

Table S1. N-linked glycoproteins mapped to 11 KEGG pathways that were significantly represented ($p < 0.05$) with the fold of enrichment higher than 4.5

Term	Count	%	PValue	Genes	Fold Enrichment	Benjamini	FDR
hsa04142:Lysosome	5	7.5	0.002	IPI00293088, IPI00024067, IPI00025049, IPI00027851, IPI00012102	9.1	0.08	1.6
hsa04510:Focal adhesion	6	9.0	0.002	IPI00220278, IPI00021439, IPI00291175, IPI00297646, IPI00739099, IPI00306604	6.3	0.04	1.6
hsa04810:Regulation of actin cytoskeleton	5	7.5	0.015	IPI00220278, IPI00021439, IPI00337335, IPI00291175, IPI00306604	4.9	0.21	13.1
hsa04530:Tight junction	4	6.0	0.022	IPI00220278, IPI00844215, IPI00021439, IPI00337335	6.3	0.23	18.7
hsa04612:Antigen processing and presentation	3	4.5	0.053	IPI00003865, IPI00339269, IPI00414676	7.7	0.40	40.6
hsa04512:ECM-receptor interaction	3	4.5	0.055	IPI00297646, IPI00739099, IPI00306604	7.6	0.36	41.3
hsa05410:Hypertrophic cardiomyopathy (HCM)	3	4.5	0.056	IPI00021439, IPI00910712, IPI00306604	7.5	0.32	42.0
hsa05414:Dilated cardiomyopathy	3	4.5	0.064	IPI00021439, IPI00910712, IPI00306604	6.9	0.32	46.7
hsa04270:Vascular smooth muscle contraction	3	4.5	0.090	IPI00220278, IPI00784327, IPI00335168	5.7	0.39	59.2
hsa00531:Glycosaminoglycan degradation	2	3.0	0.091	IPI00027851, IPI00012102	20.2	0.36	59.6
hsa04670:Leukocyte transendothelial migration	3	4.5	0.098	IPI00220278, IPI00021439, IPI00291175	5.4	0.36	62.7

Table S2. The enrichment of glycoproteins identified in LX-2 cells.

Category	Term	Count	%	PValue	Genes	Fold Enrichment
UP_SEQ_FEATURE	signal peptide	27	40.3	0.00	IPI00337495, IPI00025049, IPI00027230, IPI00045396, IPI00425902, IPI00184854, IPI00015842, IPI00182126, IPI00303300, IPI00293088, IPI00030847, IPI00009923, IPI00027851, IPI00029723, IPI00550991, IPI00000877, IPI00551062, IPI00297646, IPI00169285, IPI00739099, IPI00010790, IPI00604442, IPI00022488, IPI00006114, IPI00020557, IPI00470649, IPI00642244, IPI00012102, IPI00306604	2.5
SP_PIR_KEYWORDS	signal	27	40.3	0.00	IPI00337495, IPI00025049, IPI00027230, IPI00045396, IPI00425902, IPI00184854, IPI00015842, IPI00182126, IPI00303300, IPI00293088, IPI00030847, IPI00009923, IPI00027851, IPI00029723, IPI00550991, IPI00000877, IPI00551062, IPI00297646, IPI00169285, IPI00739099, IPI00010790, IPI00604442, IPI00022488, IPI00006114, IPI00020557, IPI00470649, IPI00642244, IPI00012102, IPI00306604	2.5
UP_SEQ_FEATURE	glycosylation site:N-linked (GlcNAc)	29	43.3	0.00	IPI00337495, IPI00025049, IPI00027230, IPI00045396, IPI00425902, IPI00184854, IPI00015842, IPI00182126, IPI00303300, IPI00293088, IPI00030847, IPI00009923, IPI00027851, IPI00029723, IPI00550991, IPI00000877, IPI00551062, IPI00297646, IPI00169285, IPI00739099, IPI00010790, IPI00604442, IPI00022488, IPI00006114, IPI00020557, IPI00470649, IPI00930442, IPI00107357, IPI00642244, IPI00012102, IPI00306604	2.1
SP_PIR_KEYWORDS	glycoprotein	29	43.3	0.00	IPI00337495, IPI00025049, IPI00027230, IPI00045396, IPI00425902, IPI00184854, IPI00015842, IPI00182126, IPI00303300, IPI00293088, IPI00030847, IPI00009923, IPI00027851, IPI00029723, IPI00550991, IPI00000877, IPI00551062, IPI00297646, IPI00169285, IPI00739099, IPI00010790, IPI00604442, IPI00022488, IPI00006114, IPI00020557, IPI00470649, IPI00930442, IPI00107357, IPI00642244, IPI00012102, IPI00306604	2.0
INTERPRO	IPR002048:Calcium-binding EF-hand	9	13.4	0.00	IPI00220278, IPI00844215, IPI00045396, IPI00184854, IPI00216070, IPI00029723, IPI00015842, IPI00335168, IPI00303300, IPI00182126	16.6
UP_SEQ_FEATURE	domain:EF-hand 2	9	13.4	0.00	IPI00220278, IPI00844215, IPI00045396, IPI00184854, IPI00216070, IPI00029723, IPI00015842, IPI00335168, IPI00303300, IPI00182126	14.8

UP_SEQ_FEATURE	domain:EF-hand 1	9	13.4	0.00	IPI00220278, IPI00844215, IPI00045396, IPI00184854, IPI00216070, IPI00029723, IPI00015842, IPI00335168, IPI00303300, IPI00182126	14.8
SMART	SM00054:EFh	9	13.4	0.00	IPI00220278, IPI00844215, IPI00045396, IPI00184854, IPI00216070, IPI00029723, IPI00015842, IPI00335168, IPI00303300, IPI00182126	13.6
INTERPRO	IPR018249:EF-HAND 2	9	13.4	0.00	IPI00220278, IPI00844215, IPI00045396, IPI00184854, IPI00216070, IPI00029723, IPI00015842, IPI00335168, IPI00303300, IPI00182126	11.1
UP_SEQ_FEATURE	domain:EF-hand 3	6	9.0	0.00	IPI00220278, IPI00844215, IPI00045396, IPI00216070, IPI00015842, IPI00335168	19.1
INTERPRO	IPR011992:EF-Hand type	8	11.9	0.00	IPI00220278, IPI00844215, IPI00045396, IPI00216070, IPI00784327, IPI00015842, IPI00335168, IPI00182126	9.0
GOTERM_MF_FAT	GO:0005509~calcium ion binding	14	20.9	0.00	IPI00844215, IPI00045396, IPI00027230, IPI00216070, IPI00184854, IPI00015842, IPI00335168, IPI00303300, IPI00182126, IPI00220278, IPI00020557, IPI00029723, IPI00784327, IPI00012102, IPI00306604	3.5
SP_PIR_KEYWORDS	calcium	11	16.4	0.00	IPI00220278, IPI00020557, IPI00844215, IPI00027230, IPI00045396, IPI00184854, IPI00784327, IPI00015842, IPI00012102, IPI00303300, IPI00182126, IPI00306604	4.1
INTERPRO	IPR018247:EF-HAND 1	6	9.0	0.00	IPI00220278, IPI00844215, IPI00045396, IPI00184854, IPI00015842, IPI00303300, IPI00182126	7.3
GOTERM_CC_FAT	GO:0044430~cytoskeletal part	12	17.9	0.00	IPI00376379, IPI00220278, IPI00844215, IPI00375910, IPI00302453, IPI00009865, IPI00220327, IPI00015309, IPI00216070, IPI00337335, IPI00910712, IPI00335168	2.8
GOTERM_MF_FAT	GO:0005198~structural molecule activity	16	23.9	0.00	IPI00010790, IPI00024067, IPI00844215, IPI00009865, IPI00220327, IPI00216070, IPI00335168, IPI00376379, IPI00220278, IPI00375910, IPI00021439, IPI00015309, IPI00291175, IPI00297646, IPI00910712, IPI00739099	5.9
GOTERM_CC_FAT	GO:0015629~actin cytoskeleton	7	10.4	0.00	IPI00220278, IPI00844215, IPI00216070, IPI00337335, IPI00291175, IPI00910712, IPI00335168	5.8
GOTERM_CC_FAT	GO:0005856~cytoskeleton	15	22.4	0.00	IPI00844215, IPI00220327, IPI00009865, IPI00216070, IPI00335168, IPI00376379, IPI00220278, IPI00003269, IPI00375910, IPI00021439, IPI00302453, IPI00015309, IPI00337335, IPI00291175, IPI00910712	2.4
GOTERM_CC_FAT	GO:0044430~cytoskeletal part	12	17.9	0.00	IPI00376379, IPI00220278, IPI00844215, IPI00375910, IPI00302453, IPI00009865, IPI00220327, IPI00015309, IPI00216070, IPI00337335, IPI00910712, IPI00335168	2.8

GOTERM_BP_FAT	GO:0006457~protein folding	7	10.4	0.00	IPI00419585, IPI00935692, IPI00003865, IPI00027230, IPI00184854, IPI00925411, IPI00879182, IPI00555565, IPI00414676, IPI00303300, IPI00182126	10.3
UP_SEQ_FEATURE	domain:EF-hand 3	6	9.0	0.00	IPI00220278, IPI00844215, IPI00045396, IPI00216070, IPI00015842, IPI00335168	19.1
GOTERM_CC_FAT	GO:0015629~actin cytoskeleton	7	10.4	0.00	IPI00220278, IPI00844215, IPI00216070, IPI00337335, IPI00291175, IPI00910712, IPI00335168	5.8
UP_SEQ_FEATURE	short sequence motif:Prevents secretion from ER	6	9.0	0.00	IPI00027230, IPI00045396, IPI00184854, IPI00000877, IPI00015842, IPI00303300, IPI00182126	30.4
SP_PIR_KEYWORDS	endoplasmic reticulum	12	17.9	0.00	IPI00025160, IPI00337495, IPI00604442, IPI00045396, IPI00027230, IPI00425902, IPI00184854, IPI00015842, IPI00182126, IPI00303300, IPI00470649, IPI00009923, IPI00000877, IPI00551062	5.0
GOTERM_CC_FAT	GO:0005788~endoplasmic reticulum lumen	6	9.0	0.00	IPI00027230, IPI00045396, IPI00009923, IPI00184854, IPI00000877, IPI00015842, IPI00303300	16.8
GOTERM_CC_FAT	GO:0005783~endoplasmic reticulum	13	19.4	0.00	IPI00025160, IPI00337495, IPI00022774, IPI00604442, IPI00425902, IPI00045396, IPI00027230, IPI00184854, IPI00015842, IPI00303300, IPI00182126, IPI00470649, IPI00009923, IPI00000877, IPI00551062	3.0
GOTERM_CC_FAT	GO:0044432~endoplasmic reticulum part	7	10.4	0.00	IPI00604442, IPI00425902, IPI00027230, IPI00045396, IPI00009923, IPI00184854, IPI00000877, IPI00015842, IPI00303300	4.5
GOTERM_CC_FAT	GO:0048770~pigment granule	6	9.0	0.00	IPI00006114, IPI00024067, IPI00003865, IPI00027230, IPI00045396, IPI00414676	15.1
GOTERM_CC_FAT	GO:0042470~melanosome	6	9.0	0.00	IPI00006114, IPI00024067, IPI00003865, IPI00027230, IPI00045396, IPI00414676	15.1
GOTERM_CC_FAT	GO:0016023~cytoplasmic membrane-bounded vesicle	8	11.9	0.01	IPI00010790, IPI00006114, IPI00024067, IPI00020557, IPI00003865, IPI00027230, IPI00045396, IPI00414676	3.3
GOTERM_CC_FAT	GO:0031988~membrane-bounded vesicle	8	11.9	0.01	IPI00010790, IPI00006114, IPI00024067, IPI00020557, IPI00003865, IPI00027230, IPI00045396, IPI00414676	3.2
GOTERM_CC_FAT	GO:0031410~cytoplasmic vesicle	8	11.9	0.02	IPI00010790, IPI00006114, IPI00024067, IPI00020557, IPI00003865, IPI00027230, IPI00045396, IPI00414676	2.8
GOTERM_CC_FAT	GO:0031982~vesicle	8	11.9	0.03	IPI00010790, IPI00006114, IPI00024067, IPI00020557, IPI00003865, IPI00027230, IPI00045396, IPI00414676	2.7
GOTERM_BP_FAT	GO:0006457~protein folding	7	10.4	0.00	IPI00419585, IPI00935692, IPI00003865, IPI00027230, IPI00184854, IPI00925411, IPI00879182, IPI00555565, IPI00414676, IPI00303300, IPI00182126	10.3

GOTERM_MF_FAT	GO:0005524~ATP binding	16	23.9	0.00	IPI00479743, IPI00003865, IPI00022774, IPI00027230, IPI00218905, IPI00873495, IPI00555565, IPI00414676, IPI00739539, IPI00215637, IPI00003269, IPI00021439, IPI00302453, IPI00339269, IPI00337335, IPI00000877	2.5
GOTERM_MF_FAT	GO:0032559~adenyl ribonucleotide binding	16	23.9	0.00	IPI00479743, IPI00003865, IPI00022774, IPI00027230, IPI00218905, IPI00873495, IPI00555565, IPI00414676, IPI00739539, IPI00215637, IPI00003269, IPI00021439, IPI00302453, IPI00339269, IPI00337335, IPI00000877	2.5
SP_PIR_KEYWORDS	atp-binding	13	19.4	0.00	IPI00003865, IPI00022774, IPI00027230, IPI00218905, IPI00873495, IPI00414676, IPI00215637, IPI00003269, IPI00021439, IPI00302453, IPI00339269, IPI00337335, IPI00000877	2.9
GOTERM_MF_FAT	GO:0030554~adenyl nucleotide binding	16	23.9	0.00	IPI00479743, IPI00003865, IPI00022774, IPI00027230, IPI00218905, IPI00873495, IPI00555565, IPI00414676, IPI00739539, IPI00215637, IPI00003269, IPI00021439, IPI00302453, IPI00339269, IPI00337335, IPI00000877	2.4
GOTERM_MF_FAT	GO:0001883~purine nucleoside binding	16	23.9	0.00	IPI00479743, IPI00003865, IPI00022774, IPI00027230, IPI00218905, IPI00873495, IPI00555565, IPI00414676, IPI00739539, IPI00215637, IPI00003269, IPI00021439, IPI00302453, IPI00339269, IPI00337335, IPI00000877	2.3
GOTERM_MF_FAT	GO:0001882~nucleoside binding	16	23.9	0.00	IPI00479743, IPI00003865, IPI00022774, IPI00027230, IPI00218905, IPI00873495, IPI00555565, IPI00414676, IPI00739539, IPI00215637, IPI00003269, IPI00021439, IPI00302453, IPI00339269, IPI00337335, IPI00000877	2.3
GOTERM_MF_FAT	GO:0016887~ATPase activity	7	10.4	0.00	IPI00215637, IPI00022774, IPI00003865, IPI00302453, IPI00873495, IPI00337335, IPI00335168	4.9
GOTERM_MF_FAT	GO:0032553~ribonucleotide binding	16	23.9	0.01	IPI00479743, IPI00003865, IPI00022774, IPI00027230, IPI00218905, IPI00873495, IPI00555565, IPI00414676, IPI00739539, IPI00215637, IPI00003269, IPI00021439, IPI00302453, IPI00339269, IPI00337335, IPI00000877	2.0
GOTERM_MF_FAT	GO:0032555~purine ribonucleotide binding	16	23.9	0.01	IPI00479743, IPI00003865, IPI00022774, IPI00027230, IPI00218905, IPI00873495, IPI00555565, IPI00414676, IPI00739539, IPI00215637, IPI00003269, IPI00021439, IPI00302453, IPI00339269, IPI00337335, IPI00000877	2.0
SP_PIR_KEYWORDS	nucleotide-binding	12	17.9	0.02	IPI00215637, IPI00003269, IPI00022774, IPI00003865, IPI00027230, IPI00302453, IPI00021439, IPI00218905, IPI00339269, IPI00000877, IPI00414676	2.1

UP_SEQ_FEATURE	signal peptide	27	40.3	0.00	IPI00337495, IPI00025049, IPI00027230, IPI00045396, IPI00425902, IPI00184854, IPI00015842, IPI00182126, IPI00303300, IPI00293088, IPI00030847, IPI00009923, IPI00027851, IPI00029723, IPI00550991, IPI00000877, IPI00551062, IPI00297646, IPI00169285, IPI00739099, IPI00010790, IPI00604442, IPI00022488, IPI00006114, IPI00020557, IPI00470649, IPI00642244, IPI00012102, IPI00306604	2.5
SP_PIR_KEYWORDS	signal	27	40.3	0.00	IPI00337495, IPI00025049, IPI00027230, IPI00045396, IPI00425902, IPI00184854, IPI00015842, IPI00182126, IPI00303300, IPI00293088, IPI00030847, IPI00009923, IPI00027851, IPI00029723, IPI00550991, IPI00000877, IPI00551062, IPI00297646, IPI00169285, IPI00739099, IPI00010790, IPI00604442, IPI00022488, IPI00006114, IPI00020557, IPI00470649, IPI00642244, IPI00012102, IPI00306604	2.5
UP_SEQ_FEATURE	glycosylation site:N-linked (GlcNAc...)	29	43.3	0.00	IPI00337495, IPI00025049, IPI00027230, IPI00045396, IPI00425902, IPI00184854, IPI00015842, IPI00182126, IPI00303300, IPI00293088, IPI00030847, IPI00009923, IPI00027851, IPI00029723, IPI00550991, IPI00000877, IPI00551062, IPI00297646, IPI00169285, IPI00739099, IPI00010790, IPI00604442, IPI00022488, IPI00006114, IPI00020557, IPI00470649, IPI00930442, IPI00107357, IPI00642244, IPI00012102, IPI00306604	2.1
SP_PIR_KEYWORDS	glycoprotein	29	43.3	0.00	IPI00337495, IPI00025049, IPI00027230, IPI00045396, IPI00425902, IPI00184854, IPI00015842, IPI00182126, IPI00303300, IPI00293088, IPI00030847, IPI00009923, IPI00027851, IPI00029723, IPI00550991, IPI00000877, IPI00551062, IPI00297646, IPI00169285, IPI00739099, IPI00010790, IPI00604442, IPI00022488, IPI00006114, IPI00020557, IPI00470649, IPI00930442, IPI00107357, IPI00642244, IPI00012102, IPI00306604	2.0
INTERPRO	IPR002048:Calcium-binding EF-hand	9	13.4	0.00	IPI00220278, IPI00844215, IPI00045396, IPI00184854, IPI00216070, IPI00029723, IPI00015842, IPI00335168, IPI00303300, IPI00182126	16.6
UP_SEQ_FEATURE	domain:EF-hand 2	9	13.4	0.00	IPI00220278, IPI00844215, IPI00045396, IPI00184854, IPI00216070, IPI00029723, IPI00015842, IPI00335168, IPI00303300, IPI00182126	14.8

UP_SEQ_FEATURE	domain:EF-hand 1	9	13.4	0.00	IPI00220278, IPI00844215, IPI00045396, IPI00184854, IPI00216070, IPI00029723, IPI00015842, IPI00335168, IPI00303300, IPI00182126	14.8
SMART	SM00054:EFh	9	13.4	0.00	IPI00220278, IPI00844215, IPI00045396, IPI00184854, IPI00216070, IPI00029723, IPI00015842, IPI00335168, IPI00303300, IPI00182126	13.6
INTERPRO	IPR018249:EF-HAND 2	9	13.4	0.00	IPI00220278, IPI00844215, IPI00045396, IPI00184854, IPI00216070, IPI00029723, IPI00015842, IPI00335168, IPI00303300, IPI00182126	11.1
UP_SEQ_FEATURE	domain:EF-hand 3	6	9.0	0.00	IPI00220278, IPI00844215, IPI00045396, IPI00216070, IPI00015842, IPI00335168	19.1
INTERPRO	IPR011992:EF-Hand type	8	11.9	0.00	IPI00220278, IPI00844215, IPI00045396, IPI00216070, IPI00784327, IPI00015842, IPI00335168, IPI00182126	9.0
GOTERM_MF_FAT	GO:0005509~calcium ion binding	14	20.9	0.00	IPI00844215, IPI00045396, IPI00027230, IPI00216070, IPI00184854, IPI00015842, IPI00335168, IPI00303300, IPI00182126, IPI00220278, IPI00020557, IPI00029723, IPI00784327, IPI00012102, IPI00306604	3.5
SP_PIR_KEYWORDS	calcium	11	16.4	0.00	IPI00220278, IPI00020557, IPI00844215, IPI00027230, IPI00045396, IPI00184854, IPI00784327, IPI00015842, IPI00012102, IPI00303300, IPI00182126, IPI00306604	4.1
INTERPRO	IPR018247:EF-HAND 1	6	9.0	0.00	IPI00220278, IPI00844215, IPI00045396, IPI00184854, IPI00015842, IPI00303300, IPI00182126	7.3