

Supporting Information for

**Competitive profiling of celastrol targets in human cervical cancer
HeLa cells by quantitative chemical proteomics**

Yiqing Zhou^a, Weichao Li^{ab}, Mingli Wang^{ac}, Xixi Zhang^{bd}, Haibing Zhang^d, Xiaofeng
Tong^c, and Youli Xiao^{*a}

^a CAS Key Laboratory of Synthetic Biology, CAS Center for Excellence in Molecular Plant Sciences, Institute of Plant Physiology and Ecology, Shanghai Institutes for Biological Sciences, Chinese Academy of Sciences, Shanghai 200032, China

^b University of Chinese Academy of Sciences, Beijing 100039, China

^c Department of Chemistry, East China University of Science and Technology, Shanghai 200001, China

^d Institute for Nutritional Sciences, Shanghai Institutes for Biological Sciences, Chinese Academy of Sciences, Shanghai 200032, China

* Corresponding author

Prof. Youli Xiao

CAS Key Laboratory of Synthetic Biology, CAS Center for Excellence in Molecular Plant Sciences, Institute of Plant Physiology and Ecology, Shanghai Institutes for Biological Sciences, Chinese Academy of Sciences, Shanghai 200032, China

Phone: 86-21-54924226

ylxiao@sibs.ac.cn

Table of Contents

1. Supplementary Tables

Table S1. Quantitative **IA-yne** profiling of HeLa proteomes with celastrol pretreatment.

Table S2. Competitive proteomic results of previously reported celastrol targets.

2. Supplementary Figures

Figure S1. Low concentrations (less than 1.0 mM) of iodoacetamide (**IA**) and **IA-yne** did not effect on celastrol-proteins interaction.

Figure S2. Proliferation inhibitory effect of celastrol towards HEK293T, MDCK and HUVEC cell lines.

Figure S3. Gene Ontology (GO) PANTHER bioinformatics analysis of (A) cellular component; (B) molecular function; (C) protein class; (D) pathways of 66 celastrol targets.

Figure S4. Full coomassie blue stained gel imaging of (A) **Figure 2A**; (B) **Figure 2B**; (C) **Figure 2F**.

1. Supplementary Tables

Table S1. Quantitative IA-yne profiling of HeLa proteomes with celastrol pretreatment.

Accession	Description	Coverage	PSMs	Unique Peptides	TMT <i>in vitro</i>	TMT <i>in situ</i>
Q9H9A6	Leucine-rich repeat-containing protein 40 OS=Homo sapiens GN=LRRRC40 PE=1 SV=1	6.31	2	2	0.08	0.36
O75533	Splicing factor 3B subunit 1 OS=Homo sapiens GN=SF3B1 PE=1 SV=3	2.61	2	2	0.12	0.38
Q93008	Probable ubiquitin carboxyl-terminal hydrolase FAF-X OS=Homo sapiens GN=USP9X PE=1 SV=3	1.95	4	4	0.12	0.69
Q9NV11	Fanconi anemia group I protein OS=Homo sapiens GN=FANCI PE=1 SV=4	3.01	3	3	0.13	0.36
O75643	U5 small nuclear ribonucleoprotein 200 kDa helicase OS=Homo sapiens GN=SNRNP200 PE=1 SV=2	2.25	3	3	0.13	0.64
Q96P70	Importin-9 OS=Homo sapiens GN=IPO9 PE=1 SV=3	5.19	6	3	0.13	0.86
Q5T4S7	E3 ubiquitin-protein ligase UBR4 OS=Homo sapiens GN=UBR4 PE=1 SV=1	4.48	18	15	0.15	0.68
P02730	Band 3 anion transport protein OS=Homo sapiens GN=SLC4A1 PE=1 SV=3	1.98	2	2	0.15	0.47
P30085	UMP-CMP kinase OS=Homo sapiens GN=CMPK1 PE=1 SV=3	8.67	2	1	0.17	0.43
Q9UHD1	Cysteine and histidine-rich domain-containing protein 1 OS=Homo sapiens GN=CHORDC1 PE=1 SV=2	36.75	7	7	0.17	0.36
Q9UL46	Proteasome activator complex subunit 2 OS=Homo sapiens GN=PSME2 PE=1 SV=4	34.73	10	5	0.17	0.38
P35998	26S protease regulatory subunit 7 OS=Homo sapiens GN=PSMC2 PE=1 SV=3	18.71	6	6	0.17	0.71
P38117	Electron transfer flavoprotein subunit beta OS=Homo sapiens GN=ETFB PE=1 SV=3	8.63	2	2	0.17	0.99
Q9UNM6	26S proteasome non-ATPase regulatory subunit 13 OS=Homo sapiens GN=PSMD13 PE=1 SV=2	3.99	2	1	0.18	0.46
Q7Z6Z7	E3 ubiquitin-protein ligase HUWE1 OS=Homo sapiens GN=HUWE1 PE=1 SV=3	9.60	30	27	0.18	0.67
Q7L2H7	Eukaryotic translation initiation factor 3 subunit M OS=Homo sapiens GN=EIF3M PE=1 SV=1	6.95	2	2	0.18	0.82
P32929	Cystathionine gamma-lyase OS=Homo sapiens GN=CTH PE=1 SV=3	10.37	3	3	0.18	0.73
Q9H2U2	Inorganic pyrophosphatase 2, mitochondrial OS=Homo sapiens GN=PPA2 PE=1 SV=2	6.59	2	1	0.19	0.95
O43747	AP-1 complex subunit gamma-1 OS=Homo sapiens GN=AP1G1 PE=1 SV=5	5.47	3	3	0.19	0.86
Q10567	AP-1 complex subunit beta-1 OS=Homo sapiens GN=AP1B1 PE=1 SV=2	15.91	12	4	0.20	0.77
P33176	Kinesin-1 heavy chain OS=Homo sapiens GN=KIF5B PE=1 SV=1	2.60	2	2	0.20	0.65
Q5VYK3	Proteasome-associated protein ECM29 homolog OS=Homo sapiens GN=ECM29 PE=1 SV=2	9.32	16	14	0.20	0.66
A0AVT1	Ubiquitin-like modifier-activating enzyme 6 OS=Homo sapiens GN=UBA6 PE=1 SV=1	3.23	3	3	0.22	0.51
P39023	60S ribosomal protein L3 OS=Homo sapiens GN=RPL3 PE=1 SV=2	14.89	9	7	0.22	0.88
Q9NSE4	Isoleucine--tRNA ligase, mitochondrial OS=Homo sapiens GN=IARS2 PE=1 SV=2	3.66	3	3	0.25	0.78
P52701	DNA mismatch repair protein Msh6 OS=Homo sapiens GN=MSH6 PE=1 SV=2	3.82	4	4	0.25	0.48
O43592	Exportin-T OS=Homo sapiens GN=XPOT PE=1 SV=2	10.81	8	7	0.25	0.71
P07237	Protein disulfide-isomerase OS=Homo sapiens GN=P4HB PE=1 SV=3	22.05	8	8	0.25	0.57
Q13200	26S proteasome non-ATPase regulatory subunit 2 OS=Homo sapiens GN=PSMD2 PE=1 SV=3	24.89	22	15	0.26	0.69
P61981	14-3-3 protein gamma OS=Homo sapiens GN=YWHAG PE=1 SV=2	19.84	7	3	0.27	0.92
O60763	General vesicular transport factor p115 OS=Homo sapiens GN=USO1 PE=1 SV=2	9.67	6	6	0.27	0.36
P10809	60 kDa heat shock protein, mitochondrial OS=Homo sapiens GN=HSPD1 PE=1 SV=2	71.38	79	33	0.27	0.68
O43776	Asparagine--tRNA ligase, cytoplasmic OS=Homo sapiens GN=NARS PE=1 SV=1	8.21	3	3	0.27	0.75
P10599	Thioredoxin OS=Homo sapiens GN=TXN PE=1 SV=3	65.71	15	7	0.27	0.71
Q08211	ATP-dependent RNA helicase A OS=Homo sapiens GN=DHX9 PE=1 SV=4	3.15	3	3	0.29	0.55
P60228	Eukaryotic translation initiation factor 3 subunit E OS=Homo sapiens GN=EIF3E PE=1 SV=1	5.39	2	2	0.29	0.66
P53985	Monocarboxylate transporter 1 OS=Homo sapiens GN=SLC16A1 PE=1 SV=3	13.20	5	5	0.29	0.67
Q9Y262	Eukaryotic translation initiation factor 3 subunit L OS=Homo sapiens GN=EIF3L PE=1 SV=1	5.14	2	2	0.29	0.71

Q9H3U1	Protein unc-45 homolog A OS=Homo sapiens GN=UNC45A PE=1 SV=1	4.98	3	3	0.30	0.22
P49189	4-trimethylaminobutyraldehyde dehydrogenase OS=Homo sapiens GN=ALDH9A1 PE=1 SV=3	15.59	5	5	0.30	0.51
P30101	Protein disulfide-isomerase A3 OS=Homo sapiens GN=PDIA3 PE=1 SV=4	22.77	12	10	0.31	0.63
Q92973	Transportin-1 OS=Homo sapiens GN=TNPO1 PE=1 SV=2	35.97	30	19	0.31	1.01
P15121	Aldose reductase OS=Homo sapiens GN=AKR1B1 PE=1 SV=3	56.01	25	11	0.33	0.73
Q15084	Protein disulfide-isomerase A6 OS=Homo sapiens GN=PDIA6 PE=1 SV=1	12.95	4	4	0.33	0.64
P00390	Glutathione reductase, mitochondrial OS=Homo sapiens GN=GSR PE=1 SV=2	5.75	2	2	0.33	0.62
O15355	Protein phosphatase 1G OS=Homo sapiens GN=PPM1G PE=1 SV=1	7.69	3	3	0.33	0.45
P46940	Ras GTPase-activating-like protein IQGAP1 OS=Homo sapiens GN=IQGAP1 PE=1 SV=1	17.86	23	19	0.33	0.63
P68036	Ubiquitin-conjugating enzyme E2 L3 OS=Homo sapiens GN=UBE2L3 PE=1 SV=1	28.57	4	3	0.33	0.91
Q9Y570	Protein phosphatase methylesterase 1 OS=Homo sapiens GN=PPME1 PE=1 SV=3	5.18	2	2	0.33	0.66
Q9BPX3	Condensin complex subunit 3 OS=Homo sapiens GN=NCAPG PE=1 SV=1	2.56	2	2	0.33	0.67
P49915	GMP synthase [glutamine-hydrolyzing] OS=Homo sapiens GN=GMPs PE=1 SV=1	18.33	11	10	0.33	0.70
Q05639	Elongation factor 1-alpha 2 OS=Homo sapiens GN=EEF1A2 PE=1 SV=1	35.85	30	2	0.34	0.68
P42704	Leucine-rich PPR motif-containing protein, mitochondrial OS=Homo sapiens GN=LRPPRC PE=1 SV=3	40.46	60	41	0.35	0.72
P26640	Valine--tRNA ligase OS=Homo sapiens GN=VARs PE=1 SV=4	26.74	29	23	0.36	0.64
Q00610	Clathrin heavy chain 1 OS=Homo sapiens GN=CLTC PE=1 SV=5	38.51	72	43	0.36	0.96
O43143	Pre-mRNA-splicing factor ATP-dependent RNA helicase DHX15 OS=Homo sapiens GN=DHX15 PE=1 SV=2	9.18	6	5	0.36	0.69
P07741	Adenine phosphoribosyltransferase OS=Homo sapiens GN=APRT PE=1 SV=2	18.33	2	2	0.36	0.70
Q04917	14-3-3 protein eta OS=Homo sapiens GN=YWHAH PE=1 SV=4	18.29	6	2	0.36	0.98
P13804	Electron transfer flavoprotein subunit alpha, mitochondrial OS=Homo sapiens GN=ETFA PE=1 SV=1	8.71	2	2	0.36	0.75
P68104	Elongation factor 1-alpha 1 OS=Homo sapiens GN=EEF1A1 PE=1 SV=1	65.80	67	12	0.37	0.62
Q16543	Hsp90 co-chaperone Cdc37 OS=Homo sapiens GN=CDC37 PE=1 SV=1	5.56	5	2	0.37	0.59
Q14974	Importin subunit beta-1 OS=Homo sapiens GN=KPNB1 PE=1 SV=2	25.11	21	17	0.38	0.36
Q15008	26S proteasome non-ATPase regulatory subunit 6 OS=Homo sapiens GN=PSMD6 PE=1 SV=1	12.85	4	4	0.38	0.48
P00338	L-lactate dehydrogenase A chain OS=Homo sapiens GN=LDHA PE=1 SV=2	64.76	70	20	0.38	0.64
P13639	Elongation factor 2 OS=Homo sapiens GN=EEF2 PE=1 SV=4	62.24	93	42	0.39	0.78
P78347	General transcription factor II-1 OS=Homo sapiens GN=GTF2I PE=1 SV=2	4.51	2	2	0.39	0.38
O95757	Heat shock 70 kDa protein 4L OS=Homo sapiens GN=HSPA4L PE=1 SV=3	8.10	7	1	0.39	0.71
P53618	Coatmer subunit beta OS=Homo sapiens GN=COPB1 PE=1 SV=3	23.92	26	16	0.39	0.84
P05388	60S acidic ribosomal protein P0 OS=Homo sapiens GN=RPLP0 PE=1 SV=1	34.07	11	9	0.39	0.49
Q9UBB4	Ataxin-10 OS=Homo sapiens GN=ATXN10 PE=1 SV=1	5.68	3	2	0.40	1.01
Q14204	Cytoplasmic dynein 1 heavy chain 1 OS=Homo sapiens GN=DYNC1H1 PE=1 SV=5	24.77	104	83	0.40	0.99
P00492	Hypoxanthine-guanine phosphoribosyltransferase OS=Homo sapiens GN=HPRT1 PE=1 SV=2	10.55	2	2	0.42	0.92
P07355	Annexin A2 OS=Homo sapiens GN=ANXA2 PE=1 SV=2	62.54	45	22	0.42	0.72
Q92616	eIF-2-alpha kinase activator GCN1 OS=Homo sapiens GN=GCN1 PE=1 SV=6	26.62	67	55	0.43	0.60
P04406	Glyceraldehyde-3-phosphate dehydrogenase OS=Homo sapiens GN=GAPDH PE=1 SV=3	58.81	47	18	0.43	1.13
P62829	60S ribosomal protein L23 OS=Homo sapiens GN=RPL23 PE=1 SV=1	37.14	4	4	0.44	0.86
P00558	Phosphoglycerate kinase 1 OS=Homo sapiens GN=PGK1 PE=1 SV=3	58.51	32	19	0.44	0.68
P78417	Glutathione S-transferase omega-1 OS=Homo sapiens GN=GSTO1 PE=1 SV=2 - [GSTO1_HUMAN]	56.44	11	3	0.44	0.69
P23921	Ribonucleoside-diphosphate reductase large subunit OS=Homo sapiens GN=RRM1 PE=1 SV=1	19.82	13	11	0.44	0.70
P63151	Serine/threonine-protein phosphatase 2A 55 kDa regulatory subunit B OS=Homo sapiens GN=PPP2R2A PE=1 SV=1	16.55	9	6	0.44	0.70
Q16881	Thioredoxin reductase 1, cytoplasmic OS=Homo sapiens GN=TXNRD1 PE=1 SV=3	16.49	8	6	0.44	0.71

P60903	Protein S100-A10 OS=Homo sapiens GN=S100A10 PE=1 SV=2	17.53	4	1	0.44	0.87
P14618	Pyruvate kinase PKM OS=Homo sapiens GN=PKM PE=1 SV=4	65.73	71	31	0.46	0.73
O95373	Importin-7 OS=Homo sapiens GN=IPO7 PE=1 SV=1	30.25	38	22	0.47	0.83
P08559	Pyruvate dehydrogenase E1 component subunit alpha, mitochondrial OS=Homo sapiens GN=PDHA1 PE=1 SV=3	13.59	4	4	0.47	0.65
P05023	Sodium/potassium-transporting ATPase subunit alpha-1 OS=Homo sapiens GN=ATP1A1 PE=1 SV=1	33.82	36	26	0.47	0.65
P60842	Eukaryotic initiation factor 4A-1 OS=Homo sapiens GN=EIF4A1 PE=1 SV=1	21.92	9	6	0.47	0.92
Q99460	26S proteasome non-ATPase regulatory subunit 1 OS=Homo sapiens GN=PSMD1 PE=1 SV=2	8.08	6	5	0.48	0.66
Q99714	3-hydroxyacyl-CoA dehydrogenase type-2 OS=Homo sapiens GN=HSD17B10 PE=1 SV=3	41.76	12	7	0.48	1.05
Q16576	Histone-binding protein RBBP7 OS=Homo sapiens GN=RBBP7 PE=1 SV=1	19.53	6	6	0.48	0.93
Q9Y277	Voltage-dependent anion-selective channel protein 3 OS=Homo sapiens GN=VDAC3 PE=1 SV=1	21.91	6	4	0.48	1.03
P45974	Ubiquitin carboxyl-terminal hydrolase 5 OS=Homo sapiens GN=USP5 PE=1 SV=2	20.05	18	12	0.49	1.09
P13667	Protein disulfide-isomerase A4 OS=Homo sapiens GN=PDIA4 PE=1 SV=2	3.10	2	2	0.49	0.76
Q13889	General transcription factor IIIH subunit 3 OS=Homo sapiens GN=GTF2H3 PE=1 SV=2	10.06	3	1	0.50	0.58
O14980	Exportin-1 OS=Homo sapiens GN=XPO1 PE=1 SV=1	28.57	38	24	0.52	0.66
P02765	Alpha-2-HS-glycoprotein OS=Homo sapiens GN=AHSG PE=1 SV=1	3.54	3	2	0.52	0.66
P62258	14-3-3 protein epsilon OS=Homo sapiens GN=YWHAE PE=1 SV=1	24.31	7	4	0.55	0.85
P30048	Thioredoxin-dependent peroxide reductase, mitochondrial OS=Homo sapiens GN=PRDX3 PE=1 SV=3	20.31	6	4	0.55	1.14
P56192	Methionine--tRNA ligase, cytoplasmic OS=Homo sapiens GN=MARS PE=1 SV=2	20.56	17	12	0.57	0.69
O43169	Cytochrome b5 type B OS=Homo sapiens GN=CYB5B PE=1 SV=2	10.96	3	2	0.57	0.99
Q13428	Treacle protein OS=Homo sapiens GN=TCOF1 PE=1 SV=3	2.02	3	3	0.58	0.95
P49327	Fatty acid synthase OS=Homo sapiens GN=FASN PE=1 SV=3	39.43	119	73	0.60	0.87
O95881	Thioredoxin domain-containing protein 12 OS=Homo sapiens GN=TXNDC12 PE=1 SV=1	8.72	3	1	0.60	0.89
P32969	60S ribosomal protein L9 OS=Homo sapiens GN=RPL9 PE=1 SV=1	31.25	5	3	0.60	0.95
Q9BUF5	Tubulin beta-6 chain OS=Homo sapiens GN=TUBB6 PE=1 SV=1	22.20	30	3	0.61	0.83
P07814	Bifunctional glutamate/proline--tRNA ligase OS=Homo sapiens GN=EPRS PE=1 SV=5	32.80	46	36	0.62	0.88
Q7L1Q6	Basic leucine zipper and W2 domain-containing protein 1 OS=Homo sapiens GN=BZW1 PE=1 SV=1	21.00	6	5	0.63	0.87
Q9Y6C9	Mitochondrial carrier homolog 2 OS=Homo sapiens GN=MTCH2 PE=1 SV=1	7.59	2	2	0.63	0.96
Q9Y3U8	60S ribosomal protein L36 OS=Homo sapiens GN=RPL36 PE=1 SV=3	21.90	2	2	0.63	0.99
Q9Y490	Talin-1 OS=Homo sapiens GN=TLN1 PE=1 SV=3	14.76	28	23	0.64	1.01
P62851	40S ribosomal protein S25 OS=Homo sapiens GN=RPS25 PE=1 SV=1	15.20	2	2	0.64	0.95
P62753	40S ribosomal protein S6 OS=Homo sapiens GN=RPS6 PE=1 SV=1	13.65	5	3	0.64	0.85
P62826	GTP-binding nuclear protein Ran OS=Homo sapiens GN=RAN PE=1 SV=3	20.83	6	4	0.64	0.88
Q15436	Protein transport protein Sec23A OS=Homo sapiens GN=SEC23A PE=1 SV=2	3.53	2	1	0.64	1.12
Q8WUM4	Programmed cell death 6-interacting protein OS=Homo sapiens GN=PDCCD6IP PE=1 SV=1	12.56	9	8	0.65	0.64
P23528	Cofilin-1 OS=Homo sapiens GN=CFL1 PE=1 SV=3	66.27	13	8	0.65	0.89
Q96FW1	Ubiquitin thioesterase OTUB1 OS=Homo sapiens GN=OTUB1 PE=1 SV=1 - [OTUB1_HUMAN]	53.88	6	5	0.67	0.78
Q9Y2V2	Calcium-regulated heat stable protein 1 OS=Homo sapiens GN=CARHSP1 PE=1 SV=2	10.88	3	1	0.67	0.78
P07437	Tubulin beta chain OS=Homo sapiens GN=TUBB PE=1 SV=2	66.67	87	4	0.68	0.93
P48643	T-complex protein 1 subunit epsilon OS=Homo sapiens GN=CCT5 PE=1 SV=1	53.05	32	18	0.69	0.89
O00571	ATP-dependent RNA helicase DDX3X OS=Homo sapiens GN=DDX3X PE=1 SV=3	5.89	3	3	0.69	0.90
P08195	4F2 cell-surface antigen heavy chain OS=Homo sapiens GN=SLC3A2 PE=1 SV=3	35.40	48	22	0.70	0.84
P25789	Proteasome subunit alpha type-4 OS=Homo sapiens GN=PSMA4 PE=1 SV=1	21.46	3	3	0.70	1.18
P61927	60S ribosomal protein L37 OS=Homo sapiens GN=RPL37 PE=1 SV=2	22.68	4	3	0.70	1.02

P52788	Spermine synthase OS=Homo sapiens GN=SMS PE=1 SV=2	4.37	2	2	0.70	1.05
Q93009	Ubiquitin carboxyl-terminal hydrolase 7 OS=Homo sapiens GN=USP7 PE=1 SV=2	6.17	4	4	0.71	1.05
P30044	Peroxisome oxidoreductin-5, mitochondrial OS=Homo sapiens GN=PRDX5 PE=1 SV=4	10.28	3	2	0.71	1.12
O60841	Eukaryotic translation initiation factor 5B OS=Homo sapiens GN=EIF5B PE=1 SV=4	4.75	3	3	0.71	0.96
Q9BQE3	Tubulin alpha-1C chain OS=Homo sapiens GN=TUBA1C PE=1 SV=1	59.47	66	4	0.71	0.93
P07195	L-lactate dehydrogenase B chain OS=Homo sapiens GN=LDHB PE=1 SV=2	59.88	50	15	0.72	1.24
P34932	Heat shock 70 kDa protein 4 OS=Homo sapiens GN=HSPA4 PE=1 SV=4	42.38	39	23	0.72	1.17
Q02543	60S ribosomal protein L18a OS=Homo sapiens GN=RPL18A PE=1 SV=2	22.16	5	4	0.72	1.08
Q15185	Prostaglandin G/H synthase 3 OS=Homo sapiens GN=PTGES3 PE=1 SV=1	8.13	2	1	0.72	0.90
Q9BWH6	RNA polymerase II-associated protein 1 OS=Homo sapiens GN=RPAP1 PE=1 SV=3	1.01	3	1	0.73	1.44
P62280	40S ribosomal protein S11 OS=Homo sapiens GN=RPS11 PE=1 SV=3	20.89	4	4	0.73	0.85
Q9UBE0	SUMO-activating enzyme subunit 1 OS=Homo sapiens GN=SAE1 PE=1 SV=1	6.94	2	2	0.73	0.94
Q06830	Peroxisome oxidoreductin-1 OS=Homo sapiens GN=PRDX1 PE=1 SV=1	57.79	32	10	0.73	1.28
P63220	40S ribosomal protein S21 OS=Homo sapiens GN=RPS21 PE=1 SV=1	19.28	2	2	0.73	1.13
P50991	T-complex protein 1 subunit delta OS=Homo sapiens GN=CCT4 PE=1 SV=4	43.04	18	14	0.74	0.74
O00232	26S proteasome non-ATPase regulatory subunit 12 OS=Homo sapiens GN=PSMD12 PE=1 SV=3	9.87	5	3	0.74	0.86
P63104	14-3-3 protein zeta/delta OS=Homo sapiens GN=YWHAZ PE=1 SV=1	30.61	10	4	0.74	0.88
Q9HB71	Calcyclin-binding protein OS=Homo sapiens GN=CACYBP PE=1 SV=2	25.44	4	4	0.74	1.01
O76003	Glutaredoxin-3 OS=Homo sapiens GN=GLRX3 PE=1 SV=2	7.46	2	2	0.74	1.03
Q9BTW9	Tubulin-specific chaperone D OS=Homo sapiens GN=TBCD PE=1 SV=2	2.60	2	2	0.75	0.82
P40429	60S ribosomal protein L13a OS=Homo sapiens GN=RPL13A PE=1 SV=2	26.11	9	6	0.75	0.88
P62937	Peptidyl-prolyl cis-trans isomerase A OS=Homo sapiens GN=PPIA PE=1 SV=2	63.64	23	11	0.75	0.91
Q96A23	Copine-4 OS=Homo sapiens GN=CPNE4 PE=1 SV=1	4.31	2	1	0.75	0.96
P54819	Adenylate kinase 2, mitochondrial OS=Homo sapiens GN=AK2 PE=1 SV=2	16.74	4	3	0.75	1.05
Q13155	Aminoacyl tRNA synthase complex-interacting multifunctional protein 2 OS=Homo sapiens GN=AIMP2 PE=1 SV=2	6.88	3	2	0.76	0.81
Q06323	Proteasome activator complex subunit 1 OS=Homo sapiens GN=PSME1 PE=1 SV=1	22.49	4	4	0.76	0.81
Q14258	E3 ubiquitin/ISG15 ligase TRIM25 OS=Homo sapiens GN=TRIM25 PE=1 SV=2	4.13	2	2	0.78	0.89
P08134	Rho-related GTP-binding protein RhoC OS=Homo sapiens GN=RHOA PE=1 SV=1	26.94	4	3	0.78	1.01
B5ME19	Eukaryotic translation initiation factor 3 subunit C-like protein OS=Homo sapiens GN=EIF3CL PE=3 SV=1	2.63	2	2	0.78	1.14
Q6YN16	Hydroxysteroid dehydrogenase-like protein 2 OS=Homo sapiens GN=HSDL2 PE=1 SV=1	6.22	2	2	0.78	1.05
P39019	40S ribosomal protein S19 OS=Homo sapiens GN=RPS19 PE=1 SV=2	11.72	2	2	0.78	1.05
P57088	Transmembrane protein 33 OS=Homo sapiens GN=TMEM33 PE=1 SV=2	8.91	3	2	0.79	0.81
P27824	Calnexin OS=Homo sapiens GN=CANX PE=1 SV=2	22.30	13	10	0.79	0.82
P15531	Nucleoside diphosphate kinase A OS=Homo sapiens GN=NME1 PE=1 SV=1	43.42	8	2	0.79	0.89
P08237	ATP-dependent 6-phosphofructokinase, muscle type OS=Homo sapiens GN=PFKM PE=1 SV=2	9.49	5	4	0.79	0.89
P30041	Peroxisome oxidoreductin-6 OS=Homo sapiens GN=PRDX6 PE=1 SV=3	31.25	6	5	0.79	0.96
P09960	Leukotriene A-4 hydrolase OS=Homo sapiens GN=LTA4H PE=1 SV=2	9.49	6	5	0.79	1.09
Q5TFE4	5'-nucleotidase domain-containing protein 1 OS=Homo sapiens GN=NT5DC1 PE=1 SV=1	16.70	4	4	0.80	0.85
P51858	Hepatoma-derived growth factor OS=Homo sapiens GN=HDGF PE=1 SV=1	11.25	2	2	0.80	0.93
Q9Y2L1	Exosome complex exonuclease RRP44 OS=Homo sapiens GN=DIS3 PE=1 SV=2	6.05	3	3	0.80	1.02
P36952	Serpin B5 OS=Homo sapiens GN=SERPIN5 PE=1 SV=2	21.33	6	6	0.81	0.84
Q15645	Pachytene checkpoint protein 2 homolog OS=Homo sapiens GN=TRIP13 PE=1 SV=2	13.66	5	5	0.81	0.86
P63244	Receptor of activated protein C kinase 1 OS=Homo sapiens GN=RACK1 PE=1 SV=3	61.51	19	14	0.81	0.89

Q7Z3U7	Protein MON2 homolog OS=Homo sapiens GN=MON2 PE=1 SV=3	1.51	2	2	0.81	1.02
Q10471	Polypeptide N-acetylgalactosaminyltransferase 2 OS=Homo sapiens GN=GALNT2 PE=1 SV=1	5.95	4	3	0.81	1.04
P17987	T-complex protein 1 subunit alpha OS=Homo sapiens GN=TCP1 PE=1 SV=1	51.98	26	19	0.82	0.90
P50914	60S ribosomal protein L14 OS=Homo sapiens GN=RPL14 PE=1 SV=4	5.58	2	1	0.82	0.95
P27635	60S ribosomal protein L10 OS=Homo sapiens GN=RPL10 PE=1 SV=4	34.11	8	6	0.82	0.98
P61313	60S ribosomal protein L15 OS=Homo sapiens GN=RPL15 PE=1 SV=2	36.27	12	7	0.82	1.01
P23396	40S ribosomal protein S3 OS=Homo sapiens GN=RPS3 PE=1 SV=2	41.98	9	9	0.82	1.01
O14744	Protein arginine N-methyltransferase 5 OS=Homo sapiens GN=PRMT5 PE=1 SV=4	12.87	4	4	0.82	1.02
P17655	Calpain-2 catalytic subunit OS=Homo sapiens GN=CAPN2 PE=1 SV=6	7.43	4	4	0.82	1.05
O43252	Bifunctional 3'-phosphoadenosine 5'-phosphosulfate synthase 1 OS=Homo sapiens GN=PAPSS1 PE=1 SV=2	10.10	4	4	0.82	1.16
P26599	Polypyrimidine tract-binding protein 1 OS=Homo sapiens GN=PTBP1 PE=1 SV=1	10.73	4	4	0.83	0.82
P68371	Tubulin beta-4B chain OS=Homo sapiens GN=TUBB4B PE=1 SV=1	66.52	80	4	0.83	0.97
P62701	40S ribosomal protein S4, X isoform OS=Homo sapiens GN=RPS4X PE=1 SV=2	18.25	6	5	0.83	0.99
P12236	ADP/ATP translocase 3 OS=Homo sapiens GN=SLC25A6 PE=1 SV=4	37.92	15	3	0.83	1.02
P11310	Medium-chain specific acyl-CoA dehydrogenase, mitochondrial OS=Homo sapiens GN=ACADM PE=1 SV=1	28.50	14	8	0.83	1.03
P01023	Alpha-2-macroglobulin OS=Homo sapiens GN=A2M PE=1 SV=3	2.24	5	3	0.83	1.03
Q9Y371	Endophilin-B1 OS=Homo sapiens GN=SH3GLB1 PE=1 SV=1	6.30	3	2	0.83	1.06
P61247	40S ribosomal protein S3a OS=Homo sapiens GN=RPS3A PE=1 SV=2	31.06	9	8	0.83	1.14
P62736	Actin, aortic smooth muscle OS=Homo sapiens GN=ACTA2 PE=1 SV=1	26.79	39	1	0.83	1.14
P47756	F-actin-capping protein subunit beta OS=Homo sapiens GN=CAPZB PE=1 SV=4	25.99	4	4	0.83	1.17
Q9UGP8	Translocation protein SEC63 homolog OS=Homo sapiens GN=SEC63 PE=1 SV=2	4.21	2	2	0.84	0.96
Q15392	Delta(24)-sterol reductase OS=Homo sapiens GN=DHCR24 PE=1 SV=2	3.49	2	2	0.84	0.96
O60664	Perilipin-3 OS=Homo sapiens GN=PLIN3 PE=1 SV=3	6.22	4	2	0.84	0.98
P14625	Endoplasmic reticulum chaperone protein OS=Homo sapiens GN=HSP90B1 PE=1 SV=1	35.24	30	21	0.84	1.15
P61088	Ubiquitin-conjugating enzyme E2 N OS=Homo sapiens GN=UBE2N PE=1 SV=1	20.39	2	2	0.84	1.02
Q01518	Adenylyl cyclase-associated protein 1 OS=Homo sapiens GN=CAP1 PE=1 SV=5	16.63	7	6	0.84	1.26
P62266	40S ribosomal protein S23 OS=Homo sapiens GN=RPS23 PE=1 SV=3	23.78	4	3	0.85	0.96
P45880	Voltage-dependent anion-selective channel protein 2 OS=Homo sapiens GN=VDAC2 PE=1 SV=2	65.65	38	15	0.85	1.00
Q8TDB8	Solute carrier family 2, facilitated glucose transporter member 14 OS=Homo sapiens GN=SLC2A14 PE=2 SV=1	2.12	2	1	0.85	1.02
Q16851	UTP--glucose-1-phosphate uridylyltransferase OS=Homo sapiens GN=UGP2 PE=1 SV=5	5.12	2	2	0.85	1.07
P52789	Hexokinase-2 OS=Homo sapiens GN=HK2 PE=1 SV=2	8.83	6	6	0.85	1.13
P46063	ATP-dependent DNA helicase Q1 OS=Homo sapiens GN=RECQL PE=1 SV=3	13.56	8	8	0.86	0.87
P37802	Transgelin-2 OS=Homo sapiens GN=TAGLN2 PE=1 SV=3	15.58	4	3	0.86	0.97
Q86VP6	Cullin-associated NEDD8-dissociated protein 1 OS=Homo sapiens GN=CAND1 PE=1 SV=2	32.60	42	32	0.86	0.98
P68366	Tubulin alpha-4A chain OS=Homo sapiens GN=TUBA4A PE=1 SV=1	59.60	61	5	0.86	0.98
P49368	T-complex protein 1 subunit gamma OS=Homo sapiens GN=CCT3 PE=1 SV=4	48.07	29	18	0.86	1.00
P07900	Heat shock protein HSP 90-alpha OS=Homo sapiens GN=HSP90AA1 PE=1 SV=5	46.31	56	18	0.86	1.22
O75390	Citrate synthase, mitochondrial OS=Homo sapiens GN=CS PE=1 SV=2	15.24	6	5	0.86	1.01
O14787	Transportin-2 OS=Homo sapiens GN=TNPO2 PE=1 SV=3	5.91	6	1	0.86	1.02
Q01813	ATP-dependent 6-phosphofructokinase, platelet type OS=Homo sapiens GN=PFKP PE=1 SV=2	8.93	6	5	0.86	1.03
P60709	Actin, cytoplasmic 1 OS=Homo sapiens GN=ACTB PE=1 SV=1	54.13	69	7	0.86	1.04
O60488	Long-chain-fatty-acid--CoA ligase 4 OS=Homo sapiens GN=ACSL4 PE=1 SV=2	7.74	3	3	0.86	1.05
Q9Y310	tRNA-splicing ligase RtcB homolog OS=Homo sapiens GN=RTCB PE=1 SV=1	5.15	2	2	0.87	0.89

Q9BQB6	Vitamin K epoxide reductase complex subunit 1 OS=Homo sapiens GN=VKORC1 PE=1 SV=1	7.98	2	1	0.87	0.95
P13797	Plastin-3 OS=Homo sapiens GN=PLS3 PE=1 SV=4	36.35	29	19	0.87	0.96
P15880	40S ribosomal protein S2 OS=Homo sapiens GN=RPS2 PE=1 SV=2	36.86	12	10	0.87	0.96
P02786	Transferrin receptor protein 1 OS=Homo sapiens GN=TFRC PE=1 SV=2	33.16	29	21	0.87	0.98
P25705	ATP synthase subunit alpha, mitochondrial OS=Homo sapiens GN=ATP5A1 PE=1 SV=1	29.48	14	12	0.87	0.99
P15924	Desmoplakin OS=Homo sapiens GN=DSP PE=1 SV=3	3.10	5	5	0.87	1.01
O14929	Histone acetyltransferase type B catalytic subunit OS=Homo sapiens GN=HAT1 PE=1 SV=1	8.83	3	3	0.87	1.01
P14923	Junction plakoglobin OS=Homo sapiens GN=JUP PE=1 SV=3	3.62	2	2	0.87	0.93
P11177	Pyruvate dehydrogenase E1 component subunit beta, mitochondrial OS=Homo sapiens GN=PDHB PE=1 SV=3	7.52	2	2	0.88	1.16
P60900	Proteasome subunit alpha type-6 OS=Homo sapiens GN=PSMA6 PE=1 SV=1	8.54	2	2	0.88	1.18
P78371	T-complex protein 1 subunit beta OS=Homo sapiens GN=CCT2 PE=1 SV=4	42.24	18	15	0.88	0.91
P53621	Coatamer subunit alpha OS=Homo sapiens GN=COPA PE=1 SV=2	9.97	11	8	0.88	0.93
P36507	Dual specificity mitogen-activated protein kinase kinase 2 OS=Homo sapiens GN=MAP2K2 PE=1 SV=1	5.75	2	2	0.88	0.95
Q16181	Septin-7 OS=Homo sapiens GN=SEPT7 PE=1 SV=2	4.81	3	2	0.88	0.96
Q9BSJ8	Extended synaptotagmin-1 OS=Homo sapiens GN=ESYT1 PE=1 SV=1	3.89	3	3	0.88	0.86
P0CG39	POTE ankyrin domain family member J OS=Homo sapiens GN=POTEJ PE=3 SV=1	5.11	8	1	0.88	0.89
O96008	Mitochondrial import receptor subunit TOM40 homolog OS=Homo sapiens GN=TOMM40 PE=1 SV=1	6.09	2	2	0.88	1.10
P62979	Ubiquitin-40S ribosomal protein S27a OS=Homo sapiens GN=RPS27A PE=1 SV=2	16.03	2	2	0.89	0.98
P42677	40S ribosomal protein S27 OS=Homo sapiens GN=RPS27 PE=1 SV=3	25.00	4	2	0.89	0.98
P46782	40S ribosomal protein S5 OS=Homo sapiens GN=RPS5 PE=1 SV=4	22.06	6	4	0.89	0.98
P20810	Calpastatin OS=Homo sapiens GN=CAST PE=1 SV=4	8.33	4	4	0.89	0.99
Q06210	Glutamine--fructose-6-phosphate aminotransferase [isomerizing] 1 OS=Homo sapiens GN=GFPT1 PE=1 SV=3	25.04	15	12	0.89	1.09
P62913	60S ribosomal protein L11 OS=Homo sapiens GN=RPL11 PE=1 SV=2	19.66	5	4	0.89	1.11
Q00325	Phosphate carrier protein, mitochondrial OS=Homo sapiens GN=SLC25A3 PE=1 SV=2	17.13	7	5	0.89	1.19
P35573	Glycogen debranching enzyme OS=Homo sapiens GN=AGL PE=1 SV=3	4.57	6	6	0.90	1.13
Q02790	Peptidyl-prolyl cis-trans isomerase FKBP4 OS=Homo sapiens GN=FKBP4 PE=1 SV=3	6.75	2	2	0.90	1.26
O00116	Alkylidihydroxyacetonephosphate synthase, peroxisomal OS=Homo sapiens GN=AGPS PE=1 SV=1	5.93	3	2	0.90	1.15
P05386	60S acidic ribosomal protein P1 OS=Homo sapiens GN=RPLP1 PE=1 SV=1	14.04	2	1	0.90	0.96
P51148	Ras-related protein Rab-5C OS=Homo sapiens GN=RAB5C PE=1 SV=2	35.19	6	5	0.90	1.14
Q8TCT9	Minor histocompatibility antigen H13 OS=Homo sapiens GN=HM13 PE=1 SV=1	5.57	2	2	0.90	1.29
P04792	Heat shock protein beta-1 OS=Homo sapiens GN=HSPB1 PE=1 SV=2	49.76	8	7	0.90	1.12
Q9BQG0	Myb-binding protein 1A OS=Homo sapiens GN=MYBBP1A PE=1 SV=2	9.86	11	10	0.90	1.08
Q15365	Poly(rC)-binding protein 1 OS=Homo sapiens GN=PCBP1 PE=1 SV=2	45.22	18	6	0.90	1.08
Q562R1	Beta-actin-like protein 2 OS=Homo sapiens GN=ACTBL2 PE=1 SV=2	15.16	20	1	0.90	1.10
P31939	Bifunctional purine biosynthesis protein PURH OS=Homo sapiens GN=ATIC PE=1 SV=3	13.85	5	5	0.90	1.10
P12268	Inosine-5'-monophosphate dehydrogenase 2 OS=Homo sapiens GN=IMPDH2 PE=1 SV=2	15.18	5	4	0.90	1.11
Q04637	Eukaryotic translation initiation factor 4 gamma 1 OS=Homo sapiens GN=EIF4G1 PE=1 SV=4	8.88	12	11	0.90	1.13
P39748	Flap endonuclease 1 OS=Homo sapiens GN=FEN1 PE=1 SV=1	11.32	3	2	0.90	1.14
Q5JWF2	Guanine nucleotide-binding protein G(s) subunit alpha isoforms XLas OS=Homo sapiens GN=GNAS PE=1 SV=2	3.66	3	1	0.90	1.21
P61163	Alpha-centractin OS=Homo sapiens GN=ACTR1A PE=1 SV=1	17.55	5	4	0.91	1.13
P12277	Creatine kinase B-type OS=Homo sapiens GN=CKB PE=1 SV=1	14.17	7	4	0.91	0.94
Q9UHD8	Septin-9 OS=Homo sapiens GN=SEPT9 PE=1 SV=2	4.78	2	2	0.91	0.97
P26639	Threonine--tRNA ligase, cytoplasmic OS=Homo sapiens GN=TARS PE=1 SV=3	30.71	27	18	0.91	0.99

P26373	60S ribosomal protein L13 OS=Homo sapiens GN=RPL13 PE=1 SV=4	27.96	7	7	0.91	0.99
P08238	Heat shock protein HSP 90-beta OS=Homo sapiens GN=HSP90AB1 PE=1 SV=4	56.63	73	21	0.91	1.26
P18124	60S ribosomal protein L7 OS=Homo sapiens GN=RPL7 PE=1 SV=1	34.68	8	7	0.91	1.02
P22102	Trifunctional purine biosynthetic protein adenosine-3 OS=Homo sapiens GN=GART PE=1 SV=1	18.91	20	15	0.91	1.02
Q8TBC4	NEDD8-activating enzyme E1 catalytic subunit OS=Homo sapiens GN=UBA3 PE=1 SV=2	22.03	6	5	0.91	1.03
P18031	Tyrosine-protein phosphatase non-receptor type 1 OS=Homo sapiens GN=PTPN1 PE=1 SV=1	15.40	7	5	0.91	1.03
O75439	Mitochondrial-processing peptidase subunit beta OS=Homo sapiens GN=PMPCB PE=1 SV=2	7.16	2	2	0.91	1.05
P63167	Dynein light chain 1, cytoplasmic OS=Homo sapiens GN=DYNLL1 PE=1 SV=1	37.08	2	2	0.91	1.06
P31930	Cytochrome b-c1 complex subunit 1, mitochondrial OS=Homo sapiens GN=UQCRC1 PE=1 SV=3	10.63	6	3	0.91	1.07
P26641	Elongation factor 1-gamma OS=Homo sapiens GN=EEF1G PE=1 SV=3	34.10	25	12	0.91	1.09
P16615	Sarcoplasmic/endoplasmic reticulum calcium ATPase 2 OS=Homo sapiens GN=ATP2A2 PE=1 SV=1	22.84	21	18	0.91	1.12
Q15046	Lysine--tRNA ligase OS=Homo sapiens GN=KARS PE=1 SV=3	10.39	4	4	0.91	1.17
P08754	Guanine nucleotide-binding protein G(k) subunit alpha OS=Homo sapiens GN=GNAI3 PE=1 SV=3	22.88	7	5	0.92	0.77
Q96HE7	ERO1-like protein alpha OS=Homo sapiens GN=ERO1A PE=1 SV=2	8.12	4	3	0.92	0.96
O95202	LETM1 and EF-hand domain-containing protein 1, mitochondrial OS=Homo sapiens GN=LETM1 PE=1 SV=1	5.01	2	2	0.92	0.98
Q15021	Condensin complex subunit 1 OS=Homo sapiens GN=NCAPD2 PE=1 SV=3	15.13	14	14	0.92	0.98
Q9Y2H6	Fibronectin type-III domain-containing protein 3A OS=Homo sapiens GN=FNDC3A PE=1 SV=4	2.84	3	3	0.92	0.98
P49589	Cysteine--tRNA ligase, cytoplasmic OS=Homo sapiens GN=CARS PE=1 SV=3	9.76	6	6	0.92	1.00
Q8NF37	Lysophosphatidylcholine acyltransferase 1 OS=Homo sapiens GN=LPCAT1 PE=1 SV=2	8.61	4	4	0.92	1.03
P17812	CTP synthase 1 OS=Homo sapiens GN=CTPS1 PE=1 SV=2	7.45	3	3	0.92	1.07
P43490	Nicotinamide phosphoribosyltransferase OS=Homo sapiens GN=NAMPT PE=1 SV=1	16.70	6	5	0.92	1.09
Q96QK1	Vacuolar protein sorting-associated protein 35 OS=Homo sapiens GN=VPS35 PE=1 SV=2	20.98	14	12	0.92	1.09
P04183	Thymidine kinase, cytosolic OS=Homo sapiens GN=TK1 PE=1 SV=2	7.69	2	1	0.92	1.14
P78527	DNA-dependent protein kinase catalytic subunit OS=Homo sapiens GN=PRKDC PE=1 SV=3	35.97	152	121	0.92	1.17
Q9HAV4	Exportin-5 OS=Homo sapiens GN=XPO5 PE=1 SV=1	17.61	17	16	0.92	1.17
P62879	Guanine nucleotide-binding protein G(I)/G(S)/G(T) subunit beta-2 OS=Homo sapiens GN=GNB2 PE=1 SV=3	18.53	4	4	0.92	1.26
P22392	Nucleoside diphosphate kinase B OS=Homo sapiens GN=NME2 PE=1 SV=1	59.21	9	3	0.92	1.30
P27708	CAD protein OS=Homo sapiens GN=CAD PE=1 SV=3	6.38	11	8	0.93	0.76
P11766	Alcohol dehydrogenase class-3 OS=Homo sapiens GN=ADH5 PE=1 SV=4	20.32	5	4	0.93	0.91
O00410	Importin-5 OS=Homo sapiens GN=IPO5 PE=1 SV=4	39.02	42	30	0.93	1.00
Q13263	Transcription intermediary factor 1-beta OS=Homo sapiens GN=TRIM28 PE=1 SV=5	7.78	7	7	0.93	1.03
Q9NR31	GTP-binding protein SAR1a OS=Homo sapiens GN=SAR1A PE=1 SV=1	17.68	2	2	0.93	1.03
P42285	Superkiller viralicidic activity 2-like 2 OS=Homo sapiens GN=SKIV2L2 PE=1 SV=3	2.02	2	2	0.93	1.06
Q13085	Acetyl-CoA carboxylase 1 OS=Homo sapiens GN=ACACA PE=1 SV=2	8.53	12	12	0.93	1.17
P40261	Nicotinamide N-methyltransferase OS=Homo sapiens GN=NNMT PE=1 SV=1	16.29	2	2	0.93	1.12
P25398	40S ribosomal protein S12 OS=Homo sapiens GN=RPS12 PE=1 SV=3	19.70	2	2	0.93	1.12
Q9P258	Protein RCC2 OS=Homo sapiens GN=RCC2 PE=1 SV=2	22.41	12	10	0.93	1.13
Q687X5	Metalloreductase STEAP4 OS=Homo sapiens GN=STEAP4 PE=1 SV=1	27.89	14	8	0.93	1.14
Q92538	Golgi-specific brefeldin A-resistance guanine nucleotide exchange factor 1 OS=Homo sapiens GN=GBF1 PE=1 SV=2	1.61	2	2	0.93	1.20
P31946	14-3-3 protein beta/alpha OS=Homo sapiens GN=YWHAB PE=1 SV=3	17.89	6	1	0.94	0.93
P13861	cAMP-dependent protein kinase type II-alpha regulatory subunit OS=Homo sapiens GN=PRKAR2A PE=1 SV=2	9.65	3	3	0.94	0.93
Q9Y3F4	Serine-threonine kinase receptor-associated protein OS=Homo sapiens GN=STRAP PE=1 SV=1	14.00	4	4	0.94	0.95
Q9NQ88	Fructose-2,6-bisphosphatase TIGAR OS=Homo sapiens GN=TIGAR PE=1 SV=1	4.07	2	1	0.94	1.26

P41250	Glycine--tRNA ligase OS=Homo sapiens GN=GARS PE=1 SV=3	18.94	12	10	0.94	1.00
Q16658	Fascin OS=Homo sapiens GN=FSCN1 PE=1 SV=3	53.55	25	21	0.94	1.01
P40939	Trifunctional enzyme subunit alpha, mitochondrial OS=Homo sapiens GN=HADHA PE=1 SV=2	16.12	14	8	0.94	1.02
Q92499	ATP-dependent RNA helicase DDX1 OS=Homo sapiens GN=DDX1 PE=1 SV=2	3.65	2	2	0.94	1.06
P31040	Succinate dehydrogenase [ubiquinone] flavoprotein subunit, mitochondrial OS=Homo sapiens GN=SDHA PE=1 SV=2	19.58	9	8	0.94	1.08
P40227	T-complex protein 1 subunit zeta OS=Homo sapiens GN=CCT6A PE=1 SV=3	33.33	18	13	0.94	1.09
O43175	D-3-phosphoglycerate dehydrogenase OS=Homo sapiens GN=PHGDH PE=1 SV=4	41.65	28	17	0.94	1.10
P83881	60S ribosomal protein L36a OS=Homo sapiens GN=RPL36A PE=1 SV=2	16.04	2	2	0.94	1.11
O60502	Protein O-GlcNAcase OS=Homo sapiens GN=MGEA5 PE=1 SV=2	4.48	2	2	0.94	1.17
Q16531	DNA damage-binding protein 1 OS=Homo sapiens GN=DDB1 PE=1 SV=1	10.44	12	12	0.94	1.18
P42765	3-ketoacyl-CoA thiolase, mitochondrial OS=Homo sapiens GN=ACAA2 PE=1 SV=2	28.97	6	6	0.94	1.15
O95292	Vesicle-associated membrane protein-associated protein B/C OS=Homo sapiens GN=VAPB PE=1 SV=3	18.11	4	2	0.95	0.97
P49748	Very long-chain specific acyl-CoA dehydrogenase, mitochondrial OS=Homo sapiens GN=ACADVL PE=1 SV=1	30.08	16	14	0.95	1.03
O75628	GTP-binding protein REM 1 OS=Homo sapiens GN=REM1 PE=1 SV=2	3.69	2	1	0.95	1.06
P49588	Alanine--tRNA ligase, cytoplasmic OS=Homo sapiens GN=AARS PE=1 SV=2	41.01	34	28	0.95	1.09
Q9BXJ9	N-alpha-acetyltransferase 15, NatA auxiliary subunit OS=Homo sapiens GN=NAA15 PE=1 SV=1	6.93	7	6	0.95	1.13
O60701	UDP-glucose 6-dehydrogenase OS=Homo sapiens GN=UGDH PE=1 SV=1	9.72	3	3	0.95	1.14
Q15181	Inorganic pyrophosphatase OS=Homo sapiens GN=PPA1 PE=1 SV=2	38.41	9	6	0.95	1.14
P02768	Serum albumin OS=Homo sapiens GN=ALB PE=1 SV=2	7.06	12	4	0.95	1.27
Q9UIA9	Exportin-7 OS=Homo sapiens GN=XPO7 PE=1 SV=3	2.30	2	2	0.95	1.27
A5YKK6	CCR4-NOT transcription complex subunit 1 OS=Homo sapiens GN=CNOT1 PE=1 SV=2	0.84	2	2	0.95	0.85
Q9NTK5	Obg-like ATPase 1 OS=Homo sapiens GN=OLA1 PE=1 SV=2	8.84	3	3	0.96	0.81
Q9H2G2	STE20-like serine/threonine-protein kinase OS=Homo sapiens GN=SLK PE=1 SV=1	1.78	2	2	0.96	0.87
Q96N66	Lysophospholipid acyltransferase 7 OS=Homo sapiens GN=MBOAT7 PE=1 SV=2	7.20	2	2	0.96	0.91
Q92896	Golgi apparatus protein 1 OS=Homo sapiens GN=GLG1 PE=1 SV=2	6.62	5	5	0.96	0.92
P43246	DNA mismatch repair protein Msh2 OS=Homo sapiens GN=MSH2 PE=1 SV=1	8.46	8	6	0.96	0.93
Q07020	60S ribosomal protein L18 OS=Homo sapiens GN=RPL18 PE=1 SV=2	32.45	7	5	0.96	0.99
P22061	Protein-L-isoaspartate(D-aspartate) O-methyltransferase OS=Homo sapiens GN=PCMT1 PE=1 SV=4	15.86	4	2	0.96	1.03
P29401	Transketolase OS=Homo sapiens GN=TKT PE=1 SV=3	42.70	30	17	0.96	1.03
P50416	Carnitine O-palmitoyltransferase 1, liver isoform OS=Homo sapiens GN=CPT1A PE=1 SV=2	7.50	4	4	0.96	1.06
Q96QD8	Sodium-coupled neutral amino acid transporter 2 OS=Homo sapiens GN=SLC38A2 PE=1 SV=2	4.15	3	1	0.96	1.06
Q9P2J5	Leucine--tRNA ligase, cytoplasmic OS=Homo sapiens GN=LARS PE=1 SV=2	15.22	12	12	0.96	1.08
P46777	60S ribosomal protein L5 OS=Homo sapiens GN=RPL5 PE=1 SV=3	17.51	4	4	0.96	1.08
P13489	Ribonuclease inhibitor OS=Homo sapiens GN=RNHI PE=1 SV=2	17.79	8	7	0.96	1.17
P20020	Plasma membrane calcium-transporting ATPase 1 OS=Homo sapiens GN=ATP2B1 PE=1 SV=3	3.34	3	1	0.96	1.23
Q13838	Spliceosome RNA helicase DDX39B OS=Homo sapiens GN=DDX39B PE=1 SV=1	7.48	3	3	0.96	1.04
Q96HN2	Adenosylhomocysteinase 3 OS=Homo sapiens GN=AHCYL2 PE=1 SV=1	5.40	3	3	0.97	0.84
Q96TA1	Niban-like protein 1 OS=Homo sapiens GN=FAM129B PE=1 SV=3	10.46	7	7	0.97	0.86
O75534	Cold shock domain-containing protein E1 OS=Homo sapiens GN=CSDE1 PE=1 SV=2	7.14	4	4	0.97	0.86
P11142	Heat shock cognate 71 kDa protein OS=Homo sapiens GN=HSPA8 PE=1 SV=1	38.39	26	17	0.97	0.89
P49411	Elongation factor Tu, mitochondrial OS=Homo sapiens GN=TUFM PE=1 SV=2	32.74	11	11	0.97	0.92
Q02218	2-oxoglutarate dehydrogenase, mitochondrial OS=Homo sapiens GN=OGDH PE=1 SV=3	2.54	2	2	0.97	0.92
P35237	Serpin B6 OS=Homo sapiens GN=SERPIN6 PE=1 SV=3	30.59	9	8	0.97	0.92

P61224	Ras-related protein Rap-1b OS=Homo sapiens GN=RAP1B PE=1 SV=1	24.46	3	3	0.97	0.96
O75131	Copine-3 OS=Homo sapiens GN=CPNE3 PE=1 SV=1	7.26	3	2	0.97	1.00
P35580	Myosin-10 OS=Homo sapiens GN=MYH10 PE=1 SV=3	7.44	15	1	0.97	1.04
P55809	Succinyl-CoA:3-ketoacid coenzyme A transferase 1, mitochondrial OS=Homo sapiens GN=OXCT1 PE=1 SV=1	18.65	6	6	0.97	1.03
Q96KB5	Lymphokine-activated killer T-cell-originated protein kinase OS=Homo sapiens GN=PBK PE=1 SV=3	6.83	3	2	0.97	0.87
Q9P035	Very-long-chain (3R)-3-hydroxyacyl-CoA dehydratase 3 OS=Homo sapiens GN=HACD3 PE=1 SV=2	5.25	2	2	0.98	0.78
P16070	CD44 antigen OS=Homo sapiens GN=CD44 PE=1 SV=3	8.49	11	6	0.98	0.83
Q00341	Vigilin OS=Homo sapiens GN=HDLBP PE=1 SV=2	4.50	3	3	0.98	0.85
Q02878	60S ribosomal protein L6 OS=Homo sapiens GN=RPL6 PE=1 SV=3	43.75	15	12	0.98	1.15
Q8TEX9	Importin-4 OS=Homo sapiens GN=IPO4 PE=1 SV=2	2.04	2	2	0.98	1.08
Q9H9B4	Sideroflexin-1 OS=Homo sapiens GN=SFXN1 PE=1 SV=4	7.76	2	2	0.98	1.28
P0DMV9	Heat shock 70 kDa protein 1B OS=Homo sapiens GN=HSPA1B PE=1 SV=1	29.17	16	9	0.98	1.34
P15170	Eukaryotic peptide chain release factor GTP-binding subunit ERF3A OS=Homo sapiens GN=GSPT1 PE=1 SV=1	22.04	10	8	0.98	0.90
Q92598	Heat shock protein 105 kDa OS=Homo sapiens GN=HSPH1 PE=1 SV=1	35.20	27	19	0.98	0.94
P30520	Adenylosuccinate synthetase isozyme 2 OS=Homo sapiens GN=ADSS PE=1 SV=3	14.47	4	4	0.98	0.97
Q9ULV4	Coronin-1C OS=Homo sapiens GN=CORO1C PE=1 SV=1	6.12	3	2	0.98	1.05
P62136	Serine/threonine-protein phosphatase PPI-alpha catalytic subunit OS=Homo sapiens GN=PPP1CA PE=1 SV=1	8.48	2	2	0.98	1.11
Q15067	Peroxisomal acyl-coenzyme A oxidase 1 OS=Homo sapiens GN=ACOX1 PE=1 SV=3	5.91	2	2	0.98	0.85
P55060	Exportin-2 OS=Homo sapiens GN=CSE1L PE=1 SV=3	35.53	36	25	0.99	1.04
O95340	Bifunctional 3'-phosphoadenosine 5'-phosphosulfate synthase 2 OS=Homo sapiens GN=PAPSS2 PE=1 SV=2	18.24	8	8	0.99	1.12
Q9BQ52	Zinc phosphodiesterase ELAC protein 2 OS=Homo sapiens GN=ELAC2 PE=1 SV=2	6.90	4	4	0.99	0.86
Q63HN8	E3 ubiquitin-protein ligase RNF213 OS=Homo sapiens GN=RNF213 PE=1 SV=3	1.06	4	4	0.99	0.87
P13010	X-ray repair cross-complementing protein 5 OS=Homo sapiens GN=XRCC5 PE=1 SV=3	19.81	12	9	0.99	0.87
Q7L576	Cytoplasmic FMR1-interacting protein 1 OS=Homo sapiens GN=CYFIP1 PE=1 SV=1	2.95	3	3	0.99	0.88
P17858	ATP-dependent 6-phosphofructokinase, liver type OS=Homo sapiens GN=PFKL PE=1 SV=6	5.26	3	2	0.99	0.88
Q9Y6E2	Basic leucine zipper and W2 domain-containing protein 2 OS=Homo sapiens GN=BZW2 PE=1 SV=1	15.27	7	5	0.99	0.89
P11021	78 kDa glucose-regulated protein OS=Homo sapiens GN=HSPA5 PE=1 SV=2	24.16	14	11	0.99	1.26
P36578	60S ribosomal protein L4 OS=Homo sapiens GN=RPL4 PE=1 SV=5	30.21	21	13	0.99	0.91
P31947	14-3-3 protein sigma OS=Homo sapiens GN=SFN PE=1 SV=1	20.97	6	2	0.99	0.92
P36871	Phosphoglucomutase-1 OS=Homo sapiens GN=PGM1 PE=1 SV=3	38.26	17	15	0.99	1.03
P21964	Catechol O-methyltransferase OS=Homo sapiens GN=COMT PE=1 SV=2	11.44	2	2	0.99	1.02
P67775	Serine/threonine-protein phosphatase 2A catalytic subunit alpha isoform OS=Homo sapiens GN=PPP2CA PE=1 SV=1	20.39	5	5	0.99	1.09
P60891	Ribose-phosphate pyrophosphokinase 1 OS=Homo sapiens GN=PRPS1 PE=1 SV=2	16.98	4	4	0.99	0.87
Q99798	Aconitate hydratase, mitochondrial OS=Homo sapiens GN=ACO2 PE=1 SV=2	4.10	2	2	0.99	0.95
Q16822	Phosphoenolpyruvate carboxykinase [GTP], mitochondrial OS=Homo sapiens GN=PCK2 PE=1 SV=3	3.13	2	2	0.99	1.05
Q9Y5L0	Transportin-3 OS=Homo sapiens GN=TNPO3 PE=1 SV=3	4.77	4	3	1.00	0.77
Q08J23	tRNA (cytosine(34)-C(5))-methyltransferase OS=Homo sapiens GN=NSUN2 PE=1 SV=2	31.03	19	17	1.00	0.78
Q9NZ01	Very-long-chain enoyl-CoA reductase OS=Homo sapiens GN=TECR PE=1 SV=1	5.52	2	2	1.00	1.15
P47897	Glutamine--tRNA ligase OS=Homo sapiens GN=QARS PE=1 SV=1	4.90	2	2	1.00	1.16
Q99832	T-complex protein 1 subunit eta OS=Homo sapiens GN=CCT7 PE=1 SV=2	53.22	29	21	1.00	0.96
Q9C0B1	Alpha-ketoglutarate-dependent dioxygenase FTO OS=Homo sapiens GN=FTO PE=1 SV=3	13.47	5	5	1.00	0.86
Q07065	Cytoskeleton-associated protein 4 OS=Homo sapiens GN=CKAP4 PE=1 SV=2	5.65	3	3	1.00	0.87
P49207	60S ribosomal protein L34 OS=Homo sapiens GN=RPL34 PE=1 SV=3	35.90	5	5	1.00	0.88

O95671	N-acetylserotonin O-methyltransferase-like protein OS=Homo sapiens GN=ASMTL PE=1 SV=3	3.06	2	2	1.00	0.88
Q09666	Neuroblast differentiation-associated protein AHNAK OS=Homo sapiens GN=AHNAK PE=1 SV=2	4.40	5	4	1.00	0.89
O00159	Unconventional myosin-Ic OS=Homo sapiens GN=MYO1C PE=1 SV=4	8.47	8	6	1.00	0.99
P30153	Serine/threonine-protein phosphatase 2A 65 kDa regulatory subunit A OS=Homo sapiens GN=PPP2R1A PE=1 SV=4	30.56	18	10	1.00	1.12
P55786	Puromycin-sensitive aminopeptidase OS=Homo sapiens GN=NPEPPS PE=1 SV=2	16.32	15	11	1.00	0.92
P11586	C-1-tetrahydrofolate synthase, cytoplasmic OS=Homo sapiens GN=MTHFD1 PE=1 SV=3	12.73	8	8	1.00	0.92
Q96RS6	NudC domain-containing protein 1 OS=Homo sapiens GN=NUDCD1 PE=1 SV=2	5.49	2	2	1.00	0.93
Q9H4A4	Aminopeptidase B OS=Homo sapiens GN=RNPEP PE=1 SV=2	11.08	6	6	1.00	1.15
P84098	60S ribosomal protein L19 OS=Homo sapiens GN=RPL19 PE=1 SV=1	22.45	9	5	1.00	0.95
Q92945	Far upstream element-binding protein 2 OS=Homo sapiens GN=KHSRP PE=1 SV=4	20.82	11	10	1.00	0.97
P54886	Delta-1-pyrroline-5-carboxylate synthase OS=Homo sapiens GN=ALDH18A1 PE=1 SV=2	5.66	4	4	1.00	1.08
P26038	Moesin OS=Homo sapiens GN=MSN PE=1 SV=3	8.67	5	4	1.00	1.24
O14880	Microsomal glutathione S-transferase 3 OS=Homo sapiens GN=MGST3 PE=1 SV=1	38.82	5	4	1.00	1.18
Q14203	Dynactin subunit 1 OS=Homo sapiens GN=DCTN1 PE=1 SV=3	2.90	3	3	1.00	1.12
P62906	60S ribosomal protein L10a OS=Homo sapiens GN=RPL10A PE=1 SV=2	17.05	3	3	1.00	0.84
P18669	Phosphoglycerate mutase 1 OS=Homo sapiens GN=PGAM1 PE=1 SV=2	8.27	3	2	1.00	0.62
Q14566	DNA replication licensing factor MCM6 OS=Homo sapiens GN=MCM6 PE=1 SV=1	2.68	2	2	1.00	1.10
Q16222	UDP-N-acetylhexosamine pyrophosphorylase OS=Homo sapiens GN=UAP1 PE=1 SV=3	5.36	2	2	1.00	0.91
P31949	Protein S100-A11 OS=Homo sapiens GN=S100A11 PE=1 SV=2	34.29	3	3	1.01	0.77
P31327	Carbamoyl-phosphate synthase [ammonia], mitochondrial OS=Homo sapiens GN=CPS1 PE=1 SV=2	33.53	56	37	1.01	0.80
P41252	Isoleucine--tRNA ligase, cytoplasmic OS=Homo sapiens GN=IARS PE=1 SV=2	13.31	14	12	1.01	0.87
Q9P289	Serine/threonine-protein kinase 26 OS=Homo sapiens GN=STK26 PE=1 SV=2	6.97	2	2	1.01	0.88
Q8NC51	Plasminogen activator inhibitor 1 RNA-binding protein OS=Homo sapiens GN=SERBP1 PE=1 SV=2	13.73	5	4	1.01	0.88
P50990	T-complex protein 1 subunit theta OS=Homo sapiens GN=CCT8 PE=1 SV=4	46.17	31	24	1.01	0.89
O60610	Protein diaphanous homolog 1 OS=Homo sapiens GN=DIAPH1 PE=1 SV=2	4.32	4	4	1.01	0.90
Q16719	Kynureninase OS=Homo sapiens GN=KYNU PE=1 SV=1	17.20	6	6	1.01	0.91
P62917	60S ribosomal protein L8 OS=Homo sapiens GN=RPL8 PE=1 SV=2	18.29	3	3	1.01	0.91
P27797	Calreticulin OS=Homo sapiens GN=CALR PE=1 SV=1	17.51	5	5	1.01	0.91
P46977	Dolichyl-diphosphooligosaccharide--protein glycosyltransferase STT3A OS=Homo sapiens GN=STT3A PE=1 SV=2	6.24	3	3	1.01	0.92
P52888	Thimet oligopeptidase OS=Homo sapiens GN=THOP1 PE=1 SV=2	3.63	2	2	1.01	0.92
P35606	Coatomer subunit beta' OS=Homo sapiens GN=COPB2 PE=1 SV=2	6.18	4	4	1.01	0.98
P32119	Peroxiredoxin-2 OS=Homo sapiens GN=PRDX2 PE=1 SV=5	44.95	9	5	1.01	1.44
O75874	Isocitrate dehydrogenase [NADP] cytoplasmic OS=Homo sapiens GN=IDH1 PE=1 SV=2	22.95	9	8	1.01	1.01
Q9Y617	Phosphoserine aminotransferase OS=Homo sapiens GN=PSAT1 PE=1 SV=2	8.11	3	3	1.01	1.08
Q9NYU2	UDP-glucose:glycoprotein glucosyltransferase 1 OS=Homo sapiens GN=UGGT1 PE=1 SV=3	2.57	3	2	1.01	0.89
Q16186	Proteasomal ubiquitin receptor ADRM1 OS=Homo sapiens GN=ADRM1 PE=1 SV=2	2.70	2	1	1.01	1.00
P61978	Heterogeneous nuclear ribonucleoprotein K OS=Homo sapiens GN=HNRNPK PE=1 SV=1	27.43	15	11	1.01	1.12
P20839	Inosine-5'-monophosphate dehydrogenase 1 OS=Homo sapiens GN=IMPDH1 PE=1 SV=2	3.89	2	1	1.01	0.95
Q9UI26	Importin-11 OS=Homo sapiens GN=IPO11 PE=1 SV=1	5.64	3	3	1.01	0.89
P02042	Hemoglobin subunit delta OS=Homo sapiens GN=HBD PE=1 SV=2	6.80	2	1	1.02	0.70
Q15393	Splicing factor 3B subunit 3 OS=Homo sapiens GN=SF3B3 PE=1 SV=4	1.81	2	2	1.02	0.80
Q9Y678	Coatomer subunit gamma-1 OS=Homo sapiens GN=COPG1 PE=1 SV=1	32.95	25	20	1.02	0.84
P50454	Serpin H1 OS=Homo sapiens GN=SERPINH1 PE=1 SV=2	33.97	12	9	1.02	0.85

P04075	Fructose-bisphosphate aldolase A OS=Homo sapiens GN=ALDOA PE=1 SV=2	54.40	32	18	1.02	0.87
P40763	Signal transducer and activator of transcription 3 OS=Homo sapiens GN=STAT3 PE=1 SV=2	14.42	10	8	1.02	0.89
Q13162	Peroxiredoxin-4 OS=Homo sapiens GN=PRDX4 PE=1 SV=1	6.64	3	1	1.02	0.93
P53396	ATP-citrate synthase OS=Homo sapiens GN=ACLY PE=1 SV=3	24.34	28	21	1.02	0.93
P16083	Ribosylidihyronicotinamide dehydrogenase [quinone] OS=Homo sapiens GN=NQO2 PE=1 SV=5	15.58	3	2	1.02	0.94
P51114	Fragile X mental retardation syndrome-related protein 1 OS=Homo sapiens GN=FXR1 PE=1 SV=3	4.35	2	2	1.02	1.21
P15311	Ezrin OS=Homo sapiens GN=EZR PE=1 SV=4	4.10	2	1	1.02	0.98
Q9NZJ7	Mitochondrial carrier homolog 1 OS=Homo sapiens GN=MTCH1 PE=1 SV=1	7.97	2	2	1.02	1.02
Q9Y263	Phospholipase A-2-activating protein OS=Homo sapiens GN=PLAA PE=1 SV=2	6.04	3	3	1.03	0.80
O00429	Dynamin-1-like protein OS=Homo sapiens GN=DNM1L PE=1 SV=2	16.58	6	6	1.03	0.86
Q15165	Serum paraoxonase/arylesterase 2 OS=Homo sapiens GN=PON2 PE=1 SV=3	22.88	3	3	1.03	0.87
P60174	Triosephosphate isomerase OS=Homo sapiens GN=TP11 PE=1 SV=3	53.15	14	10	1.03	0.91
P35232	Prohibitin OS=Homo sapiens GN=PHB PE=1 SV=1	11.76	3	2	1.03	1.03
P61158	Actin-related protein 3 OS=Homo sapiens GN=ACTR3 PE=1 SV=3	26.79	10	8	1.03	0.93
P30050	60S ribosomal protein L12 OS=Homo sapiens GN=RPL12 PE=1 SV=1	28.48	6	4	1.03	1.12
P00966	Argininosuccinate synthase OS=Homo sapiens GN=ASS1 PE=1 SV=2	22.09	6	6	1.03	0.91
P63241	Eukaryotic translation initiation factor 5A-1 OS=Homo sapiens GN=EIF5A PE=1 SV=2	51.30	6	5	1.03	1.12
P08174	Complement decay-accelerating factor OS=Homo sapiens GN=CD55 PE=1 SV=4	9.97	4	4	1.03	0.90
O00764	Pyridoxal kinase OS=Homo sapiens GN=PDXK PE=1 SV=1	17.31	3	3	1.03	1.03
O15372	Eukaryotic translation initiation factor 3 subunit H OS=Homo sapiens GN=EIF3H PE=1 SV=1	9.66	2	2	1.03	0.98
P62244	40S ribosomal protein S15a OS=Homo sapiens GN=RPS15A PE=1 SV=2	23.08	3	3	1.04	0.80
P05141	ADP/ATP translocase 2 OS=Homo sapiens GN=SLC25A5 PE=1 SV=7	29.19	14	2	1.04	0.81
Q86Y56	Dynein assembly factor 5, axonemal OS=Homo sapiens GN=DNAAF5 PE=1 SV=4	4.68	3	3	1.04	0.84
P11498	Pyruvate carboxylase, mitochondrial OS=Homo sapiens GN=PC PE=1 SV=2	17.74	14	13	1.04	0.90
O15067	Phosphoribosylformylglycinamide synthase OS=Homo sapiens GN=PFAS PE=1 SV=4	10.69	12	10	1.04	0.95
Q99615	DnaJ homolog subfamily C member 7 OS=Homo sapiens GN=DNAJC7 PE=1 SV=2	4.66	2	2	1.04	0.96
P12004	Proliferating cell nuclear antigen OS=Homo sapiens GN=PCNA PE=1 SV=1	22.99	5	5	1.04	1.12
Q13011	Delta(3,5)-Delta(2,4)-dienoyl-CoA isomerase, mitochondrial OS=Homo sapiens GN=ECH1 PE=1 SV=2	6.71	2	1	1.04	1.01
P46781	40S ribosomal protein S9 OS=Homo sapiens GN=RPS9 PE=1 SV=3	18.04	4	4	1.05	0.81
P25205	DNA replication licensing factor MCM3 OS=Homo sapiens GN=MCM3 PE=1 SV=3	6.93	5	5	1.05	0.83
Q86X76	Nitrilase homolog 1 OS=Homo sapiens GN=NIT1 PE=1 SV=2	7.95	2	2	1.05	0.83
O60506	Heterogeneous nuclear ribonucleoprotein Q OS=Homo sapiens GN=SYNCRIP PE=1 SV=2	4.01	2	2	1.05	1.19
P21333	Filamin-A OS=Homo sapiens GN=FLNA PE=1 SV=4	40.76	109	74	1.05	1.01
Q15437	Protein transport protein Sec23B OS=Homo sapiens GN=SEC23B PE=1 SV=2	3.52	2	1	1.05	1.14
P09382	Galectin-1 OS=Homo sapiens GN=LGALS1 PE=1 SV=2	26.67	2	2	1.05	1.26
O00299	Chloride intracellular channel protein 1 OS=Homo sapiens GN=CLIC1 PE=1 SV=4	32.78	9	6	1.05	0.98
P25787	Proteasome subunit alpha type-2 OS=Homo sapiens GN=PSMA2 PE=1 SV=2	17.09	3	2	1.05	1.02
Q12931	Heat shock protein 75 kDa, mitochondrial OS=Homo sapiens GN=TRAP1 PE=1 SV=3	11.51	6	3	1.05	1.22
P11940	Polyadenylate-binding protein 1 OS=Homo sapiens GN=PABPC1 PE=1 SV=2	15.88	12	3	1.05	1.10
Q9UBQ5	Eukaryotic translation initiation factor 3 subunit K OS=Homo sapiens GN=EIF3K PE=1 SV=1	14.68	3	3	1.05	0.93
P23526	Adenosylhomocysteinase OS=Homo sapiens GN=AHCY PE=1 SV=4	20.60	8	7	1.06	0.83
O75694	Nuclear pore complex protein Nup155 OS=Homo sapiens GN=NUP155 PE=1 SV=1	4.60	7	4	1.06	0.84
P18621	60S ribosomal protein L17 OS=Homo sapiens GN=RPL17 PE=1 SV=3	36.41	7	7	1.06	0.87

P22234	Multifunctional protein ADE2 OS=Homo sapiens GN=PAICS PE=1 SV=3	38.59	21	13	1.06	0.88
Q15366	Poly(rC)-binding protein 2 OS=Homo sapiens GN=PCBP2 PE=1 SV=1	36.16	14	5	1.06	0.88
Q13310	Polyadenylate-binding protein 4 OS=Homo sapiens GN=PABPC4 PE=1 SV=1	12.73	10	1	1.06	0.89
P23634	Plasma membrane calcium-transporting ATPase 4 OS=Homo sapiens GN=ATP2B4 PE=1 SV=2	3.38	3	1	1.06	0.89
Q99873	Protein arginine N-methyltransferase 1 OS=Homo sapiens GN=PRMT1 PE=1 SV=2	17.73	5	5	1.06	0.90
Q9BTE3	Mini-chromosome maintenance complex-binding protein OS=Homo sapiens GN=MCMBP PE=1 SV=2	4.83	3	3	1.06	0.90
Q7KZF4	Staphylococcal nuclease domain-containing protein 1 OS=Homo sapiens GN=SND1 PE=1 SV=1	9.34	7	7	1.06	0.93
P40926	Malate dehydrogenase, mitochondrial OS=Homo sapiens GN=MDH2 PE=1 SV=3	45.56	15	12	1.06	1.37
Q14152	Eukaryotic translation initiation factor 3 subunit A OS=Homo sapiens GN=EIF3A PE=1 SV=1	6.37	7	7	1.06	1.07
P62191	26S protease regulatory subunit 4 OS=Homo sapiens GN=PSMC1 PE=1 SV=1	10.00	4	3	1.06	0.89
P06744	Glucose-6-phosphate isomerase OS=Homo sapiens GN=GPI PE=1 SV=4	5.38	4	2	1.06	1.12
Q13620	Cullin-4B OS=Homo sapiens GN=CUL4B PE=1 SV=4	5.15	3	3	1.06	1.04
O75915	PRA1 family protein 3 OS=Homo sapiens GN=ARL6IP5 PE=1 SV=1	15.96	2	2	1.06	0.99
Q07866	Kinesin light chain 1 OS=Homo sapiens GN=KLC1 PE=1 SV=2	1.57	2	1	1.06	0.95
Q01650	Large neutral amino acids transporter small subunit 1 OS=Homo sapiens GN=SLC7A5 PE=1 SV=2	12.62	10	5	1.07	0.75
P83731	60S ribosomal protein L24 OS=Homo sapiens GN=RPL24 PE=1 SV=1	19.11	5	4	1.07	0.80
P30154	Serine/threonine-protein phosphatase 2A 65 kDa regulatory subunit A OS=Homo sapiens GN=PPP2R1B PE=1 SV=3	10.48	6	1	1.07	0.84
P62424	60S ribosomal protein L7a OS=Homo sapiens GN=RPL7A PE=1 SV=2	25.19	6	6	1.07	0.87
P62249	40S ribosomal protein S16 OS=Homo sapiens GN=RPS16 PE=1 SV=2	34.25	6	5	1.07	0.89
P05165	Propionyl-CoA carboxylase alpha chain, mitochondrial OS=Homo sapiens GN=PCCA PE=1 SV=4	3.02	2	1	1.07	0.93
Q9Y6D6	Brefeldin A-inhibited guanine nucleotide-exchange protein 1 OS=Homo sapiens GN=ARFGEF1 PE=1 SV=2	1.57	2	2	1.07	1.05
Q14697	Neutral alpha-glucosidase AB OS=Homo sapiens GN=GANAB PE=1 SV=3	14.62	10	10	1.07	1.09
P63010	AP-2 complex subunit beta OS=Homo sapiens GN=AP2B1 PE=1 SV=1	10.14	9	1	1.07	1.26
P16435	NADPH--cytochrome P450 reductase OS=Homo sapiens GN=POR PE=1 SV=2	13.15	8	7	1.07	1.02
P00505	Aspartate aminotransferase, mitochondrial OS=Homo sapiens GN=GOT2 PE=1 SV=3	13.72	5	5	1.07	0.88
P52209	6-phosphogluconate dehydrogenase, decarboxylating OS=Homo sapiens GN=PGD PE=1 SV=3	8.28	3	2	1.07	1.05
Q7L2E3	Putative ATP-dependent RNA helicase DHX30 OS=Homo sapiens GN=DHX30 PE=1 SV=1	2.51	2	2	1.07	0.93
Q9H845	Acyl-CoA dehydrogenase family member 9, mitochondrial OS=Homo sapiens GN=ACAD9 PE=1 SV=1	6.12	3	3	1.07	1.18
P48147	Prolyl endopeptidase OS=Homo sapiens GN=PREP PE=1 SV=2	7.61	5	4	1.08	0.78
P35613	Basigin OS=Homo sapiens GN=BSG PE=1 SV=2	7.27	2	2	1.08	0.78
O00469	Procollagen-lysine,2-oxoglutarate 5-dioxygenase 2 OS=Homo sapiens GN=PLOD2 PE=1 SV=2	8.96	5	5	1.08	1.20
O75947	ATP synthase subunit d, mitochondrial OS=Homo sapiens GN=ATP5H PE=1 SV=3	37.27	4	4	1.08	1.12
Q00839	Heterogeneous nuclear ribonucleoprotein U OS=Homo sapiens GN=HNRNPU PE=1 SV=6	16.36	16	12	1.08	1.15
Q9P0L0	Vesicle-associated membrane protein-associated protein A OS=Homo sapiens GN=VAPA PE=1 SV=3	18.47	4	2	1.08	0.87
P60660	Myosin light polypeptide 6 OS=Homo sapiens GN=MYL6 PE=1 SV=2	19.21	3	2	1.08	0.89
P06733	Alpha-enolase OS=Homo sapiens GN=ENO1 PE=1 SV=2	52.76	27	16	1.08	1.26
O75369	Filamin-B OS=Homo sapiens GN=FLNB PE=1 SV=2	23.71	54	37	1.08	1.12
O75153	Clustered mitochondria protein homolog OS=Homo sapiens GN=CLUH PE=1 SV=2	8.48	7	7	1.08	0.96
Q14166	Tubulin--tyrosine ligase-like protein 12 OS=Homo sapiens GN=TTLL12 PE=1 SV=2	3.11	2	2	1.08	1.00
P42695	Condensin-2 complex subunit D3 OS=Homo sapiens GN=NCAPD3 PE=1 SV=2	1.94	2	2	1.08	1.09
P08865	40S ribosomal protein SA OS=Homo sapiens GN=RPSA PE=1 SV=4	27.80	7	5	1.08	1.06
O00592	Podocalyxin OS=Homo sapiens GN=PODXL PE=1 SV=2	3.94	2	2	1.08	1.13
P47914	60S ribosomal protein L29 OS=Homo sapiens GN=RPL29 PE=1 SV=2	14.47	3	2	1.08	1.15

Q9BW60	Elongation of very long chain fatty acids protein 1 OS=Homo sapiens GN=ELOVL1 PE=1 SV=1	4.30	2	1	1.08	1.22
P09622	Dihydrolipoyl dehydrogenase, mitochondrial OS=Homo sapiens GN=DLD PE=1 SV=2	16.50	8	7	1.08	1.13
P14314	Glucosidase 2 subunit beta OS=Homo sapiens GN=PRKCSH PE=1 SV=2	4.17	2	2	1.09	0.83
P60953	Cell division control protein 42 homolog OS=Homo sapiens GN=CDC42 PE=1 SV=2	14.66	2	2	1.09	0.86
P08758	Annexin A5 OS=Homo sapiens GN=ANXA5 PE=1 SV=2	11.56	3	3	1.09	0.87
O94925	Glutaminase kidney isoform, mitochondrial OS=Homo sapiens GN=GLS PE=1 SV=1	11.36	6	6	1.09	0.88
P05556	Integrin beta-1 OS=Homo sapiens GN=ITGB1 PE=1 SV=2	19.80	13	12	1.09	0.89
O95347	Structural maintenance of chromosomes protein 2 OS=Homo sapiens GN=SMC2 PE=1 SV=2	8.19	8	8	1.09	0.90
P22314	Ubiquitin-like modifier-activating enzyme 1 OS=Homo sapiens GN=UBA1 PE=1 SV=3	45.46	50	33	1.09	0.93
P34897	Serine hydroxymethyltransferase, mitochondrial OS=Homo sapiens GN=SHMT2 PE=1 SV=3	25.20	13	11	1.09	0.93
P21399	Cytoplasmic aconitate hydratase OS=Homo sapiens GN=ACO1 PE=1 SV=3	4.61	3	3	1.09	1.03
Q9Y266	Nuclear migration protein nudC OS=Homo sapiens GN=NUDC PE=1 SV=1	12.39	4	4	1.09	0.92
O15427	Monocarboxylate transporter 4 OS=Homo sapiens GN=SLC16A3 PE=1 SV=1	7.31	3	3	1.10	0.81
Q09161	Nuclear cap-binding protein subunit 1 OS=Homo sapiens GN=NCBP1 PE=1 SV=1	7.72	4	4	1.10	0.85
P49321	Nuclear autoantigenic sperm protein OS=Homo sapiens GN=NASP PE=1 SV=2	4.06	4	2	1.10	0.86
Q8NE71	ATP-binding cassette sub-family F member 1 OS=Homo sapiens GN=ABCF1 PE=1 SV=2	3.20	2	2	1.10	0.87
O94979	Protein transport protein Sec31A OS=Homo sapiens GN=SEC31A PE=1 SV=3	3.03	4	2	1.10	0.91
P11717	Cation-independent mannose-6-phosphate receptor OS=Homo sapiens GN=IGF2R PE=1 SV=3	3.01	6	5	1.10	0.94
P25788	Proteasome subunit alpha type-3 OS=Homo sapiens GN=PSMA3 PE=1 SV=2	4.71	2	1	1.10	0.95
P21796	Voltage-dependent anion-selective channel protein 1 OS=Homo sapiens GN=VDAC1 PE=1 SV=2	18.73	5	3	1.10	0.99
O15260	Surfeit locus protein 4 OS=Homo sapiens GN=SURF4 PE=1 SV=3	10.78	3	2	1.11	0.77
P11413	Glucose-6-phosphate 1-dehydrogenase OS=Homo sapiens GN=G6PD PE=1 SV=4	16.31	7	6	1.11	0.84
P62820	Ras-related protein Rab-1A OS=Homo sapiens GN=RAB1A PE=1 SV=3	42.44	9	5	1.11	0.85
Q9P2E9	Ribosome-binding protein 1 OS=Homo sapiens GN=RRBP1 PE=1 SV=4	2.70	2	2	1.11	0.87
P61026	Ras-related protein Rab-10 OS=Homo sapiens GN=RAB10 PE=1 SV=1	16.50	3	1	1.11	0.89
P52732	Kinesin-like protein KIF11 OS=Homo sapiens GN=KIF11 PE=1 SV=2	2.18	2	2	1.11	0.89
P35579	Myosin-9 OS=Homo sapiens GN=MYH9 PE=1 SV=4	41.84	92	56	1.11	0.90
P54577	Tyrosine--tRNA ligase, cytoplasmic OS=Homo sapiens GN=YARS PE=1 SV=4	3.60	2	2	1.11	1.07
Q8NBN3	Transmembrane protein 87A OS=Homo sapiens GN=TMEM87A PE=1 SV=3	3.42	2	2	1.11	0.98
P50502	Hsc70-interacting protein OS=Homo sapiens GN=ST13 PE=1 SV=2	7.05	2	2	1.11	1.09
Q8NBI5	Solute carrier family 43 member 3 OS=Homo sapiens GN=SLC43A3 PE=1 SV=2	3.46	2	2	1.11	1.03
O15131	Importin subunit alpha-6 OS=Homo sapiens GN=KPNA5 PE=1 SV=2	6.53	2	2	1.11	1.33
Q9Y265	RuvB-like 1 OS=Homo sapiens GN=RUVBL1 PE=1 SV=1	6.58	2	2	1.11	1.25
P23381	Tryptophan--tRNA ligase, cytoplasmic OS=Homo sapiens GN=WARS PE=1 SV=2	4.88	2	2	1.11	0.86
P60981	Destrin OS=Homo sapiens GN=DSTN PE=1 SV=3	35.15	7	4	1.11	0.85
Q9NZM1	Myoferlin OS=Homo sapiens GN=MYOF PE=1 SV=1	20.43	30	28	1.12	0.90
P43304	Glycerol-3-phosphate dehydrogenase, mitochondrial OS=Homo sapiens GN=GPD2 PE=1 SV=3	4.26	2	2	1.12	0.96
Q14643	Inositol 1,4,5-trisphosphate receptor type 1 OS=Homo sapiens GN=ITPR1 PE=1 SV=3	2.03	5	4	1.12	0.96
Q9Y383	Putative RNA-binding protein Luc7-like 2 OS=Homo sapiens GN=LUC7L2 PE=1 SV=2	14.03	5	5	1.12	0.97
P31948	Stress-induced-phosphoprotein 1 OS=Homo sapiens GN=STIP1 PE=1 SV=1	7.18	3	3	1.12	0.98
P19338	Nucleolin OS=Homo sapiens GN=NCL PE=1 SV=3	7.89	3	3	1.12	1.00
O94855	Protein transport protein Sec24D OS=Homo sapiens GN=SEC24D PE=1 SV=2	3.20	3	3	1.12	1.02
Q9UGI8	Testin OS=Homo sapiens GN=TES PE=1 SV=1	7.84	3	2	1.12	1.08

P49257	Protein ERGIC-53 OS=Homo sapiens GN=LMAN1 PE=1 SV=2	5.10	3	3	1.12	1.07
P36776	Lon protease homolog, mitochondrial OS=Homo sapiens GN=LONP1 PE=1 SV=2	20.33	14	10	1.12	0.82
P07737	Profilin-1 OS=Homo sapiens GN=PFN1 PE=1 SV=2	55.71	9	6	1.13	1.19
Q8NCW5	NAD(P)H-hydrate epimerase OS=Homo sapiens GN=APOA1BP PE=1 SV=2	12.85	2	2	1.13	1.03
Q9HCC0	Methylcrotonoyl-CoA carboxylase beta chain, mitochondrial OS=Homo sapiens GN=MCCC2 PE=1 SV=1	4.09	2	2	1.13	1.07
O75223	Gamma-glutamylcyclotransferase OS=Homo sapiens GN=GGCT PE=1 SV=1	9.04	2	2	1.14	0.86
Q9UDY8	Mucosa-associated lymphoid tissue lymphoma translocation protein 1 OS=Homo sapiens GN=MALT1 PE=1 SV=1	3.16	2	2	1.14	0.87
P06753	Tropomyosin alpha-3 chain OS=Homo sapiens GN=TPM3 PE=1 SV=2	14.74	4	4	1.14	0.90
Q96CS3	FAS-associated factor 2 OS=Homo sapiens GN=FAF2 PE=1 SV=2	4.27	2	2	1.14	0.91
O60547	GDP-mannose 4,6 dehydratase OS=Homo sapiens GN=GMDS PE=1 SV=1	25.54	7	7	1.14	0.97
P46779	60S ribosomal protein L28 OS=Homo sapiens GN=RPL28 PE=1 SV=3	27.01	7	4	1.14	1.03
P38606	V-type proton ATPase catalytic subunit A OS=Homo sapiens GN=ATP6V1A PE=1 SV=2	4.21	3	2	1.15	0.88
P55072	Transitional endoplasmic reticulum ATPase OS=Homo sapiens GN=VCP PE=1 SV=4	40.94	31	21	1.15	0.91
P49419	Alpha-aminoadipic semialdehyde dehydrogenase OS=Homo sapiens GN=ALDH7A1 PE=1 SV=5	19.29	9	7	1.15	1.13
P24752	Acetyl-CoA acetyltransferase, mitochondrial OS=Homo sapiens GN=ACAT1 PE=1 SV=1	11.24	3	3	1.15	1.14
Q12965	Unconventional myosin-Ie OS=Homo sapiens GN=MYO1E PE=1 SV=2	2.35	2	2	1.15	1.02
P04083	Annexin A1 OS=Homo sapiens GN=ANXA1 PE=1 SV=2	41.33	12	11	1.16	1.28
P04843	Dolichyl-diphosphooligosaccharide--protein glycosyltransferase subunit 1 OS=Homo sapiens GN=RPN1 PE=1 SV=1	27.84	13	12	1.16	0.89
P50395	Rab GDP dissociation inhibitor beta OS=Homo sapiens GN=GDI2 PE=1 SV=2	20.00	7	6	1.16	0.92
Q92841	Probable ATP-dependent RNA helicase DDX17 OS=Homo sapiens GN=DDX17 PE=1 SV=2	3.43	2	2	1.16	0.99
Q96KA5	Cleft lip and palate transmembrane protein 1-like protein OS=Homo sapiens GN=CLPTM1L PE=1 SV=1	6.51	3	3	1.16	1.02
Q92597	Protein NDRG1 OS=Homo sapiens GN=NDRG1 PE=1 SV=1	12.94	3	3	1.16	1.33
P62241	40S ribosomal protein S8 OS=Homo sapiens GN=RPS8 PE=1 SV=2	25.96	4	4	1.17	0.88
P07954	Fumarate hydratase, mitochondrial OS=Homo sapiens GN=FH PE=1 SV=3	22.94	8	8	1.17	1.17
P11279	Lysosome-associated membrane glycoprotein 1 OS=Homo sapiens GN=LAMP1 PE=1 SV=3	4.80	2	2	1.17	0.97
Q29RF7	Sister chromatid cohesion protein PDS5 homolog A OS=Homo sapiens GN=PDS5A PE=1 SV=1	4.49	5	5	1.18	0.83
P62910	60S ribosomal protein L32 OS=Homo sapiens GN=RPL32 PE=1 SV=2	25.19	6	5	1.18	0.85
P38646	Stress-70 protein, mitochondrial OS=Homo sapiens GN=HSPA9 PE=1 SV=2	49.78	39	27	1.18	0.92
Q6XQN6	Nicotinate phosphoribosyltransferase OS=Homo sapiens GN=NAPRT PE=1 SV=2	15.99	5	5	1.18	1.10
Q13148	TAR DNA-binding protein 43 OS=Homo sapiens GN=TARDBP PE=1 SV=1	5.07	2	2	1.19	0.87
P55209	Nucleosome assembly protein 1-like 1 OS=Homo sapiens GN=NAP1L1 PE=1 SV=1	5.37	3	2	1.19	0.92
P31153	S-adenosylmethionine synthase isoform type-2 OS=Homo sapiens GN=MAT2A PE=1 SV=1	5.82	3	3	1.21	1.15

Table S2. Competitive proteomic results of previously reported celastrol targets.

<i>Reference</i>	<i>Description</i>	<i>Accession</i>	<i>TMT in vitro</i>	<i>TMT in situ</i>
6	Heat shock protein HSP 90-beta	P08238	0.91	1.26
7	Hsp90 co-chaperone Cdc37	Q16543	0.37	0.59
8	Prostaglandin E synthase 3 (p23)	Q15185	0.72	0.90
9	Inhibitor of nuclear factor kappa-B kinase beta	O14920	Undetected	Undetected
10	Proteasomes (#)	N/A	N/A	N/A
11	Peroxiredoxin-1	Q06830	0.73	1.28
14	Annexin A2	P07355	0.42	0.72
14	Elongation factor 1-alpha 1	P68104	0.37	0.62
14	Tubulin beta chain	P07437	0.68	0.93

(#): multiple proteasome subunits were identified as below:

<i>Accession</i>	<i>Description</i>	<i>TMT in vitro</i>	<i>TMT in situ</i>
Q9UNM6	26S proteasome non-ATPase regulatory subunit 13	0.18	0.46
Q15008	26S proteasome non-ATPase regulatory subunit 6	0.38	0.48
Q99460	26S proteasome non-ATPase regulatory subunit 1	0.48	0.66
Q13200	26S proteasome non-ATPase regulatory subunit 2	0.26	0.69
P35998	26S protease regulatory subunit 7	0.17	0.71

2. Supplementary Figures

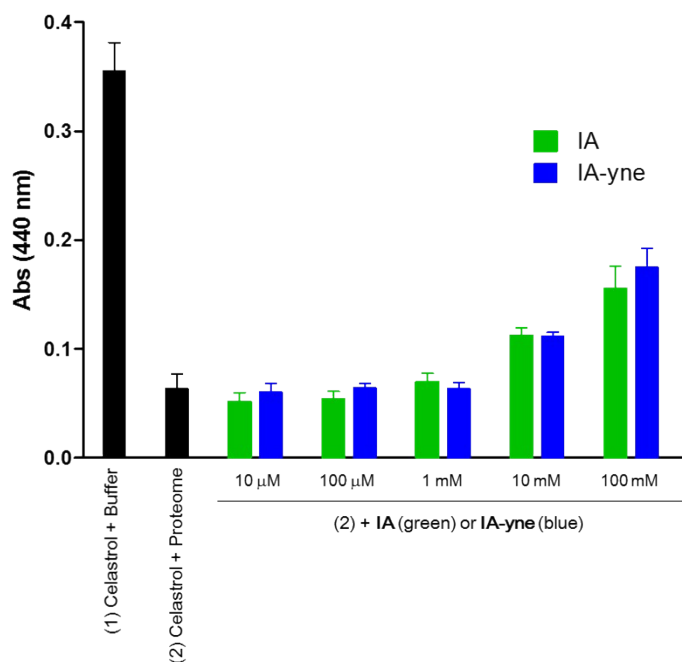


Figure S1. Low concentrations (less than 1 mM) of iodoacetamide (IA) and IA-yne did not effect on celastrol-proteins interaction. 100 M of celastrol (10 mM stock in DMSO) was incubated with HeLa cell lysates (1.0 mg/mL) suspended in lysis buffer (50 mM HEPES pH 7.4, 150 mM NaCl, 0.1% Triton X-100, 3.0 mM MgCl₂, 1.0 mM EDTA and complete protease inhibitor (Roche)) and equal volume of lysis buffer for 30 minutes at room temperature in triplicate. Celastrol-treated proteomes were added with increasing concentrations of iodoacetamide and incubate for 1 hour at room temperature. The amount of free celastrol was determined by absorbance at 440 nm.

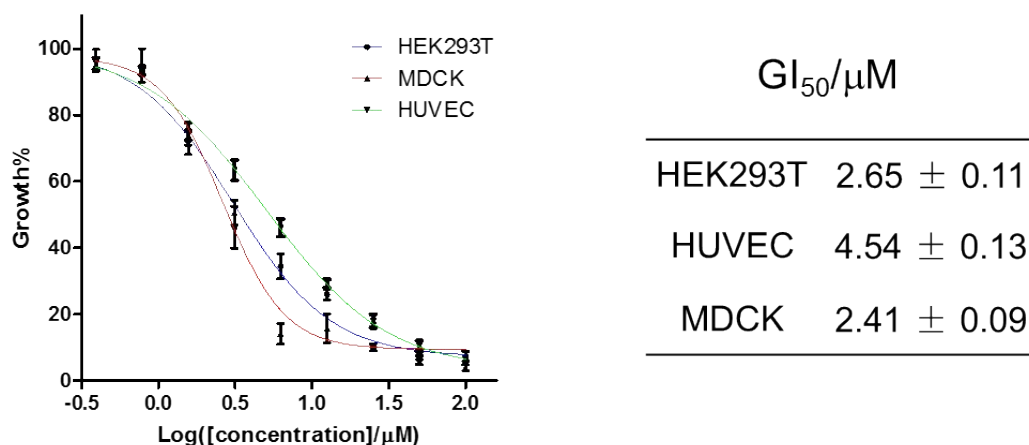


Figure S2. Proliferation inhibitory effect of celastrol towards HEK293T, MDCK and HUVEC cell lines.

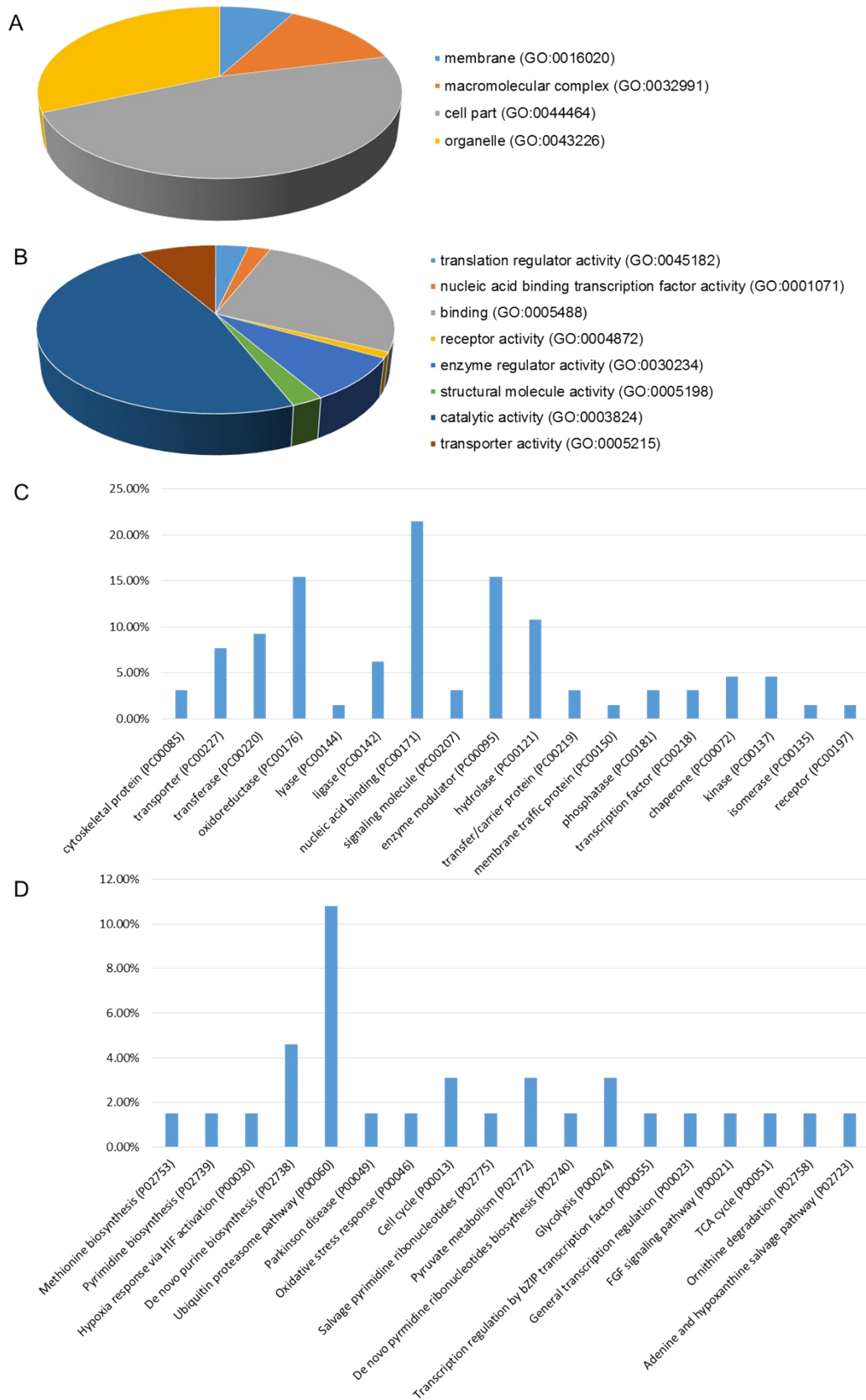


Figure S3. Gene Ontology (GO) PANTHER bioinformatics analysis of (A) cellular component; (B) molecular function; (C) protein class; (D) pathways of 66 celastrol targets.

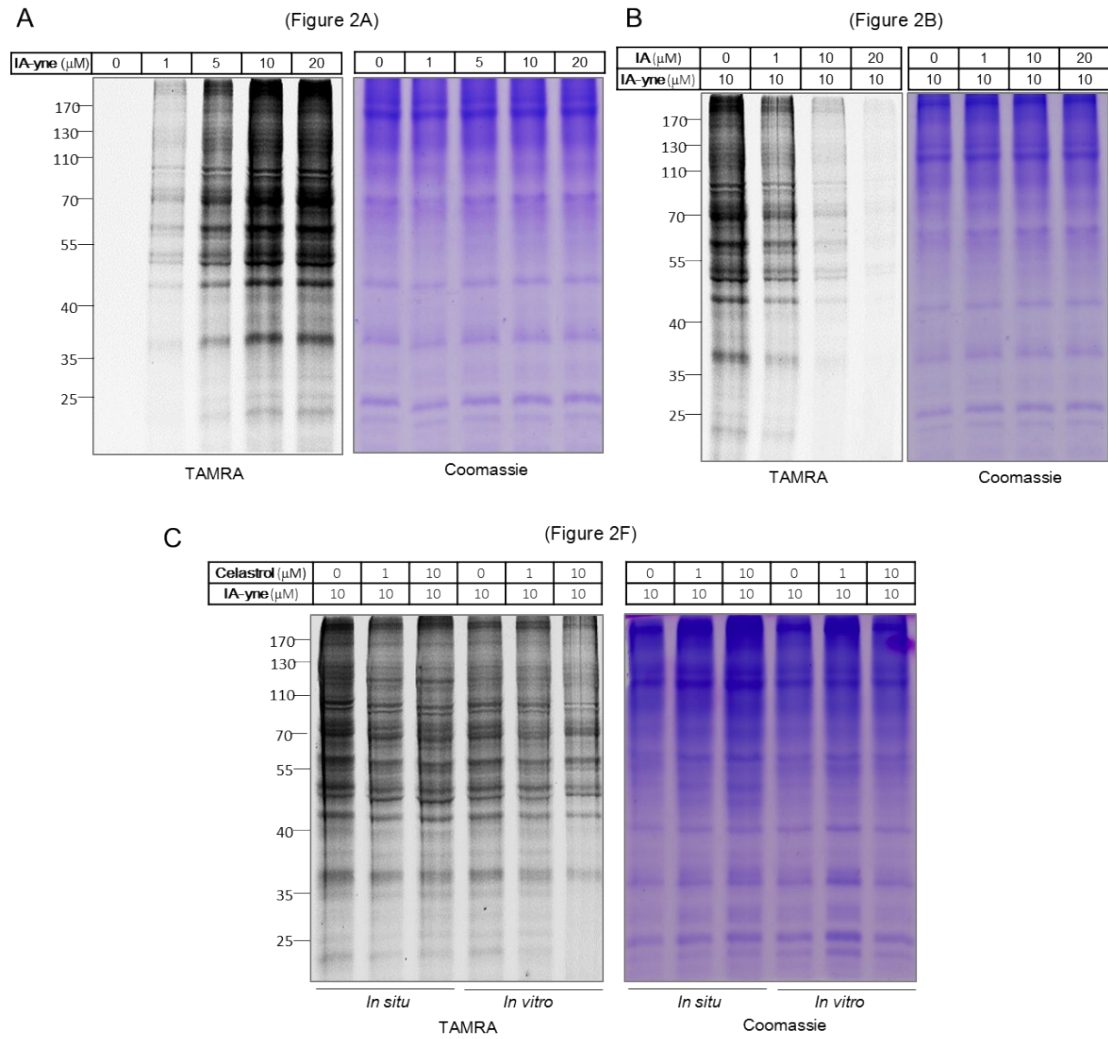


Figure S4. Full coomassie blue stained gel imaging of (A) **Figure 2A**; (B) **Figure 2B**; (C) **Figure 2F**.