

Tumor suppressor and DNA damage response IMAC panel 1

oM = oxidized Met, p
= phospho

(112 phospho-analytes)

Gene Symbol	Target protein name	UniProt ID (& link)	Modification*
ABLIM1	actin binding LIM protein 1	Q14639	pS452
AHNAK	AHNAK nucleoprotein	Q09666	pS210
ARHGAP32	Rho GTPase activating protein 32	A7KAX9	pS871
ASF1B	Histone chaperone ASF1B	Q9NVP2	pT179
ATM	ataxia telangiectasia mutated	Q13315	pS2996
ATM	ataxia telangiectasia mutated	Q13315	pS367
ATRIP	ATR interacting protein	Q8WXE1	pS224
ATRIP	ATR interacting protein	Q8WXE1	pS518
BRCA1	breast cancer 1, early onset	P38398	pS1524
BRIP1	BRCA1 interacting protein C-terminal helicase 1	Q9BX63	pS1032
C16orf54	Transmembrane protein C16orf54	Q6UWD8	pS98
CAST	calpastatin	P20810	pS364
CAST	calpastatin	P20810	pS366
CD3EAP	CD3e molecule, epsilon associated protein	Q15446	pS27
CD3EAP	CD3e molecule, epsilon associated protein	Q15446	pS285
CDC42EP3	CDC42 effector protein (Rho GTPase binding) 3	Q9UKI2	pS89
CHEK1	CHK1 checkpoint homolog (S. pombe)	Q14757	pS317
CLSPN	claspin	Q9HAW4	pS720
CRACR2A	EF-hand calcium-binding domain-containing protein 4B	Q9BSW2	pS3
CTTN	cortactin	Q14247	pS418
DOCK2	dedicator of cytokinesis 2	Q92608	pS1685
DYNC1L1	dynein, cytoplasmic 1, light intermediate chain 1	Q9Y6G9	pS516
ELAVL1	ELAV (embryonic lethal, abnormal vision, Drosophila)-like 1 (Hu antigen R)	Q15717	pS202
EPS15	epidermal growth factor receptor pathway substrate 15	P42566	pT777
EPS15	epidermal growth factor receptor pathway substrate 15	P42566	pS796
FAM129B	family with sequence similarity 129, member B	Q96TA1	pS692
GIGYF2	GRB10 interacting GYF protein 2	Q6Y7W6	pS139
GPN1	GPN-loop GTPase 1	Q9HCN4	pS314
HNRNPK	heterogeneous nuclear ribonucleoprotein K	P61978	pS379
HP1BP3	heterochromatin protein 1, binding protein 3	Q5SSJ5	pS142
HSPB1	heat shock 27kDa protein 1	P04792	pS15
IL16	interleukin 16 (lymphocyte chemoattractant factor)	Q14005	pS946
JUN	jun proto-oncogene	P05412	pS63
KIF4A	kinesin family member 4A	Q95239	pS801
KMT2D	Histone-lysine N-methyltransferase 2D	Q14686	pS2274
LARP1B	La ribonucleoprotein domain family, member 1B	Q659C4	pS363
LASP1	LIM and SH3 protein 1	Q14847	pT104
LAT2	linker for activation of T cells family, member 2	Q9GZY6	pS86
LCK	lymphocyte-specific protein tyrosine kinase	P06239	pY192
LIG1	ligase I, DNA, ATP-dependent	P18858	pT183
LMNA	lamin A/C	P02545	pS628
LMNA	lamin A/C	P02545	pS632
MARCKS	myristoylated alanine-rich protein kinase C substrate	P29966	pS101
MAVS	mitochondrial antiviral signaling protein	Q7Z434	pS222
MDC1	mediator of DNA-damage checkpoint 1	Q14676	pS329
MED24	mediator complex subunit 24	Q75448	pS862
MOCOS	molybdenum cofactor sulfurase	Q96EN8	pS530
MYBBP1A	MYB binding protein (P160) 1a	Q9BQG0	pS1163
MYO9B	myosin IXB	Q13459	pS1290
MYO9B	myosin IXB	Q13459	pS1267
NBEAL2	neurobeachin-like 2	Q6ZNJ1	pT1867
NBN	nibrin	Q60934	pS432
NBN	nibrin	Q60934	pS343
NCL	nucleolin	P19338	pS619
NELFE	Negative elongation factor E	P18615	pS115
NFATC1	nuclear factor of activated T-cells, cytoplasmic, calcineurin-dependent 1	Q95644	pS233
NSUN2	NOP2/Sun domain family, member 2	Q08J23	pS456
NUFIP2	nuclear fragile X mental retardation protein interacting protein 2	Q7Z417	pS652
NUMA1	nuclear mitotic apparatus protein 1	Q14980	pT2000
NUP107	nucleoporin 107kDa	P57740	pS11
PALLD	palladin, cytoskeletal associated protein	Q8WX93	pS893
PGM1	phosphoglucomutase 1	P36871	pS117
PHACTR2	phosphatase and actin regulator 2	Q75167	pT25
PKP3	plakophilin 3	Q9Y446	pS238

This panel does not require monoclonal antibodies

PLEKHA2	pleckstrin homology domain containing, family A (phosphoinositide binding specific) member 2	Q9HB19	pS314
PPP1R10	protein phosphatase 1, regulatory (inhibitor) subunit 10	Q96QC0	pS313
PPP6R3	Serine/threonine-protein phosphatase 6 regulatory subunit 3	Q5H9R7	pS617
PRKRA	protein kinase, interferon-inducible double stranded RNA dependent activator	Q75569	pS18
PWP1	PWP1 homolog (S. cerevisiae)	Q13610	pS485
RAD18	RAD18 homolog (S. cerevisiae)	Q9NS91	pS471
RAD18	RAD18 homolog (S. cerevisiae)	Q9NS91	pS99
RAD50	RAD50 homolog (S. cerevisiae)	Q92878	pS635
RANBP2	RAN binding protein 2	P49792	pS955
RAVER1	RAVER1_isoform2	Q8IY67	pS3
RB1	retinoblastoma 1	P06400	pS807
RB1	retinoblastoma 1	P06400	pS249
RBM7	RNA binding motif protein 7	Q9Y580	pS136
RCS1	RCS1 domain containing 1	Q6JBY9	pS179
REV3L	REV3-like, catalytic subunit of DNA polymerase zeta (yeast)	Q60673	pS1724
RFTN1	raftlin, lipid raft linker 1	Q14699	pS199
RPL12	ribosomal protein L12	P30050	pS38
SAMHD1	SAM domain and HD domain 1	Q9Y3Z3	pT592
SGOL2	shugoshin-like 2 (S. pombe)	Q562F6	pT845
SH2D4A	SH2 domain containing 4A	Q9H788	pS315
SH3BP1	SH3-domain binding protein 1	Q9Y3L3	pS544
SLC9A1	solute carrier family 9 (sodium/hydrogen exchanger), member 1	P19634	pS796
SMC3	structural maintenance of chromosomes 3	Q9UQE7	pS1083
SNRNP70	small nuclear ribonucleoprotein 70kDa (U1)	P08621	pS410
SNRPC	small nuclear ribonucleoprotein polypeptide C	P09234	pS17
SRRM2	serine/arginine repetitive matrix 2	Q9UQ35	pS1326
STK17B	serine/threonine kinase 17b	Q94768	pS12
STMN1	stathmin 1	P16949	pS16
STMN1	stathmin 1	P16949	pS25
TACC2	transforming, acidic coiled-coil containing protein 2	Q95359	pS2512
TERF2	telomeric repeat binding factor 2	Q15554	pS365
TMEM230	Transmembrane protein 230	Q96A57	pS24
TMPO	thymopoietin	P42167	pS3
TNKS1BP1	tankyrase 1 binding protein 1, 182kDa	Q9C0C2	pS836
TNKS1BP1	tankyrase 1 binding protein 1, 182kDa	Q9C0C2	pS601
TOPBP1	topoisomerase (DNA) II binding protein 1	Q92547	pS888
TP53	tumor protein p53	P04637	pS315
TP53BP1	tumor protein p53 binding protein 1	Q12888	pS500
TP53BP1	tumor protein p53 binding protein 1	Q12888	pS830
TPX2	TPX2, microtubule-associated, homolog (Xenopus laevis)	Q9ULW0	pS738
USP1	ubiquitin specific peptidase 1	Q94782	pS42
VAMP4	vesicle-associated membrane protein 4	Q75379	pS30
VIM	vimentin	P08670	pS430
VIM	vimentin	P08670	pS412
VIM	vimentin	P08670	pS56
ZC3H11A	zinc finger CCCH-type containing 11A	Q75152	pS108
ZCCHC8	zinc finger, CCHC domain containing 8	Q6NZY4	pT479
ZYX	zyxin	Q15942	pS344

References:

1) Kennedy JJ, Yan P, Zhao L, Ivey RG, Voytovich UJ, Moore HD, Lin C, Pogossova-Agadjanyan EL, Stirewalt DL, Reding KW, Whiteaker JR, Paulovich AG. Immobilized Metal Affinity Chromatography Coupled to Multiple Reaction Monitoring Enables Reproducible Quantification of Phospho-signaling. Molecular and Cellular Proteomics (2016) 15 (2):726-39. doi: 10. 1074/mcp. O115. 054940. PMID:26621847