (Spike Glycoprotein) Peptide Pool: 316 overlapping peptides from a peptide scan through Spike glycoprotein

SARS-CoV-2 (VEMP) Peptide Pool: 16 overlapping peptides, from a peptide scan through Envelope small membrane protein

Alpha Variant B.1.1.7 SCoV2 (Spike Glycoprotein) Peptide: 31 peptides covering all mutations in the Spike Glycoprotein from the alpha variant B.1.1.7

BA.4/BA.5 Omicron full length SCoV2 (Spike Glycoprotein) Peptide Pool: 315 peptides covering the whole spike glycoprotein with all mutations of the omicron variants BA4 and BA.5

Beta Variant B.1.351 SCoV2 (Spike Glycoprotein) Peptide Pool: 34 peptides covering all mutations in the Spike Glycoprotein from the beta variant B.1.351

Delta Variant B.1.617.2 SCoV2 (Spike Glycoprotein) Peptide Pool: 27 peptides covering all mutations in the Spike Glycoprotein from the delta variant B.1.617.2

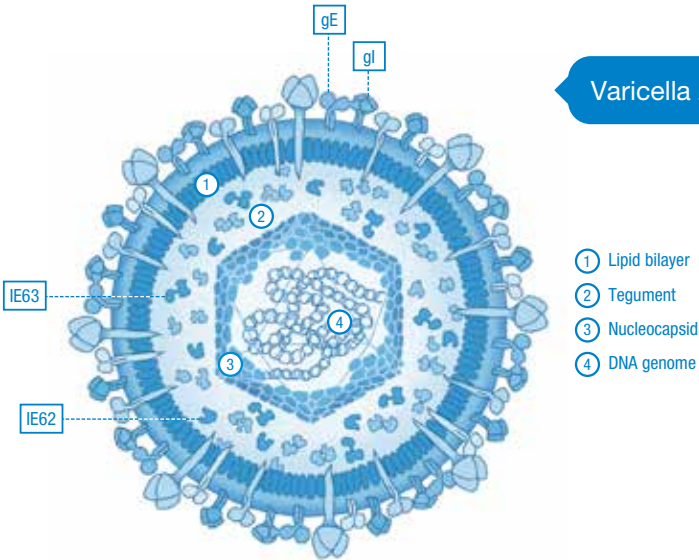
Delta Variant B.1.617.2 SCoV2 wt (Spike Glycoprotein) Peptide Pool: 27 peptides of the spike protein representing the wildtype peptides to the mutations of the delta variant B.1.617.2

Epsilon Variant B.1.427/B.1.429 SCoV2 (Spike Glycoprotein) Peptide Pool: 14 peptides covering all mutations in the Spike Glycoprotein from the epsilon variant B.1.427/B.1.429

Eta Variant B.1.525 SCoV2 (Spike Glycoprotein) Peptide Pool: 31 peptides covering all mutations in the Spike Glycoprotein from the eta variant B.1.525

Gamma Variant P.1 SCoV2 (Spike Glycoprotein) Peptide Pool: 36 peptides covering all mutations in the Spike Glycoprotein from the gamma variant P.1

HCoV-229E (Spike Glycoprotein) Peptide Pool: 291 overlapping peptides, from a peptide scan through Spike glycoprotein of Human coronavirus 229E



Varicella zoster virus

- ① Lipid bilayer
- ② Tegument
- ③ Nucleocapsid
- ④ DNA genome

HCoV-229E Membrane protein M Peptide Pool: 54 overlapping peptides, from a peptide scan through Membrane protein of Human coronavirus 229E

HCoV-229E Nucleoprotein N Peptide Pool: 95 overlapping peptides, from a peptide scan through Nucleoprotein of Human coronavirus 229E

HCoV-HKU1 (isolate N5) Membrane protein M Peptide Pool: 53 overlapping peptides, from a peptide scan through Membrane protein of Human coronavirus HKU1

HCoV-HKU1 (isolate N5) Nucleoprotein N Peptide Pool: 108 overlapping peptides, from a peptide scan through Nucleoprotein of Human coronavirus HKU1

HCoV-NL63 Membrane protein M Peptide Pool: 54 overlapping peptides, from a peptide scan through Membrane protein of Human coronavirus NL63

HCoV-NL63 Nucleoprotein N Peptide Pool: 92 overlapping peptides, from a peptide scan through Nucleoprotein of Human coronavirus NL63

HCoV-OC43 (Spike Glycoprotein) Peptide Pool: 336 overlapping peptides, from a peptide scan through Spike glycoprotein of Human coronavirus OC43

HCoV-OC43 Membrane protein M Peptide Pool: 55 overlapping peptides, from a peptide scan through Membrane protein of Human coronavirus OC43

HCoV-OC43 Nucleoprotein N Peptide Pool: 110 overlapping peptides, from a peptide scan through Nucleoprotein of Human coronavirus OC43

Iota Variant B.1.526 SCoV2 (Spike Glycoprotein) Peptide Pool: 21 peptides covering all mutations in the Spike Glycoprotein from the iota variant B.1.526

Kappa Variant B.1.617.1 SCoV2 (Spike Glycoprotein) Peptide Pool: 25 peptides covering all mutations in the Spike Glycoprotein from the kappa variant B.1.617.1

Lambda Variant C.37 SCoV2 (Spike Glycoprotein) Peptide Pool: 25 peptides covering all mutations in the Spike Glycoprotein from the lambda variant C.37

Omicron full length B.1.1.529 SCoV2 (Spike Glycoprotein) Peptide Pool: 315 peptides covering the whole spike glycoprotein with all mutations of the omicron variant B.1.1.529

Omicron Variant B.1.1.529 SCoV2 (Spike Glycoprotein) Peptide Pool: 80 peptides covering all mutations in the Spike Glycoprotein from the omicron variant B.1.1.529

Omicron Variant B.1.1.529 SCoV2 wt (Spike Glycoprotein) Peptide Pool: 82 peptides of the spike protein representing the wildtype peptides to the mutations of the omicron variant of B.1.1.529

RBD B.1.617.2 (Delta) SCoV2 (Spike Glycoprotein) Peptide Pool: 53 overlapping peptides, from a peptide scan through Receptor Binding Domain of Spike Glycoprotein

Theta Variant P.3 SCoV2 (Spike Glycoprotein) Peptide Pool: 30 peptides covering all mutations in the Spike Glycoprotein from the theta variant P.3

XBB.1.5.X Omicron full length SCoV2 (Spike Glycoprotein) Peptide Pool: 315 peptides covering the whole spike glycoprotein with all mutations of the omicron variants XBB.1.5.X

Zeta Variant P.2 SCoV2 (Spike Glycoprotein) Peptide Pool: 12 peptides covering all mutations in the Spike Glycoprotein from the zeta variant P.2

Varicella zoster virus

VZV (gE) Peptide Pool: 153 overlapping peptides, from a peptide scan through Envelope glycoprotein E

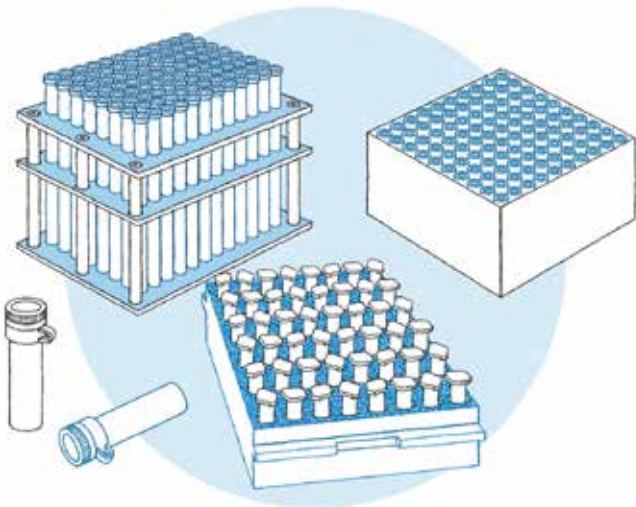
VZV (IE63) Peptide Pool: 67 overlapping peptides, from a peptide scan through Transcriptional transactivator IE63

Quality of peptides&elephants' Peptide Pools

All peptides provided by peptides&elephants are manufactured under a certified ISO 9001:2015 quality management system, ensuring reproducibility, reliability, and full documentation.

Our synthesis processes are designed to meet the highest purity and safety standards:

- All reagents and solvents are Animal Component-Free (ACF) and Animal Origin-Free (AOF).
- Cross-contamination is strictly prevented through validated workflows and dedicated production lines.
- Sequence integrity is ensured via capping steps.
- Peptides are sterile and free of endotoxins, ready for use in sensitive immunological assays.



Contact & Ordering

For further information about our peptide pools or to place an order, feel free to get in touch with our scientific support team.

We're happy to provide assistance with product selection, technical documentation, and tailored solutions.



For product details and online ordering, simply scan the QR code or visit peptides.de.



Discover new peptide solutions, technical resources, and case studies – connect with us on **LinkedIn**.



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We are big in peptides

Our mission is to provide high quality peptides quickly and efficiently

peptides&elephants develops innovative synthesis robots and supplies scientists worldwide with high-quality peptide products – since 2001.

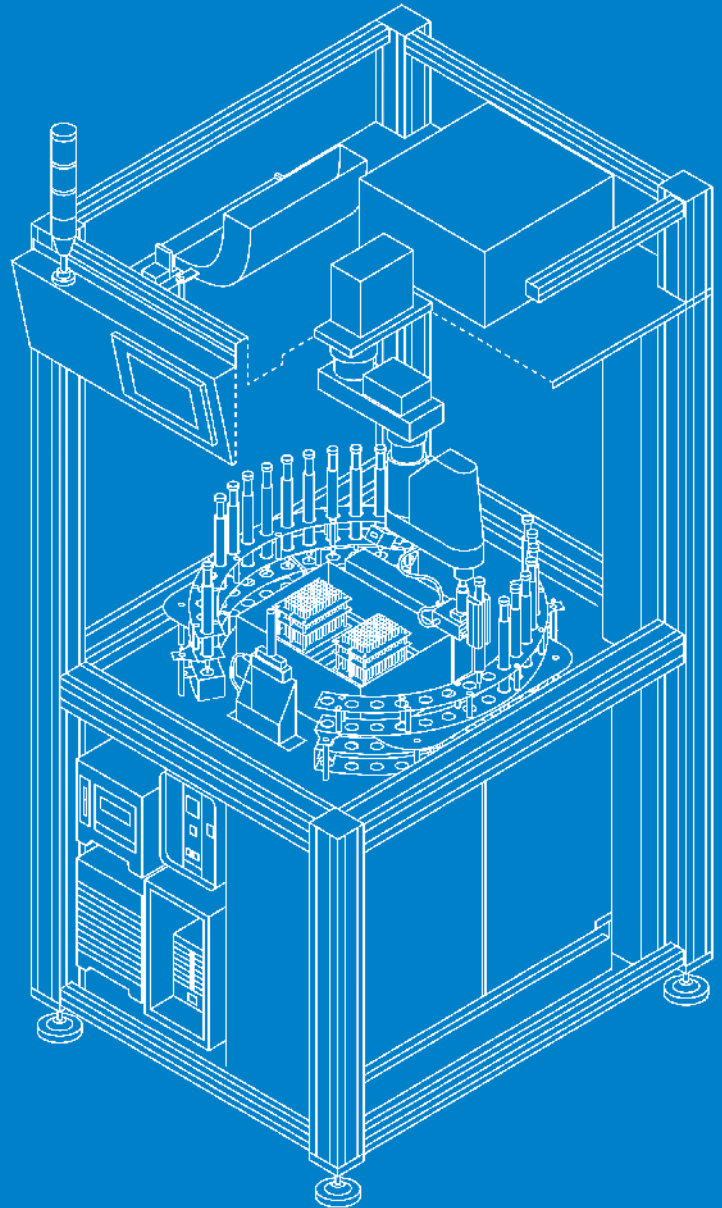
Our newest proprietary ultra sound peptide synthesis platform (USPS®) enables us to produce hundreds of peptides overnight!

Our patented USPS® platform is a significant step toward more efficient and sustainable peptide manufacturing.

As a manufacturer, we can offer high-quality peptides at an affordable price – quickly and efficiently.



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