

8. Appendix

8.1 Abbreviations

2D	two dimensional
a	atto (10^{-18})
ABTS	2,2'-Azino-bis(3-ethylbenzothiazoline-6-sulfonic acid) diammonium salt
AP	alkaline phosphatase
β -Gal	β -galactosidase
BSA	bovine serum albumin
CCD	charge-coupled device
cDNA	complementatry DNA
Cy3	indocarbocyanine
Cy5	indodicarbocyanine
DDAO	9H-(1,3-dichloro-9,9- dimethylacridin-2-one-7-yl)
ddH ₂ O	double distilled water
DNA	deoxyribonucleic acid
Dp	<i>Dermatophagoides pteronyssinus</i>
DTT	1,4-Dithio-DL-threitol
<i>E. coli</i>	<i>Escherichia coli</i>
EDTA	ethylenediaminetetraacetic acid
ELISA	enzyme-linked immunosorbent assay
ESI	electrospray ionisation
ESI-MS	electrospray ionisation-mass spectrometry
f	femto (10^{-15})
FAST	fluorescent Array Surface Technology
FDG	fluorescein digalactoside
FRET	fluorescence resonance energy transfer
*g	times gravity (9.81 m/s^2)
g	gram
GAPDH	glyceraldehyde-3-phosphate dehydrogenase
GFP	green fluorescent protein
h	hour(s)

HRP	horseradish peroxidase
HSA	human serum albumin
IC ₅₀	50% inhibition concentration
ICAT	isotope-coded affinity tag
IgG	immunoglobulin G
IPTG	isopropyl-β-D-thiogalactoside
K _i	inhibition constant
l	litre
LC	liquid chromatography
μ	micro (10 ⁻⁶)
m	milli (10 ⁻³) or meter
M	molar (mole/litre)
MALDI	matrix-assisted laser desorption ionization
Min	minutes
MIST	multiple spotting technique
MPIMG	Max-Planck-Institute for Molecular Genetics
mRNA	messenger RNA
mol	mole
MS	mass spectrometry
MWCO	molecular weight cut-off
n	nano (10 ⁻⁹)
Ni-NTA	nickel-nitrilotriacetic acid
NHS	N-hydroxysuccinimide
p	pico (10 ⁻¹²)
PAGE	polyacrylamide gel electrophoresis
PBS	phosphate buffered saline
PBS-T	phosphate buffered saline with Tween-20
PCR	polymerase chain reaction
PDMS	poly-dimethylsiloxane
PEG	polyethyleneglycol
PETG	2-phenylethyl β-D-thiogalactoside
Phe	phenylalanine
Pro	proline
PVDF	polyvinylidene fluoride

RCA	rolling circle amplification
RNA	ribonucleic acid
rpm	revolutions per minute
RTS	rapid translation system
s	second(s)
scFv	single-chain variable fragment
SDS	sodium dodecyl sulfate
SELDI	surface enhanced laser/desorption ionization
SPR	surface plasmon resonance
TBS	tris-buffered saline
TBS-T	tris-buffered saline with Tween [®] -20
TEMED	N,N,N',N'-tetramethyl-ethylendiamine
TOF	time of flight
Tris	tris-hydroxymethylaminomethane
Tween-20	polyoxyethylene(20) sorbitan monolaurate
U	unit
z	zepto (10^{-21})
ZPPD	Z-D-Phe-Pro-methoxypropylboroglycinepinanediol ester
(v/v)	volume per volume
(w/v)	weight per volume

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Angenendt, P., Glökler, J., Sobek, J., Lehrach, H. & Cahill, D. J. (2003) The next generation of protein microarray support materials: an evaluation for protein and antibody microarray applications. *Journal of Chromatography A* **1009**, 97-104.

Angenendt, P., Glökler, J., Konthur, Z., Lehrach, H. & Cahill, D. J. (2003) 3D protein microarrays: performing multiplex immunoassays on a single chip. *Analytical Chemistry* **75**, 4368-4372.

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Angenendt, P. (2003) Multiplexed Protein and Antibody Microarrays: Harnessing the Multiple Spotting Technique. *SCREENING*, **6**, 39-41.

Angenendt, P. (2003) Generierung multiplexer Protein Mikroarrays mit Hilfe der Multiple Spotting Technique *BIOforum*, **1-2**, 23-25.

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Angenendt, P., Nyarsik, L., Szaflarski, W., Glökler, J., Nierhaus, K. N., Lehrach, H., Cahill, D. J., Lueking, A. (2003) Cell-free protein expression and functional assay in nanowell chip. *Analytical Chemistry*, *in press*.

Angenendt, P., Wilde, J., Kiljanka, G., Baars, S., Cahill, D. J., Kreutzberger, J., Lehrach, H., Konthur, Z., Glökler, J. (2003) Seeing better through MIST: Evaluation of monoclonal recombinant antibody fragments on microarrays. *submitted*.

Kersten, B., Feilner, T., Angenendt, P., Giavalisco, P., Brenner, W., Bürkle, L. (2004) Proteomic approaches in plant biology. *submitted*.

A patent has been filed describing techniques established in this work:

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