

Table S7. Mps1 phosphorylation sites identified after IMAC enrichment. Purification of Mps1 was followed by phospho-enrichment and analysis on an LTQ-Orbitrap (see section 2.2 and Fig. S8 above). Phosphorylation sites on Mps1 and associated proteins were identified, and the highest Mascot score for each particular phosphopeptide reported. Site assignment was manually validated: Y indicates confident site assignment, N indicates confident phosphopeptide assignment but for which the exact phosphorylation site could not be determined. Position of the phosphorylated residues is indicated; asterisks denote non-assigned sites.

Protein	Site Assigned	Residue(s)	Sequence	Sites in Peptide	Best Mascot Score
MPS1	Y	S22	QFS+80DDEEFTTPPK	1	71
MPS1	Y	S22 & T28	QFS+80DDEEFT+80TPPK	2	63
MPS1	Y	S38	LSNFGS+80ALLSHTKEK	1	86
MPS1	Y	S38 & S42	LSNFGS+80ALLS+80HTEK	2	38
MPS1	Y	S50	TSAS+80EILSSHNNDK	1	75
MPS1	N	S50 & T47*S48*	LEAM+80EIL(S+80S+80)HNNDK	2	55
MPS1	Y	S71 & S72	LEEMDRS+80S+80SR	2	34
MPS1	N	T85* S86* T89* S90* T91* S92* S93* S95*	SHPPPSMGNL(T+80S+80GHT+80S+80T+80S+80S+80HS+80)TLFGR	1	43
MPS1	Y	T115	NNHOTSMTTMTNT+80SDIEINVGNLSLK	1	74
MPS1	Y	T115 & S116	NNHOTSMTTMTNT+80S+80DIEINVGNLSLK	2	48
MPS1	Y	T145	QNMKEDIT+80AK	1	41
MPS1	N	T162* T163	FLISNRT+80T+80K	1	28
MPS1	Y	S185	AMLTNIFDEEDVPNS+80PNQPINAR	1	73
MPS1	N	T173* T175 & S185	AM(T+80LT+80)NIFDEEDVPNSPNQPINAR	2	60
MPS1	Y	T195	ET+80VELPLEDSHQTNFK	1	64
MPS1	Y	T195 & S203	ET+80VELPLEDS+80HQTNFK	2	42
MPS1	Y	T238	HNLPT+80SDLPLISQIYFDK	1	73
MPS1	N	S275* S276* S277* S278* S279* S281* S282*	(S+80S+80S+80S+80S+80LS+80LS+80S+80)NNLLANK	1	70
MPS1	N	S275* S276* S277* S278* S279* S281* S282*	(S+80S+80S+80S+80S+80LS+80S+80)NNLLANK	2	52
MPS1	N	S306* T307* S309* S310* S311* S312* S314* S315*	V(S+80T+80GS+80S+80S+80S+80KS+80S+80)IEIR	2	32
MPS1	Y	S295	DNSITS+80NNGSQPR	1	71
MPS1	Y	T294	DNSIT+80SNNGSQPR	1	47
MPS1	Y	S336	ENIDTSNNSNFNFS+80PIHK	1	62
MPS1	Y	S332	ENIDTSNNS+80NFSPIHK	1	52
MPS1	N	T238* S329*	ENID(T+80S+80)NNSNFSPIHK	2	32
MPS1	Y	S353	NKDSDS+80EKR	1	23
MPS1	Y	S363	NIS+80INANHADNLLQEQENK	1	73
MPS1	Y	S389	SLDDAITNENINSK	1	82
MPS1	Y	T395	SLDDAIT+80NENINSK	1	70
MPS1	Y	S389 & T395	SLDDAIT+80NENINSK	1	63
MPS1	Y	T412	PAPKPPVT+80K	1	28
MPS1	Y	S423	S+80ASLSNRR	1	44
MPS1	Y	S471	VS+80DFADFDDSSIDGFK	1	66
MPS1	Y	S478	VSFDAFDDS+80SIDGFK	1	60
MPS1	Y	T591	IIFDGIANVPEHT+80VNIYR	1	74
MPS1	Y	T754	YGSEKPHISQDDLNDVVDVTD+80VLR	1	63
MPS1	Y	T617	ETQIGTPNYMAPEALVAMNVT+80QNSENQHEGNK	1	73
MPS1	Y	T679	IPFPEHT+80SNNEK	1	44
HRR25	Y	S330	GDLNANSNAASASNSTDNKS+80ETFNK	1	35
HRR25	N	S143* T144*	RG(S+80T+80)VHVIDFGLSK	1	52
SKP1	Y	T3	VT+80SNVVLVSGEGER	1	79
PKH1	Y	S538	S+80LTEADHALLSK	1	59
GCD6	Y	S538	EEIDS+80EFEDEDFEK	1	78
OKP1	Y	T401	EVFVPHHESHQDKT+80EEDIH	1	15
OKP1	Y	S70	SLFYENS+80DAAEEGEIEER	1	73
MIF2	Y	S41	DDETS+80LISMR	1	18
MIF2	N	S321* S325*	IVTYDESEDEEELAAQR	1	33
MIF2	Y	T134	GNDFAT+80PITQK	1	35
MLP2	Y	S1015	DLS+80ELVIR	1	26
HRT1	Y	S15	MDVDEDES+80QNIAQSSNQSPVETK	1	50
NSL1	Y	T114	MYQEWEDT+80VK	1	52
BUB1	Y	T505	NIEDLT+80EVKDPK	1	34
AME1	Y	S101	SLISES+80PQNVK	1	30
YL151C	N	S46* S47* S48* S49*	H(S+80S+80S+80S+80)HNDTPESFFAK	1	27
CNN1	N	T166* T167* T174* S177*	IDP(I)IQDVP(T+80T+80GHEDEL+80VHS+80)PDK	1	27
CNN1	Y	T21	AAGNNEVTEVSEIRT+80PFR	1	23
SHE9	Y	S82	LNELYS+80R	1	30
SHP1	Y	S315	LGS+80PIPGESSPAEVPK	1	26
SPC24	Y	T130	DSEIIST+80PNGSK	1	33
GRR1	Y	T76	DAT+80LNNIFR	1	40
GRR1	Y	S199	IDNS+80POAISYLHK	1	29
GRR1	Y	S285	EGLQDLS+80R	1	27
GRR1	Y	S1101	MQIS+80PDQMR	1	22
SPC105	Y	T356	LDTVSDYAASVTT+80PVK	1	88
SPC105	Y	S380	MS+80PITFSDVKNK	1	56
SPC105	N	T59* T60*	EVLDGNS(T+80T+80)SR	1	35
SPC110	Y	S72	LFS+80EASQFDDSFPEIK	1	55
SPC29	Y	T240	SSQIHENEST+80EILK	1	41
CDC31	Y	T110	AFQLFDDHT+80GK	1	33
CDC31	Y	T130	ELGETLT+80DEELR	1	43
SPC42	Y	T357	VKPNMSETFAT+80PTNRR	1	54
CDC48	Y	T735	VEGEDVEMT+80DEGAK	1	38
CDC48	Y	S770	SVS+80DAELR	1	39
DSN1	Y	T56	DEEET+80EYFENK	1	54
DSN1	Y	S250	RLS+80MLASQANGGSTIISPHK	1	57
DSN1	Y	T380	ILDNT+80ENYDDTELR	1	86
DSN1	Y	T380 & T386	ILDNT+80ENYDDT+80ELR	2	31
TID3	Y	T38	RNST+80NQGLDMINK	1	69
TID3	Y	T43	NSTNQGLT+80DMINK	1	42
TID3	Y	T54	NT+80ISGTGIPTGGINK	1	62
TID3	Y	T690	NLEFETEHNVT+80N	1	42
CDC53	Y	T79	TGQST+80LVGSEYEK	1	60
BEM1	Y	S458	KLS+80DLSLGSK	1	36