

**Supplemental Table I. S-nitrosylated proteins in thymus of GSNOR<sup>-/-</sup> mouse**

Protein name	Accession Number	Molecular Weight (kDa)	Unique peptides MRC <sup>1</sup>	SNO Peptide sequence (n) <sup>2</sup>
<b>26S proteasome non-ATPase regulatory subunit 1</b>	Q3TXS7	106	7	C437VAYAESHQALVGDK (2)
<b>3-ketoacyl-CoA thiolase B, peroxisomal precursor</b>	Q8VCHO	44	6	VNPLGGAIALGHPLGC381TGAR (2)
<b>40S ribosomal protein S11</b>	P62281	18	2	DVQIGDIVTVGEC131RPLSK (2) EAIEGTYIDKKC60PFTGNVSIR (2) KC60PFTGNVSIR (2) NMSVHLSPC116FR (2)
<b>40S ribosomal protein S17</b>	P63276	16	4	VC35EEIAIIPSKK (1)
<b>40S ribosomal protein S26</b>	P62855	13	2	LHYC74VSCAIHSK (2)
<b>40S ribosomal protein S3a</b>	P97351	30	2	AC201QSIYPLHDVFVR (1)
<b>40S ribosomal protein S6</b>	P62754	29	2	MKLNISFPATGC12QK (2)
<b>60S ribosomal protein L10a</b>	P53026	25	2	VLC164LAVAVGHVK (2)
<b>60S ribosomal protein L12</b>	P35979	18	4	C17TGGEVGSALAPK (2)
<b>60S ribosomal protein L13a</b>	P19253	23	2	C38EGINISGNFYR (1)
<b>60S ribosomal protein L3</b>	P27659	46	2	TVFAEHISDEC114KR (2)
<b>60S ribosomal protein L7</b>	P14148	31	3	FGIIC208MEDLIHEIYTVGKR (1)
<b>60S ribosomal protein L7a</b>	P12970	30	2	TC199TTVAFTQVNSDKGALAK (2)
<b>60S ribosomal protein L8</b>	P62918	28	2	TELFIAAEGIHTGQFVYC90GKK (1)
<b>Aconitate hydratase, mitochondrial precursor</b>	Q99KI0	85	15	C410KSQFTITPGSEQIR (2) VAVPSTIHC126DHLIEAQVGGEK (2)
<b>Actin, cytoplasmic 1</b>	P60710 (+1)	42	22	C285DVDIRKDLYANTVLSGGTTMYPGIADR (1)
<b>Actin-related protein 2</b>	P61161	45	2	LC221YVGYNIEQEYK (2)
<b>Adenylyl cyclase-associated protein 1</b>	P40124	52	4	AVGRLEAVSHTSDMHC29GYGDSK (2) C355VNTTLQIK (2)
<b>Aldose reductase</b>	P45376	36	7	HIDC45AQVYQNEKEVGVALQEK (2)
<b>Aspartyl-tRNA synthetase, cytoplasmic</b>	Q922B2	57	9	IGSC130TQQDVELHVQK (2)
<b>ATP synthase subunit alpha, mitochondrial precursor</b>	Q03265	60	5	LYC244IYVAIGQKR (2)

<b>ATP synthase subunit gamma, mitochondrial precursor</b>	Q91VR2	56	9	GLC103GAIHSSVAK (1)
<b>ATP-citrate synthase</b>	Q91V92	120	8	YIC20TTSAIQNR (2)
<b>ATP-dependent RNA helicase A</b>	O70133	149	2	VRPGFCFHLC779SR (2)
<b>ATP-dependent RNA helicase DDX39</b>	Q8VDW0	49	3	NC164PHVVVGTGTPGR (1)
<b>Caspase-6</b>	O08738	32	8	IFIIQAC146R KLHFC271PKPSK (2)
<b>Catalase</b>	P24270	60	5	LC460ENIAGHLK (2)
<b>Cathepsin B precursor</b>	P10605	37	5	ILRGENHC319GIESEIVAGIPR (2)
<b>Cathepsin L1 precursor</b>	P06797	38	2	DRDNHC322GLATAASYPVVN (1)
<b>Clathrin heavy chain</b>	Q68FD5	192	11	YC910EKRDPHLAC919VAYER (1)
<b>Cofilin-1</b>	P18760	19	5	AVLFC39LSEDKK (2) LTGIKHELQANC139YEEVKDR (2)
<b>Coronin-1A</b>	O89053	51	8	KC345EPIAMTVPR (2) DGALICTSC195R (2)
<b>Cullin-associated NEDD8-dissociated protein 1</b>	Q6ZQ38	136	8	C356LDAVVSTRHEMLPEFYK (2)
<b>Cystatin-B</b>	Q62426	11	6	VDVGGDKC64VHLR (2)
<b>Cysteine and glycine-rich protein 1</b>	P97315	21	6	NLDSTTVAVHGEEIYC58K (1)
<b>Cysteine-rich protein 2</b>	Q9DCT8	23	2	C8DKTVYFAEK (2)
<b>Cytochrome b-c1 complex subunit 1, mitochondrial precursor</b>	Q9CZ13	53	3	NALVSHLDGTTTPVC410EDIGR (1)
<b>Cytochrome b-c1 complex subunit 2, mitochondrial precursor</b>	Q9DB77	48	3	NALANPLYC192PDYR (1)
<b>Cytoplasmic FMR1-interacting protein 2</b>	Q5SQX6	146	4	C98NEQPNRVEIYEK (2)
<b>Cytosol aminopeptidase</b>	Q9CPY7	56	9	LILADALC376YAHTFNPK (2)
<b>Cytosolic non-specific dipeptidase</b>	Q9D1A2	53	4	DVGAETLLHSC300K (1)
<b>D-3-phosphoglycerate dehydrogenase</b>	Q61753	57	8	VLISDSLDPCL8C19RK (2) ALVDHENVISC280PHLGASTK (1) NAGTC369LSPAIVIGLLR (1)
<b>Dextrin</b>	Q9R0P5	19	5	AVIFC39LSADKK (1)
<b>Dihydropyrimidinase-related protein 2</b>	O08553	62	5	THNSALEYNIFEGMEC439R (1)
<b>DNA replication licensing factor MCM6</b>	P97311	93	4	LVFLAC301HVAPTNP (2)
<b>DNA replication licensing factor MCM7</b>	Q61881	81	8	GNIHIC378LMGDPGVAK (1)

<b>DNA-directed RNA polymerase II subunit RPB9</b>	P60898	15	2	C89GHKEAVFFQSHSAR (2)
<b>Elongation factor 2</b>	P58252	95	13	NMSVIAHVDHKGKSTLTDSLVC41KAGIIASAR (2)
<b>ES1 protein homolog, mitochondrial precursor</b>	Q9D172	28	3	ALGAKHC219VKGVTEAHVDQK (2)
<b>Eukaryotic translation initiation factor 5A-1</b>	P63242	17	7	KYEDIC73PSTHNMDVPNIKR (1)
<b>Fatty acid synthase</b>	P19096	272	55	C1464ILLSNLSNTSHAPK (2) FVFTPHMEAEC1128LSESTALQK (1)
<b>FK506-binding protein 5</b>	Q64378	51	6	KGEIC103HLLCKPEYAYGSAGHLQK (2)
<b>Fructose-bisphosphate aldolase A</b>	P05064	39	6	ALSDHHVYLEGTLLKPNMVTTPGHAC240TQK (1)
<b>Galectin-1</b>	P16045	15	6	FNAHGDANTIVC61NTK (2) SFVLNLGKDSNNLC43LHFNPR (2)
<b>Galectin-9</b>	O08573	40	2	C258GGDIAFHLNPR (2) FEEGGYVVC73NTK (2) GMPFELC101FLVQR (2)
<b>Glucosamine-fructose-6-phosphateaminotransferase [isomerizing] 1</b>	O88958	33	2	C2GIFAYLNYHVPR (1) ETDC476GVHINAGPEIGVASTK (2)
<b>Glutaredoxin-3</b>	Q9CQM9	38	7	LTHAAPC148MLFMK (1)
<b>Glutathione reductase, mitochondrial precursor</b>	P47791	54	2	GVYAVGDVC355GK (1)
<b>Glyceraldehyde-3-phosphate dehydrogenase</b>	P16858	36	10	VTPNVSVVDLTC245R (2)
<b>Glycerol-3-phosphate dehydrogenase, mitochondrial precursor</b>	Q64521	81	7	C270KDVLTGQEFDVR (2)
<b>Guanine nucleotide-binding protein G(i), alpha-2 subunit</b>	P08752	40	8	EIYTHFTC326ATDTK (2)
<b>Guanine nucleotide-binding protein G(I)/G(S)/G(T) subunit beta-1</b>	P62874	37	2	ELAGHTGYLSC148C149R (2)
<b>Guanine nucleotide-binding protein subunit beta-2-like 1</b>	P68040	35	6	TNHIGHTGYLNTVTVSPDGLC207ASGGK (1)
<b>H-2 class II histocompatibility antigen, A beta chain precursor</b>	P14483	30	2	TRAEIDTVC106RHNYEGPETHTSLR (1)
<b>Heat shock cognate 71 kDa protein</b>	P63017	71	15	GPAVGIDLGTTYSC17VGVFQHGK (2)
<b>Heat shock protein HSP 90-beta</b>	P11499	83	22	C412LELFSELAEDKENYKK (2)
<b>Hemoglobin subunit alpha</b>	P01942	15	7	LLSHC105LLVTLASHHPADFTPAVHASLDK (2)
<b>Hemoglobin subunit beta-1</b>	P02088	16	9	GTFASLSELHC94DKLHVDPENFR (2)
<b>Heterogeneous nuclear ribonucleoprotein A3</b>	Q8BG05	40	8	GFGFVTYSC85VEEVDAAMC94ARPHKVDGR (1)
<b>Heterogeneous nuclear ribonucleoprotein D0</b>	Q60668	38	5	GFC226FITFKEEEPVKK (1)

<b>Heterogeneous nuclear ribonucleoprotein F</b>	Q9Z2X1	46	4	DLSYC267LSGMYDHR (1)
<b>Heterogeneous nuclear ribonucleoprotein H</b>	O35737	49	7	DLNYC267FSGMSDHR (2)
<b>Heterogeneous nuclear ribonucleoprotein L</b>	Q8R081	60	9	LC578FSTAQHAS (2)
<b>Heterogeneous nuclear ribonucleoprotein M</b>	Q9D0E1	78	5	DKFNEC675GHVLYADIK (1)
<b>Heterogeneous nuclear ribonucleoproteins C1/C2</b>	Q9Z204	34	3	IVGC46SVHKGFAFVQYVNER (2)
<b>High mobility group protein B1</b>	P63158	25	6	RPPSAFFLFC106SEYRPK (2)
<b>Histidine triad nucleotide-binding protein 1</b>	P70349	14	3	IIFEDDRC38LAFHDISPQAPTHFLVIPK (2)
<b>Histone-binding protein RBBP7</b>	Q60973	48	4	TPSSDVLVFDYTKHPAKPDPSGEC166NPDLR (1) VHIPNDDAQFDASHC97DSDKGEFGGFGSVTGK (1)
<b>Hypoxanthine-guanine phosphoribosyltransferase</b>	P00493	25	3	DLNHVC206VISETGK (1)
<b>Inositol monophosphatase</b>	O55023	30	4	EKYPC64HSFIGEESVAAGEK (1)
<b>Isocitrate dehydrogenase [NAD] subunit alpha, mitochondrial precursor</b>	Q9D6R2	40	3	C351SDFTEEIC359R (2)
<b>Isocitrate dehydrogenase [NADP], mitochondrial precursor</b>	P54071	51	4	DLAGC418IHGLSNVK (2)
<b>Lamin B1</b>	P14733	67	2	C199QSLTEDLEFRK (2)
<b>Long-chain specific acyl-CoA dehydrogenase, mitochondrial precursor</b>	P51174	48	6	AFVDSC351LQLHETKR (2) LAELKTHIC342VTR (2)
<b>Lymphocyte antigen 75 precursor</b>	Q60767	197	6	C83LGLDITK (1)
<b>Macrophage migration inhibitory factor</b>	P34884	13	4	LLC81GLLSDRLHISPDR (1)
<b>Malate dehydrogenase, cytoplasmic</b>	P14152	37	4	SAPSIPKENFSC154LTR (2)
<b>Malate dehydrogenase, mitochondrial precursor</b>	P08249	36	7	EGVVEC275SFVQSK (2)
<b>Myosin light polypeptide 6</b>	Q60605	17	2	ILYSQC32GDVMR (2)
<b>NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 10, mitochondrial precursor</b>	Q99LC3	41	2	VITVDGNIC67SGK (1)
<b>NADH-ubiquinone oxidoreductase 75 kDa subunit, mitochondrial precursor</b>	Q91VD9	80	7	FC64YHERLSVAGNC75R (2)
<b>NADPH--cytochrome P450 reductase</b>	P37040	77	2	LIHEGGAHIYVC630GDAR (1) VHPNSVHIC489AVAVEYEAK (1)
<b>Non-POU domain-containing octamer-binding protein</b>	Q99K48	55	3	FAC147HSASLTVR (1)
<b>PDZ and LIM domain protein 1</b>	O70400	36	7	GHFFVEDQIYC305EKHAR (2)
<b>Peptidyl-prolyl cis-trans isomerase A</b>	P17742	18	12	IIPGFMC62QGGDFTR (2) HTGPGILSMANAGPNTNGSQFFIC115TAK (2)

<b>Poly(rC)-binding protein 1</b>	P60335	37	6	C201SDAAGYPHATHDLEGPPPLDAYSIQQQHTISPLDLAK (2)
<b>Profilin-1</b>	P62962	15	7	C128YEMASHLR (1) C71SVIRDSLLQDGEFTMDLR (2)
<b>Proliferating cell nuclear antigen</b>	P17918	29	6	C62DRNLAMGVNLTSMK (2) IC148RDLSHIGDAVVISC162AK (2)
<b>Proliferation-associated protein 2G4</b>	P50580	44	8	KADVIKAAHLC149AEAALR (1)
<b>Proteasome subunit alpha type-3</b>	O70435	28	3	C42KDGVVFGVEK (2)
<b>Proteasome subunit beta type-10 precursor</b>	O35955	29	3	ATNDSVVADKSC70EKIHFIAPK (2)
<b>Protein FAM115C</b>	Q921K8	102	4	VVLAHEAMLC279APK (2) DVAC335GANHTLVLDSQKR (2)
<b>Protein RCC2</b>	Q8BK67	56	9	TVVSGSC156AAHSLITTEGK (2)
<b>Pyruvate dehydrogenase E1 component subunit beta, mitochondrial precursor</b>	Q9D051	39	3	PVGHC249LEAAAVLSK (1)
<b>Pyruvate kinase isozymes M1/M2</b>	P52480	58	16	AGKPVIC326ATQMLESNIK (2)
<b>Rab GDP dissociation inhibitor beta</b>	Q61598	51	9	AYDATTHFETTC414DDIKDIYKR (2)
<b>Ras-related protein Rab-14</b>	Q91V41	24	8	FMADC40PHTIGVEFGTR (1)
<b>RNA-binding protein Raly</b>	Q64012	33	6	VAGC51SVHKGYAFVQYANER (2)
<b>Serine protease inhibitor A3K</b>	P07759 Q03734	47	3	HFRDEELSC259SVLELK (1)
<b>Serine/threonine-protein phosphatase 2A 56 kDa regulatory subunit gamma isoform</b>	Q60996, Q61151	55	5	C351VSSPHFQVAER (1)
<b>Serine/threonine-protein phosphatase 6 regulatory ankyrin repeat subunit B</b>	B2RXR6	107	2	TC408LHAAAAGGNVEC420IK (2)
<b>Serotransferrin precursor</b>	Q921I1	77	7	C543LVEKGDVAFVK (2)
<b>S-formylglutathione hydrolase</b>	Q9R0P3	31	4	C11FGGLQK (1)
<b>Spliceosome RNA helicase Bat1</b>	Q9Z1N5	49	7	NC165PHIVVGTPGR (1)
<b>Succinate dehydrogenase [ubiquinone] flavoprotein subunit, mitochondrial precursor</b>	Q8K2B3	73	7	GC357GPEKDHVYLQLHHLPPPEQLATR (2) GVIALC238IEDGSIHR (2) TYFSC266TSAHTSTGDGTAMVTR (2)
<b>SUMO-activating enzyme subunit 1</b>	Q9R1T2	39	3	DVIKVDQIC150HR (2)
<b>TAR DNA-binding protein 43</b>	Q921F2	45	4	YRNPVQC50MR (2)
<b>T-complex protein 1 subunit epsilon</b>	P80316	60	6	IAILTC253PFEPKPK (2)
<b>Thioredoxin</b>	P10639	12	3	C73MPTFQFYK (1)

<b>Thyroid hormone-inducible hepatic protein</b>	Q62264	17	2	SIC67VEVDHGLLPR (1)
<b>Transcription elongation factor SPT5</b>	O55201	121	3	VELHSTC734QTISVDR (2)
<b>Transitional endoplasmic reticulum ATPase</b>	Q01853	89	18	LADDVDLEQVANETHGHVGDLAALC415SEAALQA IR (1)
<b>Transketolase</b>	P40142	68	15	TVPFC386STFAAFFTR (2)
<b>Trifunctional enzyme subunit beta, mitochondrial precursor</b>	Q99JY0	51	5	KDGGQYALVAAC459AAGGQGHAMIVEAYPK (1)
<b>Triosephosphate isomerase</b>	P17751	27	8	VSHALAEGLGVIAC127IGEK (2) IYGGSVTGATC218K (2)
<b>Tubulin beta-5 chain</b>	P99024	50	22	REIVHIQAGQC12GNQIGAK (2)
<b>Ubiquitin-like modifier-activating enzyme 1 X</b>	Q02053	118	18	YSRPAQLHIGFQALHQFC340ALHNQPPRPR (1) C588VYYRKPLLESGTLGTK (1)
<b>Valyl-tRNA synthetase</b>	Q9Z1Q9	140	3	C681GEMAQAASAAVTR (1) C1184SIHLQLQLVDPAR (2)
<b>Voltage-dependent anion-selective channel protein 1</b>	Q60932	32	4	EHINLGC140DVDFDIAGPSIR (1) YQVDPDAC245FSAK (1)
<b>Voltage-dependent anion-selective channel protein 3</b>	Q60931	31	3	YKVC65NYGLTFTQK (2)
<b>WD repeat-containing protein 1</b>	O88342	66	2	C438FSIDNPGYEPEVVAVHPGGDTVAVGGTDGNVR (2) SIQC325LTVHR (2)

Each protein in the table satisfies the following criteria: (1) it is selectively captured with MRC organomercury resin and identified by mass spectrometry ( $\geq 2$  unique peptides); (2) after in-column digestion of the bound protein and treatment with performic acid, the peptide derived (last column) contains at least one cysteine sulfonic acid; (3) it is not detected in the negative controls that have been exposed to UV or treated with Cu/ascorbate. UniProt accession numbers correspond to the full-length unprocessed proteins when available ([www.uniprot.org](http://www.uniprot.org)). Additional accessions are listed if the observed peptides could not distinguish between protein isoforms.

<sup>1</sup>Number of unique peptides (not including sulfonated peptide) identified by MS/MS for a protein selectively captured on MRC column, and total number from two independent biological replicates (each from the thymuses of 3-4 mice).

<sup>2</sup>S-nitrosylated peptide (n: number of detections in 2 independent biological replicates). The cysteine residue(s), numbered as in the precursor protein, was identified in peptide capture experiment as cysteine sulfonic acid.

**Supplemental Table II. S-nitrosylated proteins in thymus of wildtype mouse**

<b>Protein name</b>	<b>Accession Number</b>	<b>Molecular Weight (kDa)</b>	<b>Unique peptides MRC<sup>1</sup></b>	<b>SNO Peptide sequence (n)<sup>2</sup></b>
<b>3-ketoacyl-CoA thiolase, mitochondrial</b>	Q8BWT1	42	3	EDC179DRYALQSQQR (1)
<b>60S ribosomal protein L3</b>	P27659	46	3	TVFAEHISDEC114K (2)
<b>6-phosphogluconate dehydrogenase, decarboxylating</b>	Q9DCD0	53	4	C289LSSLKEER (1)
<b>Aconitate hydratase, mitochondrial precursor</b>	Q99KI0	85	9	C410KSQFTITPGSEQIR (2)
<b>Adenylyl cyclase-associated protein 1</b>	P40124	52	2	LEAVSHTSDMHC29GYGDSPSK (2) ALLATASQC92QQPAGNK (2)
<b>ADP/ATP translocase 2</b>	P51881	33	4	GLGDC160LVK (1)
<b>Aldose reductase</b>	P45376	36	5	HIDC45AQVYQNEKEVGVALQEK (2)
<b>Alpha-actinin-1</b>	Q7TPR4	103	10	C332QLEINFNTLQTK (1) DGLGFC180ALIHR (2)
<b>Aspartyl-tRNA synthetase, cytoplasmic</b>	Q922B2	57	3	IGSC130TQQDVELHVQK (2)
<b>Bifunctional purine biosynthesis protein PURH [Includes: Phosphoribosylaminoimidazolecarboxamide formyltransferase</b>	Q9CWJ9	64	4	YTQSNSVC434YAK (2)
<b>Calponin-2</b>	Q08093	33	3	C215ASQVGMTAPGTR (2)
<b>Cathepsin B precursor</b>	P10605	37	2	ILRGENHC319GIESEIVAGIPR (2)
<b>Cellular nucleic acid-binding protein</b>	P53996	20	2	EQC98C99YNCGKPGHLAR (2) TSEVNC159YRCGESGHLAR (2)
<b>Clathrin heavy chain</b>	Q68FD5	192	17	YC910EKRDPHLAC919VAYER (2)
<b>Cofilin-1</b>	P18760	19	5	AVLFC39LSEDKK (2)
<b>Coronin-1A</b>	O89053	51	8	KC345EPIAMTVPR (2)
<b>Cystatin-B</b>	Q62426	11	7	VDVGGDKC64VHLR (2)
<b>Cysteine and glycine-rich protein 1</b>	P97315	21	5	TVYFAEEVQC25EGNSFHK (2)
<b>Cytochrome b-c1 complex subunit 2, mitochondrial precursor</b>	Q9DB77	48	3	NALANPLYC192PDYR (2)
<b>Cytochrome c oxidase subunit 5B, mitochondrial precursor</b>	P19536	14	3	C112PNCGTHYKLVPHQMAH (2)
<b>Cytosol aminopeptidase</b>	Q9CPY7	56	2	LILADALC376YAHTFNPK (2)
<b>D-3-phosphoglycerate dehydrogenase</b>	Q61753	57	3	ALVDHENVISC280PHLGASTK (2)



<b>DAZ-associated protein 1</b>	Q9JII5	43	4	FKDPNC63VGTVLASRPHTLDGR (2) IFVGGIPHNC124GETELR (1)
<b>DNA replication licensing factor MCM2</b>	P97310	102	4	FDVLC661VVR (1)
<b>DNA replication licensing factor MCM4</b>	P49717	97	3	AGIIC604QLNAR (2)
<b>DNA replication licensing factor MCM6</b>	P97311	93	9	LVFLAC301HVAPT NPR (2)
<b>Dolichyl-diphosphooligosaccharide--protein glycosyltransferase 63 subunit precursor</b>	Q9DBG6	69	2	VAC478ITEQVLT LVNKR (1)
<b>Electron transfer flavoprotein subunit alpha, mitochondrial precursor</b>	Q99LC5	35	5	C60DKVVQDLC68K (1)
<b>Elongation factor 2</b>	P58252	95	15	NMSVIAHVVDHGKSTLTDSLVC41K (1)
<b>Eukaryotic translation initiation factor 5A-1</b>	P63242	17	6	KYEDIC73PSTHNMDVPNIKR (1)
<b>Ezrin</b>	P26040	69	9	ILQLC284MGNHELYMR (2)
<b>Far upstream element-binding protein 1</b>	Q91WJ8	69	2	C328QHAAEITDLLR (2)
<b>Fatty acid synthase</b>	P19096	272	49	C1464ILLSNLSNTSHAPK (2) FVFTPHMEAEC1128LSESTALQK (1)
<b>Filamin-A</b>	Q8BTM8	281	26	AHVAPC1157FDASK (2) C8GQSAAVASPGGSIDSR (2)
<b>Filamin-B</b>	Q80X90	278	17	C416VYKPVQPGPHVVK (1)
<b>FK506-binding protein 5</b>	Q64378	51	3	KGEIC103HLLCKPEYAYGSAGHLQK (1)
<b>Fructose-bisphosphate aldolase A</b>	P05064	39	3	ALSDHHVYLEGTLLKPNMVTPGHAC240TQK (1)
<b>Galectin-1</b>	P16045	15	3	FNAHG DANTIVC61NTK (2) SFVLNLGKDSNNLC43LHFNPR (2)
<b>Gelsolin precursor</b>	P13020	86	3	SEDC329FILDHGR (2)
<b>Glutamate dehydrogenase 1, mitochondrial precursor</b>	P26443	61	3	IIKPC112NHVLSLSPIRR (2)
<b>Glyceraldehyde-3-phosphate dehydrogenase</b>	P16858	36	7	VPTPNVSVVDLTC245R (1)
<b>Glycyl-tRNA synthetase</b>	Q9CZD3	82	2	SC456YDLSC461HAR (1)
<b>Guanine nucleotide-binding protein G(i), alpha-2 subunit</b>	P08752	40	4	EIYTHFTC326ATDTK (2)
<b>Heat shock cognate 71 protein</b>	P63017	71	13	GPAVGIDLGTTYSC17VGVFQHGK (1)
<b>Hemoglobin subunit alpha</b>	P01942	15	3	LLSHC105LLVTLASHHPADFTPAVHASL DK (1)
<b>Hemoglobin subunit beta-1</b>	P02088	16	9	GTFASLSELHC94DKLHVDPENFR (2)
<b>Heterogeneous nuclear ribonucleoprotein A3</b>	Q8BG05	40	17	GFGFVTYSC85VEEVDAAMC94ARPHKVDGR (2)

<b>Heterogeneous nuclear ribonucleoprotein D0</b>	Q60668	38	3	GFC226FITFKEEEPVKK (1)
<b>Heterogeneous nuclear ribonucleoprotein H</b>	O35737	49	7	DLNYC267FSGMSDHR (1)
<b>Heterogeneous nuclear ribonucleoprotein L</b>	Q8R081	60	10	LC578FSTAQHAS (1)
<b>Heterogeneous nuclear ribonucleoprotein Q</b>	Q7TMK9	70	2	GFC289FLEYEDHK (1)
<b>High mobility group protein B1</b>	P63158	25	5	RPPSAFFLFC106SEYRPK (1)
<b>Inosine-5'-monophosphate dehydrogenase 2</b>	P24547	56	7	HGFC140GIPITDTGR (1)
<b>Leukotriene A-4 hydrolase</b>	P24527	69	6	QHPYLFSQC136QAIHC141R (2)
<b>LIM and SH3 domain protein 1</b>	Q61792	30	6	KPYC53NAHYPK (2)
<b>Long-chain specific acyl-CoA dehydrogenase, mitochondrial precursor</b>	P51174	48	3	AFVDSC351LQLHETKR (2)
<b>Myosin-10</b>	Q61879	229	2	ADFC569IIHYAGK (2)
<b>Phospholipase A-2-activating protein</b>	P27612	87	3	LSC12SLPGHELDVR (1)
<b>Poly(rC)-binding protein 1</b>	P60335	37	4	C201SDAAGYPHATHDLEGPPLDAYSIQGQHT ISPLDLAK (2)
<b>Probable ATP-dependent RNA helicase DDX17</b>	Q501J6	72	3	LKSTC200IYGGAPK (2)
<b>Profilin-1</b>	P62962	15	9	C128YEMASHLR (2)
<b>Proliferating cell nuclear antigen</b>	P17918	29	4	IC148RDLSHIGDAVVISC162AK (1)
<b>Proteasome subunit alpha type-3</b>	O70435	28	3	C42KDGVVFGVEK (2)
<b>Protein RCC2</b>	Q8BK67	56	4	DVAC335GANHTLVLDSQKR (2) TVVSGSC156AAHSLITTEGK (2)
<b>Pyruvate dehydrogenase E1 component subunit beta, mitochondrial precursor</b>	Q9D051	39	2	C41DLHRLEEGPPVTTVLTR (2)
<b>Pyruvate kinase isozymes M1/M2</b>	P52480	58	15	AGKPVIC326ATQMLESNIK (1)
<b>Rab GDP dissociation inhibitor beta</b>	Q61598	51	6	AYDATTHFETTC414DDIKDIYKR (1)
<b>Ras-related C3 botulinum toxin substrate 2 precursor</b>	Q05144	21	3	C6VVVGDGAVGK (1) AVLC178PQPTR (1)
<b>Rho guanine nucleotide exchange factor 1</b>	Q61210	103	2	FC536AFVQEAESRPR (1)
<b>Rho-related GTP-binding protein RhoG precursor</b>	P84096	21	2	T18CLLIC'YTTNAFPK (2)
<b>RNA-binding protein 39</b>	Q8VH51	59	2	C478PSIAAAIAAVNALHGR (2)
<b>Sarcoplasmic/endoplasmic reticulum calcium ATPase 2</b>	O55143	115	3	C560LALATHDNPLKR (2)
<b>Serotransferrin precursor</b>	Q921I1	77	7	C543LVEKGDVAFVK (2)
<b>S-formylglutathione hydrolase</b>	Q9R0P3	31	2	C11FGGLQK (2)

<b>Spliceosome RNA helicase Bat1</b>	Q9Z1N5	49	2	NC165PHIVVGTGTPGR (2)
<b>TAR DNA-binding protein 43</b>	Q921F2	45	3	YRNPVSQLC50MR (1)
<b>T-complex protein 1 subunit alpha A</b>	P11984	60	7	SLHDALC397VVKR (2)
<b>T-complex protein 1 subunit beta</b>	P80314	57	6	ILKHGINC289FINR (2)
<b>T-complex protein 1 subunit epsilon</b>	P80316	60	9	IAILTC253PFEPKPK (2)
<b>Thioredoxin</b>	P10639	12	3	C73MPTFQFYK (1)
<b>Tubulin beta-2C chain</b>	P68372	50	2	MREIVHIQAGQC12GNQIGAK (2)
<b>Valyl-tRNA synthetase</b>	Q9Z1Q9	140	4	C681GEMAQAASAAVTR (2)
<b>WD repeat-containing protein 1</b>	O88342	66	6	SIQC325LTVHR (2)

See Supplemental Table I for explanation.

**Supplemental Table III. S-nitrosylated proteins in thymus of DKO mouse thymus**

<b>Protein name</b>	<b>Uniprot accession number</b>	<b>Molecular weight (kDa)</b>	<b>Unique peptides MRC<sup>1</sup></b>	<b>SNO Peptide sequence (n)<sup>2</sup></b>
<b>40S ribosomal protein S14</b>	P62264	16kDa	3	C <sub>85</sub> KELGITALHIK (2)
<b>40S ribosomal protein S3a</b>	P97351	30kDa	3	AC <sub>201</sub> QSIYPLHDVFVR (1)
<b>Actin, cytoplasmic 1</b>	P60710	42	15	FRC <sub>257</sub> PEALFQPSFLGMESC <sub>272</sub> GIHETTFNSIMK (1) C <sub>285</sub> DVDIRKDLYANTVLSGGTTMYPGIADR (1)
<b>Cystatin-B</b>	Q62426	11	3	VDVGGDKC <sub>64</sub> VHLR (2)
<b>Glyceraldehyde-3-phosphate dehydrogenase</b>	P16858	36	3	VPTPNVSVVDLTC <sub>245</sub> R (1)
<b>Hemoglobin subunit beta-1</b>	P02088	16 kDa	3	GTFASLSELHC <sub>94</sub> DK (2)
<b>Heterogeneous nuclear ribonucleoprotein L</b>	Q8R081	63kDa	3	LC <sub>578</sub> FSTAQHAS (1)
<b>Peptidyl-prolyl cis-trans isomerase A</b>	P17742	18 kDa	9	IIPGFMC <sub>62</sub> QGGDFTR (2)
<b>Profilin-1</b>	P62962	15 kDa	6	C <sub>128</sub> YEMASHLR (2)
<b>Pyruvate kinase isozymes M1/M2</b>	P52480	58 kDa	2	C <sub>423</sub> C <sub>424</sub> SGAIIVLTK (2)

See Supplementary Table I for explanation.