

Supplementary Table S1. Protein S-Guanylation in Solubilized Mitochondria Treated *In Vitro* with 8-Nitro-cGMP Determined by Means of Immunoaffinity Capture and LC-MS/MS

Acc no. ^a	Protein name	Mw ^b	pI ^c	Cys no. ^d	Peptide sequence	Ions score ^e
P68255	14-3-3 protein theta	27761	4.69	25	YDDMATCMK	35
P63102	14-3-3 protein zeta/delta	27754	4.73	25	YDDMAACMK	32
P13233	2',3'-Cyclic-nucleotide 3'-phosphodiesterase	47239	9.03	111	LDEDLAGYCR	57
P62250	40S ribosomal protein S16	16435	10.21	25	TATAVAHCK	57
P05765	40S ribosomal protein S21	9122	8.71	56	TYGICGAIR	31
P62859	40S ribosomal protein S28	7836	10.7	27	TGSQGQCTQVR	33
P63039	60 kDa heat shock protein, mitochondrial	60917	5.91	442	AAVEEGIVLGGGCALLR	81
P19945	60S acidic ribosomal protein P0	34194	5.91	27	CFIVGADNVGSK	36
P19944	60S acidic ribosomal protein P1	11491	4.28	61	ALANVNIGSLICNVGAGGPAPAAGAAPAGGPAPSAAAAPAEK	34
Q6PDV7	60S ribosomal protein L10	24588	10.11	105	MLSCAGADR	37
P62907	60S ribosomal protein L10a	24816	9.94	164	VLCLAVAVGHVK	36
P23358	60S ribosomal protein L12	17835	9.48	141	EILGTAQSVGCNVDGR	74
Q63507	60S ribosomal protein L14	23324	11.11	42	ALVDGPCTR	34
P18445	60S ribosomal protein L27a	16608	11.12	70	NQSFCTVNLDK	40
P21531	60S ribosomal protein L3	46107	10.22	114	TVFAEHISDECK	37
P50878	60S ribosomal protein L4	47227	10.92	96	SGQGAFGNMCR	42
P60711	Actin, cytoplasmic 1	41710	5.29	217	LCYVALDFEQEMATAASSSSLEK	36
P60711	Actin, cytoplasmic 1	41710	5.29	257	FRCPEALFQPSFLGMESCGIHETTFNSIMK	72
P60711	Actin, cytoplasmic 2	41710	5.29	272	CPEALFQPSFLGMESCGIHETTFNSIMK	49
Q05962	ADP/ATP translocase 1	32968	9.81	160	EFNGLGDCLTK	27
Q05962	ADP/ATP translocase 1	32968	9.81	257	GADIMYTGTVDCWR	51

Q09073	ADP/ATP translocase 2	32880	9.74	257	KGTDIMYTGTLDCWR	28
P31399	ATP synthase subunit d, mitochondrial	18752	6.17	101	NCAQFVTGSQAR	32
Q06647	ATP synthase subunit O, mitochondrial	23383	10.03	141	GEVPCTVTTAFPLDEAVLSELK	32
P37397	Calponin-3	36412	5.47	173	CASQAGMTAYGTR	46
P18418	Calreticulin	47966	4.33	105	HEQNIDCGGGYVK	58
P18418	Calreticulin	47966	4.33	137	DMHGDSEYNIMFGPDICGPGTK	35
P18418	Calreticulin	47966	4.33	163	CKDDEFTHLYTLIVRPDNTYEVK	34
Q9Z0W7	Chloride intracellular channel protein 4	28615	5.92	100	IEEFLEEVLCPPK	49
Q00657	Chondroitin sulfate proteoglycan 4	251754	5.27	534	APVPSCLR	42
P47875	Cysteine and glycine-rich protein 1	20600	8.9	122	CSQAVYAAEK	32
P47875	Cysteine and glycine-rich protein 1	20600	8.9	167	GLESTTLADKDGGEIYCK	42
Q68FY0	Cytochrome b-c1 complex subunit 1, mitochondrial	52815	5.57	268	HQQLDLAQDHFSSVSQVYEEDAVPSITPCR	34
P47942	Dihydropyrimidinase-related protein 2	62239	5.95	248	SITIANQTNCPPLYVTK	79
P07153	Dolichyl-diphosphooligosaccharid e--protein glycosyltransferase subunit 1	68262	6.05	475	VACITEQVLTLVNK	34
P63170	Dynein light chain 1, cytoplasmic	10359	6.89	56	YNPTWHCIVGR	40
P62630	Elongation factor 1-alpha 1	50082	9.1	234	DGSASGTTLLEALDCILPPTRPTDKPLR	56
P62630	Elongation factor 1-alpha 1	50082	9.1	370	NDPPMEAAGFTAQVILNHPGQISAGYAPVLDCHTAHIACK	30
P62630	Elongation factor 1-alpha 3	50082	9.1	411	SGDAAIVDMVPGKPMCVESFSDYPLGR	76
P05197	Elongation factor 2	95223	6.41	41	STLTDSLVC	37
Q9JJ22	Endoplasmic reticulum aminopeptidase 1	106351	6.08	896	CVQQTIEEENIR	41
P52555	Endoplasmic reticulum resident protein ERp29	28557	6.23	157	GQGVYLGMPGCLPAYDALAGQFIEASSR	39

Q66HD0	Endoplasmin	92713	4.72	645	LTESPCALVASQYGWSGNMER	35
P11762	Galectin-1	14847	5.14	43	DSNNLCLHFNPR	37
P10860	Glutamate dehydrogenase 1, mitochondrial	61377	8.05	112	IHKPCNHVLSLSFPIR	30
P04797	Glyceraldehyde-3-phosphate dehydrogenase	35805	8.14	150	IVSNASCTTNCLAPLAK	85
P04797	Glyceraldehyde-3-phosphate dehydrogenase	35805	8.14	154	IVSNASCTTNCLAPLAK	64
P04797	Glyceraldehyde-3-phosphate dehydrogenase	35805	8.14	245	VTPNVSVVDLTCR	43
Q62638	Golgi apparatus protein 1	133469	6.52	1063	ADIFVDPVLHTACALDIK	35
P04897	Guanine nucleotide-binding protein G(i), alpha-2 subunit	40473	5.28	66	IIHEDGYSEEECR	46
P04897	Guanine nucleotide-binding protein G(i), alpha-2 subunit	40473	5.28	140	LWADHGVQACFGR	44
P54313	Guanine nucleotide-binding protein G(I)/G(S)/G(T) subunit beta-2	37307	5.6	149	ELPGHTGYLSSCR	30
P54313	Guanine nucleotide-binding protein G(I)/G(S)/G(T) subunit beta-2	37307	5.6	317	VSCLGVTDGMAVATGSWDSFLK	72
P63018	Heat shock cognate 71 kDa protein	70827	5.37	17	GPAVGIDLGTTYSCVGVFQHGK	31
Q6URK4	Heterogeneous nuclear ribonucleoprotein A3	39628	9.1	64	WGTLTDCVVMR	35
P63159	High mobility group protein B1	24878	5.62	23	MSSYAFFVQTCR	56
Q99J82	Integrin-linked protein kinase	51340	8.3	422	VALEGLRPTIPPGISPHVCK	37
P41565	Isocitrate dehydrogenase [NAD] subunit gamma, mitochondrial	42824	9.07	81	HACVPVDFEEVHVSSNADEEDIR	41
P48679	Lamin-A	74279	6.54	593	TVLCGTCGQPADK	46
Q62733	Lamina-associated polypeptide 2, isoform beta	50247	9.4	362	EMFPYEASTPTGISASCR	45
P35952	Low-density lipoprotein receptor	96559	4.8	858	TTEDEIHICR	33

P04636	Malate dehydrogenase, mitochondrial	35661	8.93	89	GYLGPEQLPDCLK	34
P97521	Mitochondrial carnitine/acylcarnitine carrier protein	33132	9.55	58	LQTQPPSLPGQPPMYSGTIDCFR	29
Q64119	Myosin light polypeptide 6	16964	4.46	32	ILYSQCGDVMR	30
Q62812	Myosin-9	226197	5.49	988	KLEEDQIIMEDQNCK	31
Q66HF1	NADH-ubiquinone oxidoreductase 75 kDa subunit, mitochondrial	79362	5.65	554	LLFLLGADGGCITR	30
P10111	Peptidyl-prolyl cis-trans isomerase A	17863	8.34	62	IIPGFMCQGGDFTR	38
P24368	Peptidyl-prolyl cis-trans isomerase B	23788	9.5	202	DVIIVDCGK	41
P19944	Peroxisomal biogenesis factor 19	32477	4.28	128	LSEAAGRVGSDASSQQEFTSCLK	28
P09626	Potassium-transporting ATPase alpha chain 1	113964	5.58	383	NLEAVETLGSTSVICSDK	37
Q811A3	Procollagen-lysine,2-oxoglutarate 5-dioxygenase 2	84488	6.26	494	DKLDPDMSLCR	31
P67779	Prohibitin	29802	5.57	69	GVQDIVVGGEGTHFLIPWVQKPIIFDCR	34
P11598	Protein disulfide-isomerase A3	56588	5.88	244	FIQESIFGLCPHMTEDNKDLIQGK	41
P38659	Protein disulfide-isomerase A4	72675	4.98	553	KDVLIEFYAPWCGHCK	28
Q5XID0	Protein YIPF5	27885	4.2	42	QYAGCEYSQQGR	34
P11980	Pyruvate kinase isozymes M1/M2	57781	6.63	358	AEGSDVANAVLDGADCIMLSGETAK	34
Q6RUV5	Ras-related C3 botulinum toxin substrate 1	21436	8.77	105	HHCPNTPHILVGTK	36
Q6RUV5	Ras-related C3 botulinum toxin substrate 1	21436	8.77	157	YLECSALTQR	40
P11507	Sarcoplasmic/endoplasmic reticulum calcium ATPase 2	114694	5.23	560	CLALATHDNPLR	35
P18596	Sarcoplasmic/endoplasmic reticulum calcium ATPase 3	109289	5.51	447	VGEATETALTCLVEK	31
O88453	Scaffold attachment factor B1	104504	5.25	224	ILDILGETCK	36

B0BNF1	Septin-8	51220	5.74	400	ELEEETNAFNCR	53
P06685	Sodium/potassium-transporting ATPase subunit alpha-1	112982	5.3	211	IISANGCK	29
P06685	Sodium/potassium-transporting ATPase subunit alpha-1	112982	5.3	374	NLEAVETLGSTSTICSDK	68
P06685	Sodium/potassium-transporting ATPase subunit alpha-1	112982	5.3	428	IAGLCNR	32
P06685	Sodium/potassium-transporting ATPase subunit alpha-1	112982	5.3	705	LIIVEGCQR	30
P06686	Sodium/potassium-transporting ATPase subunit alpha-2	112145	5.39	372	NLEAVETLGSTSTICSDK	47
P16086	Spectrin alpha chain, brain	284462	5.2	2233	TYLLDGSCMVEESGTLESQLEATK	44
Q5PPL3	Sterol-4-alpha-carboxylate 3-dehydrogenase, decarboxylating	40386	8.99	29	CTVIGGSGFLGQHMVEQLLSR	63
Q5XIM9	T-complex protein 1 subunit beta	57422	6.01	395	SLHDALCVLAQTVK	34
Q68FQ0	T-complex protein 1 subunit epsilon	59499	5.51	493	ESNPALGIDCLHK	36
Q6P502	T-complex protein 1 subunit gamma	60608	6.23	213	IPGGHIEDSCVLR	50
Q5PQX1	Torsin-1A-interacting protein 1	65609	6	197	TPETSVMSEDPI SNLCRPPLR	35
P61589	Transforming protein RhoA	21768	5.83	16	LVIVGDGACGK	45
P61589	Transforming protein RhoA	21768	5.83	107	HFCPNVPIILVGNK	41
P61589	Transforming protein RhoA	21768	5.83	159	IGAFGYMECSAK	35
P46462	Transitional endoplasmic reticulum ATPase	89293	5.14	522	GVLFGYPPGCGK	62
Q64428	Trifunctional enzyme subunit alpha, mitochondrial	82613	9.16	349	ALMGLYNGQVLCK	34
P48500	Triosephosphate isomerase	26832	6.89	21	CLGELICTLNAAK	55
P68370	Tubulin alpha-1A chain	50104	4.94	347	TIQFVDWCPTGFK	36
Q6P9V9	Tubulin alpha-1B chain	50120	4.94	376	AVCMLSNTTAIAEAWAR	54
Q6P9T8	Tubulin beta-2C chain	49769	4.79	354	TAVCDIPPR	47

Q4QRB4	Tubulin beta-3 chain	50386	4.82	354	VAVCDIPPR	44
P31000	Vimentin	53700	5.06	328	QVQSLTCEVDALK	41
Q9Z2L0	Voltage-dependent anion-selective channel protein 1	30737	8.62	232	YQVDPDACFSAK	37
Q9R1Z0	Voltage-dependent anion-selective channel protein 3	30778	8.91	165	LCQNNFALGYK	44
Q8CGS5	Zinc phosphodiesterase ELAC protein 2	92281	7.03	218	QSSSDPGSAENGQCLPEGSSAGVNGK	29

^aSwiss-Prot accession number.

^bCalculated molecular weight.

^cCalculated pI.

^dS-Guanylated cysteine residue.

Proteins colored in red in this Table are commonly identified in 2D-SDS-PAGE/LC-MS/MS (Supplementary Table S3).