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To my family: *per aspera ad astra!*

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Abbreviations

1D/2D	one/two dimensional
β -Ala (β A)	β -alanine
aa	amino acid
BLU	Boehringer Light Units
Boc	<i>tert.</i> -butyloxycarbonyl-
CD	circular dichroism
C-terminus	carboxy-terminus (protein/peptide)
DCM	dichloromethane
DIC	diisopropylcarbodiimide
DMA	dimethylacetamide
DMF	dimethylformamide
DMSO	dimethylsulfoxide
DTT	1,4-dithiothreitol
E	extinction
ϵ	extinction coefficient
FHA domain	forkhead associated domain
equiv.	equivalent
ESI-TOF	electrospray ionisation - time of flight
EVH1	<i>Drosophila Enabled</i> (Ena)/Vasodilator-stimulated phosphoprotein (VASP) homology 1
Fmoc	9-fluorenylmethyloxycarbonyl-
HATU	<i>O</i> -(7-azabenzotriazol-1-yl)-1,1,3,3-tetramethyluronium-hexafluorophosphate
K_d	dissociation constant
LB medium	Luria-Bertani medium
MALDI-TOF	matrix-assisted laser desorption/ionisation - time of flight
NMI	N-methylimidazole
NMP	N-methylpyrrolidone
NMR	nuclear magnetic resonance
MS	mass spectrometry
N-terminus	amino-terminus (protein/peptide)
<i>Or</i> Bu	β - <i>tert.</i> -butyl
PAGE	polyacrylamide gel electrophoresis
Pbf	2,2,4,6,7-pentamethyldihydrobenzofuran-5-sulfonyl-
PBS	phosphate buffered saline
PDB	protein data base
PDZ	protein domain named after the initial letters of <u>P</u> SD-95, <u>D</u> lg and <u>Z</u> O-1

Pfp	pentafluorophenyl-
PH domain	pleckstrin homology
ppm	parts per million
ps	pico second
PTB domain	phosphotyrosine binding domain
RMSD	root-mean-square displacement
RP-HPLC	reversed phase - high performance liquid chromatography
SDS	sodium dodecylsulfate
SH2	<u>S</u> rc <u>h</u> omology <u>2</u>
SH3	<u>S</u> rc <u>h</u> omology <u>3</u>
SP	Swiss-Prot database accession number
SPOT synthesis	method to synthesize cellulose-bound peptide libraries, where each peptide is represent/define as a spot.
SPR	surface plasmon resonance
TBS	tris buffered saline
<i>t</i> Bu	<i>tert.</i> -butyl-
TFA	trifluoroacetic acid
TIBS	triisopropylsilane
TRIS	tris(hydroxymethyl)-aminomethane
Trt	trityl-
UEV domain	ubiquitin E2 variant domain
UV	ultraviolet
WD40 domain	domain name refers to conserved W and D residues
w/v	<i>weight per volume</i>
WW domain	domain name refers to two signature tryptophan (W) residues
wt	wild type

L-amino acids were used in the one or three letter code as well as the conventional abbreviations.

All access number of proteins are referred to SWISS-PROT database (<http://www.expasy.org/sprot/>).

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Declaration of Honesty