

New Peptide Arrays,

Kinase Arrays and Peptide Sets...

2008

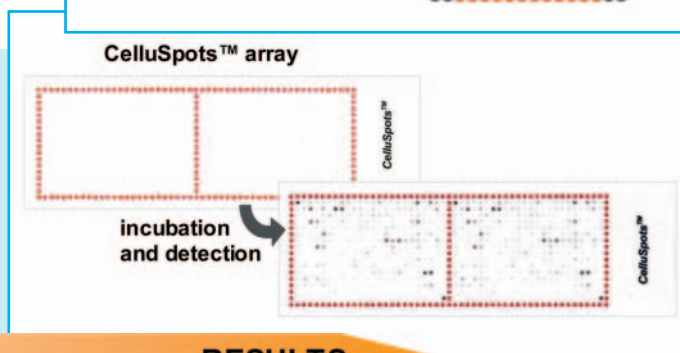
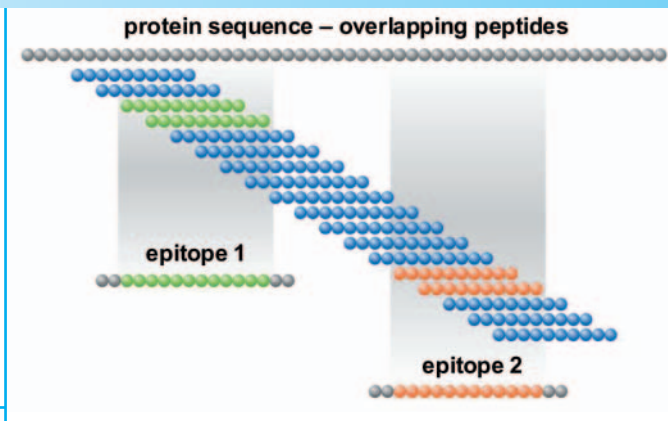
**CelluSpots™ - Custom Peptide Arrays,
Kinase Substrate Arrays and Custom Peptide Sets**

Find immunodominant Epitopes!

CelluSpots™ - Custom Peptide Arrays

CelluSpots™ peptide arrays are efficient tools to screen human sera, cell lysates, characterize antibodies, enzyme substrates (e.g. kinases) or sequence specificities of interaction partners with given peptide sequences (e.g. SH2, SH3 and other domains). A major advantage of this new peptide array format is the ability to screen small volumes of different samples in parallel on many identical CelluSpots™ arrays. Numerous identical copies of the same quality can be prepared, enabling large screening projects.

- standard microscope slide (26 x 76 mm, white coating)
- up to 384 peptide spots printed in duplicate
- spot-to-spot distance 1.2 mm
- peptides are covalently bound to cellulose via C-terminus
- arrays contain control peptides and location marks



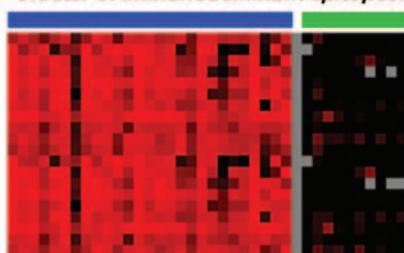
SERUM INCUBATIONS

ANALYSIS

RESULTS



Cluster of immunodominant epitopes:



Immunodominant Epitopes

**Diagnostic Tests
Vaccination**

Screening and analysis of serum incubations on CelluSpots™ arrays with antigenic proteins, represented by overlapping peptides.

CelluSpots™ arrays sold by BIOTREND can be analyzed with standard chromogenic substrate reactions as used in Western blot protocols. Development is done in a small open tray. Spot intensities are recorded on a standard flatbed scanner. Detection by luminescence or radioactivity is also possible.



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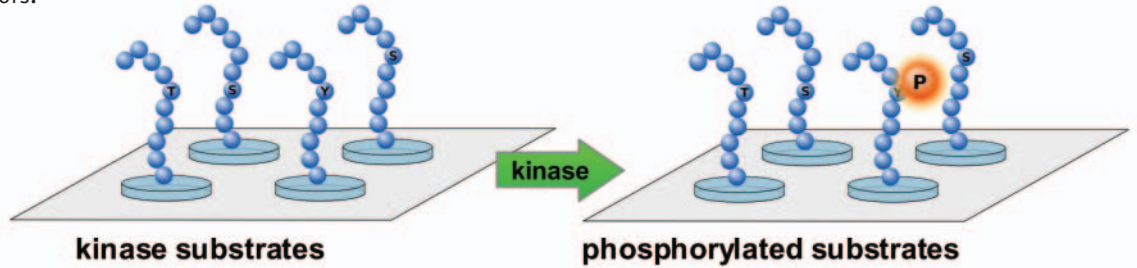
www.biotrend.com

Compare Kinase-Specificities and Cell Lysates!

CelluSpots™ - Kinase Substrate Arrays

Ready to screen kinase arrays with tyrosine- and serine/threonine-kinase substrates from annotated phosphorylation sites are available. We offer three different arrays, each with 384 spots in duplicates surrounded by red color marks. These arrays are perfect tools to characterize substrate specificities of kinases, to compare kinases or cell lysates, to identify autophosphorylation sites or to screen for kinase inhibitors.

Beside annotated sequences the arrays contain peptide mixtures with defined fixed positions represented by one or a few amino acids only. These mixtures can help to profile substrate specificities of unknown or new kinases.



Autoradiographic detection of phosphorylated peptides after a kinase assay.
Frank-D. Böhmer, Jena University Hospital, Germany.

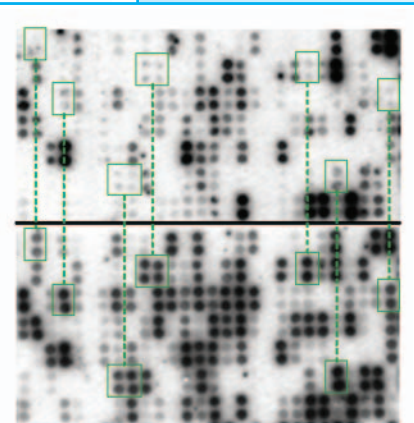


Applications

- characterisation of kinase substrate specificities
- identification of autophosphorylation sites
- comparison of kinases
- kinase inhibitor analysis

Specifications:

- Different kinase substrate arrays are available:
Tyrosine Kinase Substrates I (YKS-I)
Serine/Threonine Kinase Substrates I (STKS-I)
Serine/Threonine Kinase Substrates II (STKS-II)
- standard microscope slide (26x76 mm, white coating)
 - 4 x 96 peptide spots printed in duplicate
 - 1.2 mm spot to spot distance
- 15-mer peptides with Tyr, Ser or Thr in the middle position
- arrays contain control peptides and location marks



Comparison of two kinases with similar phosphorylation pattern.

A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12	E1	E2	E3	E4	E5	E6	E7	E8	E9	E10	E11	E12	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
A13	A14	A15	A16	A17	A18	A19	A20	A21	A22	A23	A24	E13	E14	E15	E16	E17	E18	E19	E20	E21	E22	E23	E24	L13	L14	L15	L16	L17	L18	L19	L20	L21	L22	L23	L24	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24
B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	J1	J2	J3	J4	J5	J6	J7	J8	J9	J10	J11	J12	N1	N2	N3	N4	N5	N6	N7	N8	N9	N10	N11	N12
B13	B14	B15	B16	B17	B18	B19	B20	B21	B22	B23	B24	F13	F14	F15	F16	F17	F18	F19	F20	F21	F22	F23	F24	J13	J14	J15	J16	J17	J18	J19	J20	J21	J22	J23	J24	N13	N14	N15	N16	N17	N18	N19	N20	N21	N22	N23	N24
C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	G12	K1	K2	K3	K4	K5	K6	K7	K8	K9	K10	K11	K12	O1	O2	O3	O4	O5	O6	O7	O8	O9	O10	O11	O12
C13	C14	C15	C16	C17	C18	C19	C20	C21	C22	C23	C24	G13	G14	G15	G16	G17	G18	G19	G20	G21	G22	G23	G24	K13	K14	K15	K16	K17	K18	K19	K20	K21	K22	K23	K24	O13	O14	O15	O16	O17	O18	O19	O20	O21	O22	O23	O24
D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11	D12	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12
D13	D14	D15	D16	D17	D18	D19	D20	D21	D22	D23	D24	H13	H14	H15	H16	H17	H18	H19	H20	H21	H22	H23	H24	L13	L14	L15	L16	L17	L18	L19	L20	L21	L22	L23	L24	P13	P14	P15	P16	P17	P18	P19	P20	P21	P22	P23	P24
D15	D14	D15	D16	D17	D18	D19	D20	D21	D22	D23	D24	H13	H14	H15	H16	H17	H18	H19	H20	H21	H22	H23	H24	L13	L14	L15	L16	L17	L18	L19	L20	L21	L22	L23	L24	P13	P14	P15	P16	P17	P18	P19	P20	P21	P22	P23	P24

CelluSpots™ are arrays of peptide-cellulose conjugates spotted on planar surfaces such as glass slides. The three-dimensional structure formed on the surface holds up to 100 times more peptide per area as compared to conventional monolayer deposition. Each kinase-array comes with a detailed excel sheet.

well	kinase
A 1	Abl
A 2	Abl
A 3	Abl
A 4	Abl
A 5	Abl
A 6	Abl
A 7	Abl
A 8	Abl
A 9	Abl
A10	ALK
A11	ALK
A12	ALK
A13	ALK
A14	ALK
A15	ALK
A16	Axl
A17	Axl
A18	Bcr
A19	Bcr
A20	BTk
A21	BTk
A22	BTk
A23	BTk
A24	CSFRI
A25	CSFRI

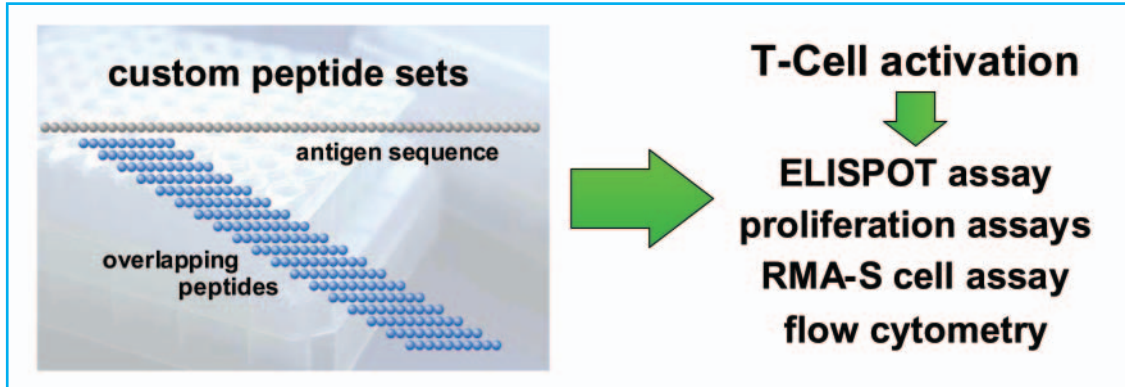
Antigen-Specific Stimulation of Cytotoxic T Lymphocytes!

Custom Peptide Sets

Peptide sets are efficient tools for screening of B- and T-cell epitopes, proteases, kinases, antibodies, pharmacologically active peptides and to address many other biochemical or immunological questions. Antigen-spanning overlapping peptides can be efficiently used to stimulate T-cells and map immunodominant epitopes.

Our peptide sets consist of lyophilized peptides, delivered in a 96-tube rack format, ready for high-throughput epitope mapping and ELISPOT assays.

Peptide sets are cost-effective research tools for applications without the need for highly purified peptides. Peptides of the sets can be synthesised with blocked or free terminal ends and additional modifications, if required. Free terminal ends are needed, for example, to represent sequences that are comparable to peptides originating from proteasomal processed proteins (e.g. MHC class I restricted peptides). Blocked N- and C-termini are commonly used to represent internal sequences of proteins or to increase the stability to exonucleases. BIOTREND can deliver peptide sets appropriate for your particular application.



Specifications

- lyophilised peptides in individual tubes (96-tube rack format)
- prices starting at 25.50 € per peptide
- 2 µmol scales (yield ~ 1-4 mg),
5 µmol scales are available upon request
- delivery time is usually 2 to 4 weeks after receipt of order

Applications

- overlapping peptides for B- and T-cell epitope mapping
- mapping of protein/protein interactions (ELISA / magnetic beads / Biacore)
- peptides as kinase substrates
- phosphorylated peptides as phosphatase substrates
- internally quenched peptides for protease assays (FRET)
- peptides with biotin / desthiobiotin for attachment to streptavidin coated plates or beads

sequence	to array	substrate	description	SWALL Id/ACC	position	PubMed	binding motif	SmartPfam
S-R-I-G-D-E-L-Y-L-E-P-L-E-D-G	▶	Rad9	Cell cycle checkpoint	RAD9A_HUMAN	Y28	11971963	-	Rad9
N-A-N-G-E-A-V-Y-C-K-F-H-Y-K-T	▶	Catalase	Occurs in almost all	CATA_HUMAN	Y230	15771400	-	Catalase
R-Y-F-K-G-I-V-A-V-S-S-D-R-F	▶	Doublecortin	Cytoskeletal associat	DCY_HUMAN	Y112	14762045	-	DCY
D-L-N-N-G-K-F-Y-V-G-V-C-A-P-V	▶	DNA repair	Involved in double-str	RAD52_HUMAN	Y104	14757045	-	Rad52_Rad22
E-K-I-G-E-G-T-Y-G-T-V-F-K-A-K	▶	CTSL	Cell division protein	CTSL_HUMAN	Y15	14757045	-	S_SXX
K-E-G-W-M-V-H-Y-T-S-K-D-T-L-R	▶	SRC-ku	Serine/threonine kina	SRC3_HUMAN	Y432	15637638	-	SH
T-G-M-F-P-R-N-Y-V-T-P-V-N-R-N	▶	Grb2	Adaptor molecule	GRB2_HUMAN	Y209	11726515	-	SH3
V-D-S-E-G-H-L-Y-T-V-P-I-R-E-Q	▶	Casosa1in-1	May act as a scaffold	CSV1_MOUSE	Y14	15036959	Grb7 SH2	Casosa1in
V-G-S-E-E-G-V-Y-A-Q-P-V-G-N-K	▶		cons.seq_IL		Y11			
S-P-L-V-C-A-R-Y-G-M-V-T-V-E-C	▶	Nuclear-int	Component of an SCP-t	NIFA_HUMAN	Y105	12748172	-	sF-C3HC
S-P-L-R-P-Q-N-Y-L-F-G-C-E-L-K	▶	NEM	nucleophosmin (nucleo	NEM_HUMAN	Y17	9819381	-	Nucleoplamin
E-L-R-A-D-K-D-Y-H-F-K-V-D-N-D	▶				Y29	9819381	-	Nucleoplamin
F-S-G-I-M-I-V-Y-R-R-K-H-Q-E-L	▶	ALK	Receptor tyrosine kin	ALK_HUMAN	Y1059	9819381	-	
F-G-M-A-R-D-I-Y-R-A-S-Y-Y-R-K	▶				Y1278	9819381	-	TyrKc
F-S-L-A-A-I-N-Y-R-F-K-G-E-E-K	▶				Y11		-	
A-D-C-L-D-G-L-Y-A-L-M-S-R-C-W	▶	AKL	Receptor tyrosine kin	UFO_HUMAN	Y772	9178760	-	
Q-E-P-D-E-I-L-Y-V-N-M-D-E-G-G	▶				Y814	9178760	-	
R-L-I-K-E-D-V-Y-L-S-H-D-H-N-I	▶	Breast_tumo	Tyrosine kinase	PTE6_HUMAN	Y342	12121988	-	TyrKc
R-L-S-S-P-T-S-Y-E-N-P-T	▶				Y447	12121988	-	
E-E-S-E-D-P-D-Y-Y-Q-Y-N-I-Q-A	▶	General_tra	General transcription	CTCF2_HUMAN	Y248	13373286	-	
E-R-D-I-N-S-L-Y-D-V-S-R-M-Y-V	▶	PLC gamma 2	Involved in transmem	PLCG2_RAT	Y753	11507089	-	
A-E-T-S-K-L-I-Y-D-F-I-E-D-Q-G	▶	NASP	Downstream effector	NASP_HUMAN	Y290	10068673	-	
L-E-S-E-E-D-L-Y-D-E-G-R-D-L-R	▶				Y11		-	
D-S-E-G-D-S-S-Y-K-N-I-H-L-E-K	▶	CSFR-1	Macrophage colony sti	CSFR1_MOUSE	Y697	11297560	-	TyrKc
D-I-M-N-D-S-N-Y-V-V-K-G-N-A-R	▶				Y807	1833648	-	TyrKc

In clicking positions on the array scheme, detailed information like PubMed-, PhosphoELM- or UniProtKB/Swiss-Prot hyperlinks are given for the corresponding peptide sequences:

CelluSpots™ premade Peptide Arrays

Array	Spots per Slide	Slides	Price per Pack €
Tyrosine-kinase substrates I	2 x 384 per slide 2 x 384 per slide	Pack of 4 ≥ 5 Packs	644,00 518,00
Array	Spots per Slide	Slides	Price per Pack €
Serine/Threonine-kinase substrates I + II (two arrays)	2 x 384 per slide 2 x 384 per slide	Pack of 4 Pairs (8 slides) ≥ 5 Packs	897,00 713,00
Test Pack	Spots per Slide	Slides	Price per Pack €
Tyr-kinase substrates I	2 x 384 per slide	2	276,00
Ser/Thr-kinase substrates I + II	1 x 384	1 Pair (2 slides)	380,00

CelluSpots™ pre-made arrays contain evaluated kinase substrates as well as consensus sequences for both, tyrosine and serine/threonine kinases. The tyrosine kinase chip has 384 peptides and the serine/threonine kinase substrates come as two chips with 768 peptides in total, each printed in duplicate.

- Standard format is a 26 x 76 mm glass slide covered with inert white background foil
- Up to 384 peptide spots printed in duplicate on the foil side with 1.2 mm spot to spot distance
- 15-mer peptides bound to cellulose via C-terminus and with acetylated N-terminus
- Arrays contain control peptides and location marks

CelluSpots™ Peptide Arrays

Project Size	Peptide length	Number of Slides	Price per Set €
96 Peptides	8 - 15	20	4485,00
192 Peptides	8 - 15	20	5060,00
288 Peptides	8 - 15	20	5635,00
384 Peptides	8 - 15	20	6210,00
Longer Peptides	16 - 20	Amino Acids	add 5%
Longer Peptides	21 - 25	Amino Acids	add 10%
Extra Slides		Set of 20 / per slide	575,00

CelluSpots™ arrays sets are efficient tools for screening of antibody epitopes, kinases, or protein-peptide interaction. In many cases, the use of peptide arrays is an economic alternative to recombinant protein approaches. A major advantage of CelluSpots™ arrays is the ability to screen small volumes of sample. Epitope mapping with the supernatant of a monoclonal fusion is possible as well as monitoring the immune response of a small animal during the course of vaccination or infection.

- Standard format is a 26x76 mm glass slide covered with white adhesive foil
- Up to 384 peptide spots printed in duplicate on the foil side of the slide
- Spot-to-spot distance 1.2 mm
- Peptide bound to cellulose via C-terminus and with acetylated N-terminus
- Arrays contain control peptides and location marks

CelluSpots™ arrays sold by BIOTREND can be analyzed with standard chromogenic substrate reactions as used in Western blot protocols. Development is done in a small open tray. Spot intensities are recorded on a standard flatbed scanner. Detection by luminescence or radioactivity is also possible. Microarrays with smaller spots are available on request. These usually require analysis equipment and procedures as used for DNA microarrays. Prices are net without taxes and freight. Our General Terms and Conditions apply.