

Amyloid- β Precursor Protein APP down-regulation alters actin cytoskeleton-interacting proteins in endothelial cells.

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Supplementary Materials:

- Figure S1: Selection of APP targeting siRNAs.
- Figure S2: Label free proteomic analysis of HUVEC following APP knockdown.
- Figure S3: APP doesn't physically interact with VEGFR2 and APP knockdown doesn't reduce mRNA levels of VEGFR2-VEGF downstream signaling.
- Figure S4: Western blot analysis with alternative antibodies.
- Table S1: List of up-regulated and down-regulated proteins.

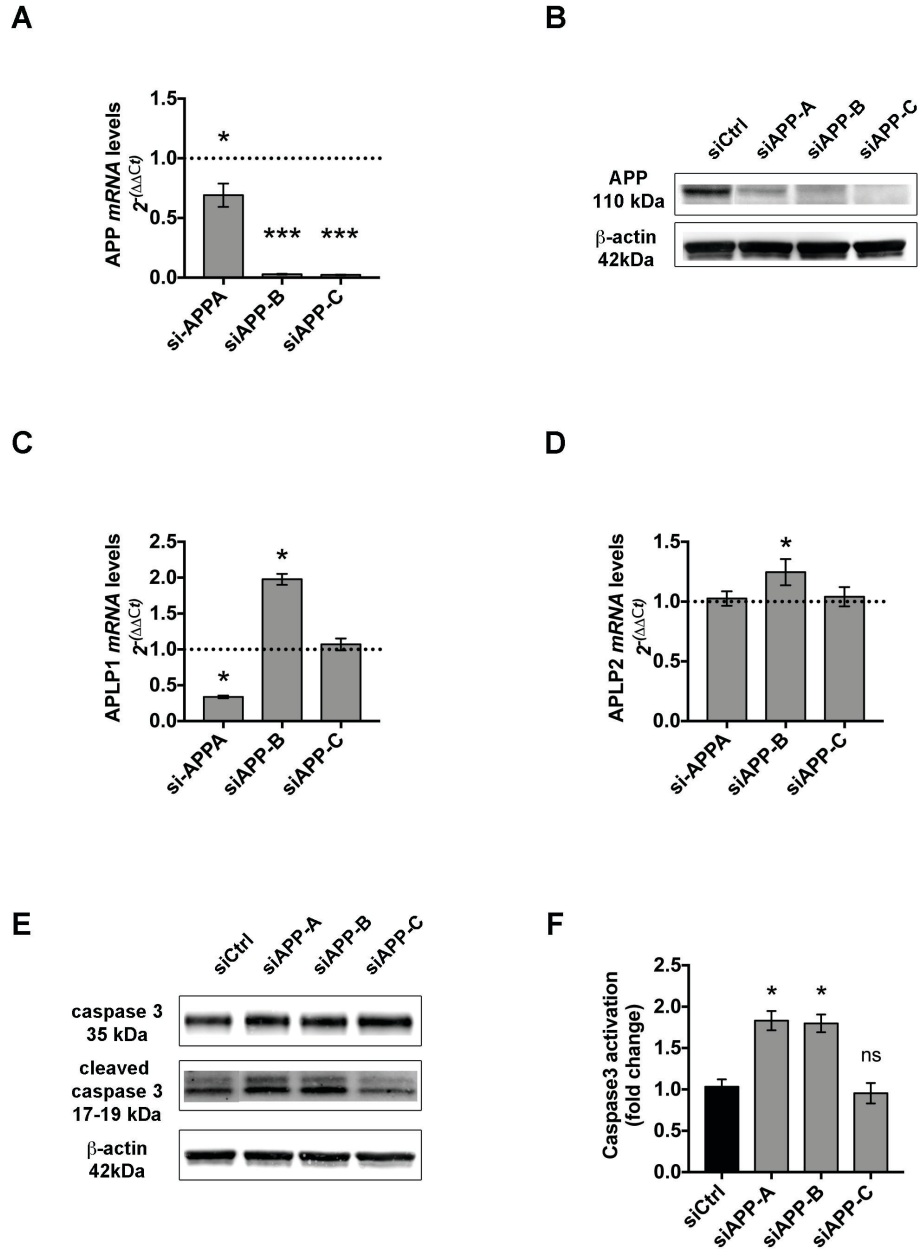


Figure S1. Selection of APP targeting siRNAs: **(a)** RTqPCR showing APP mRNA expression levels upon silencing for 48 hours with siAPP-A, -B or -C respectively; **(b)** Western blot showing reduced protein expression levels of APP upon silencing for 48 hours with siAPP-A, -B or -C respectively; **(c-d)** RTqPCR showing mRNA expression levels of APLP1 (c) and APLP2 (d). siAPP-C doesn't affect APLP1 and APLP2 expression. On the contrary, siAPP-A and siAPP-B show an aspecific off-target effect on APLP1 and APLP2; **(e)** Western-blot showing activation of apoptotic Caspase-3 in silenced cells (siAPP) and control (siCtrl). Activation of Caspase-3 was measured as cleaved Caspase-3/total Caspase3 ratio expression; **(f)** Quantification of western blot analysis (n=3) in (e) shows that siAPP-C doesn't promote apoptosis in silenced cells, whereas Caspase-3 is significantly activated by siAPP-A and siAPP-B. All data are presented as mean \pm SEM, n=3 replicates, *P<0.05, ***P<0.001.

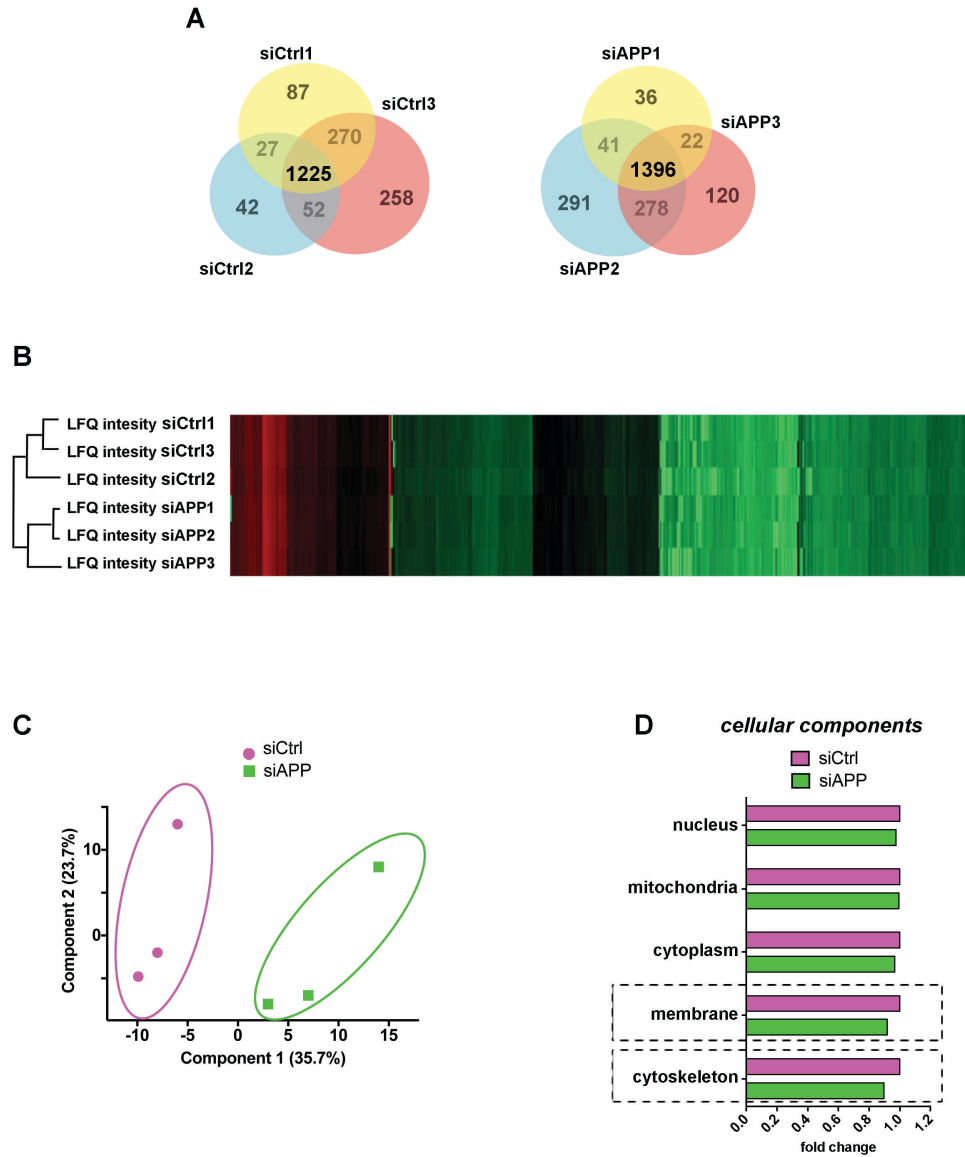


Figure S2. Label free proteomic analysis of HUVEC following APP knockdown: **(a)** Venn diagrams representing the number of reproducibly quantified proteins from three biological replicates of the HUVEC control and HUVEC silenced for APP for 48 hours. The common protein ensembles amount to 1225 and 1396 for siCtrl and siAPP respectively; **(b)** Hierarchical clustering. Heatmap shows LFQ intensity values for triplicates of every sample. Within each group, proteins are sorted according to their LFQ intensity values: red (max value), green (min value). Clustering tree resulting from unsupervised clustering of samples is shown on the left and confirms a differentiation between siCtrl and siAPP samples; **(c)** PCA-biplot showing a principal component analysis of all siCtrl and siAPP samples analyzed by mass spectrometry. All the triplicates of siCtrl and siAPP samples appeared to cluster in two distinct groups confirming a clear proteomic differentiation between the two datasets. The percentage of the variance contributed by each principal component is indicated in the axis: 35,7% for the first component and 23,7% for the second component; **(d)** Functional comparison between siCtrl common dataset and siAPP common dataset was performed to analyze differences (p-value < 0.001) in cellular components.

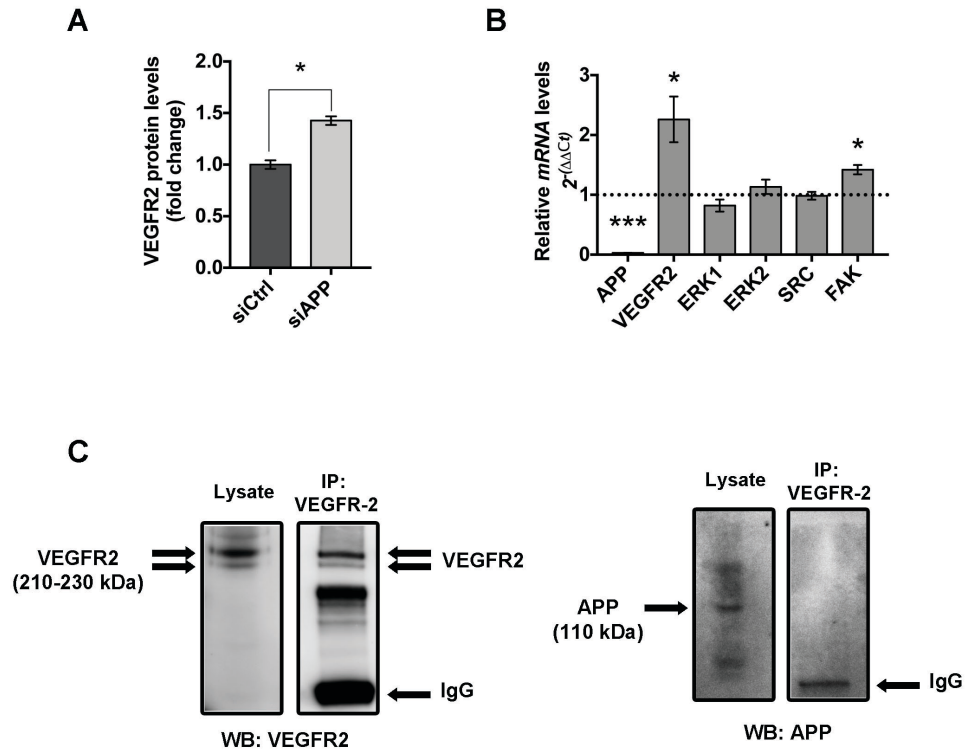


Figure S3. APP doesn't physically interact with VEGFR2 and APP knockdown doesn't reduce mRNA levels of VEGFR2-VEGF downstream signaling (a) Western blot analysis of total VEGFR2 protein expression in siAPP HUVEC (b) RTqPCR analysis of VEGFR2 and downstream signaling mRNA levels (c) Immunoprecipitation (IP) was performed using anti-VEGFR2 antibody (IP: anti-VEGFR2), followed by western blot analysis to check the presence of APP in the pulled-down complex (WB). The presence of VEGFR2 in the immunoprecipitate was used as positive control. Whole cell lysates (Lysate) were also analyzed for total VEGFR2 and APP protein level. The pulled down of anti-VEGFR2 antibody showed that it was able to bind the VEGFR2 protein but not APP, suggesting that the two proteins don't physically interact.

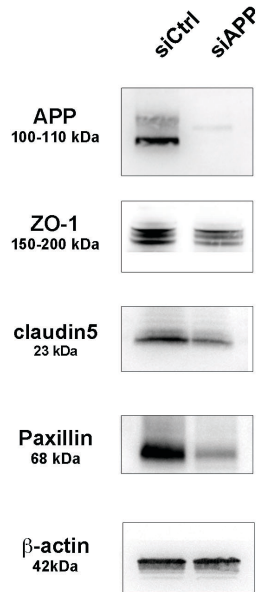


Figure S4: Western Blot analysis with alternative antibodies. ZO-1, Claudin5 and paxillin protein expression was assessed with different antibodies. Detection of ZO-1 with Life Technologies antibody (#61-7300), gives comparable results to Thermo Fisher Scientific antibody reported on the main text (# 33-9100). Similarly, protein expression levels resulted reduced in siAPP HUVEC using anti-claudin5 antibody from Thermo Fisher Scientific (#35-250) and anti-paxillin antibody from Abcam (#ab32084), and this result is comparable to the blots reported in the main text and obtained using respectively anti-claudin5 from Abcam (#ab53765), and anti-paxillin from Millipore (#3794).

Table S1: List of up-regulated and down-regulated proteins.

Significant	-LOG(p-value)	Uniprot Accession	Uniprot ID	Name	Species	Gene	Up/down-regulation
+	1.696933953	A0AVT1	UBA6_HUMAN	Ubiquitin-likemodifier-activatingenzyme6	Homo sapiens	UBA6	up-regulated
+	2.522674384	A5A6H4	ROA1_HUMAN	HeterogeneousnuclearribonucleoproteinA1	Homo sapiens	HNRNPA1	down-regulated
+	1.706431017	O00151	PDL1_HUMAN	PDZandLIMdomainprotein1	Homo sapiens	PDLIM1	down-regulated
+	2.090178398	O00159	MYO1C_HUMAN	Unconventionalmyosin-1c	Homo sapiens	MYO1C	down-regulated
+	3.17838226	O00469	PLOD2_HUMAN	Procollagen-lysine,2-oxoglutarate5-dioxygenase2	Homo sapiens	PLOD2	down-regulated
+	2.743386048	O00571	DDX3X_HUMAN	ATP-dependentRNAhelicaseDDX3X	Homo sapiens	DDX3X	down-regulated
+	2.750845176	O00625	PIR_HUMAN	Pirin	Homo sapiens	PIR	down-regulated
+	1.514993551	O00767	ACOD_HUMAN	Acyl-CoAdeaturase	Homo sapiens	SCD	down-regulated
+	1.160610103	O14561	ACPM_HUMAN	Acylcarrierprotein,mitochondrial	Homo sapiens	NDUFAB1	down-regulated
+	3.687649448	O14879	IFIT3_HUMAN	Interferon-inducedproteinwithtetratricopeptiderepeats3	Homo sapiens	IFIT3	up-regulated
+	2.015502669	O14933	UB2L6_HUMAN	Ubiquitin/ISG15-conjugatingenzymeE2L6	Homo sapiens	UBE2L6	up-regulated
+	2.440057636	O15173	PGRC2_HUMAN	Membrane-associatedprogesteronereceptorcomponent2	Homo sapiens	PGRMC2	up-regulated
+	1.054930824	O15460	P4HA2_HUMAN	Prolyl4-hydroxylasesubunitalpha-2	Homo sapiens	P4HA2	up-regulated
+	1.757811053	O15533	TPSN_HUMAN	Tapasin	Homo sapiens	TAPBP	up-regulated
+	1.387369479	O75352	MPU1_HUMAN	Mannose-P-dolicholutilizationdefect1protein	Homo sapiens	MPDU1	up-regulated
+	2.236427975	O75964	ATP5L_HUMAN	ATPsynthasesubunitg,mitochondrial	Homo sapiens	ATP5MG	down-regulated
+	1.899778643	O94760	DDAH1_HUMAN	N(G),N(G)-dimethylargininedimethylaminohydrolase1	Homo sapiens	DDAH1	up-regulated
+	1.765031675	O95340	PAPS2_HUMAN	Bifunctional3'-phosphoadenosine5'-phosphosulfatesynthase2	Homo sapiens	PAPSS2	up-regulated
+	1.53277814	O95394	AGM1_HUMAN	Phosphoacetylglucosaminemutase	Homo sapiens	PGM3	up-regulated
+	2.534386104	O95786	DDX58_HUMAN	ProbableATP-dependentRNAhelicaseDDX58	Homo sapiens	DDX58	up-regulated
+	1.114553442	O95864	FADS2_HUMAN	Acyl-CoA6-desaturase	Homo sapiens	FADS2	down-regulated
+	2.052784401	P00352	AL1A1_HUMAN	Retinaldehydrogenase1	Homo sapiens	ALDH1A1	down-regulated
+	2.160872861	P02751	FINC_HUMAN	Fibronectin	Homo sapiens	FN1	up-regulated
+	1.440434415	P00973	OAS1_HUMAN	2'-5'-oligoadenylatesynthase1	Homo sapiens	OAS1	up-regulated
+	2.251688608	P04406	G3P_HUMAN	Glyceraldehyde-3-phosphatedehydrogenase	Homo sapiens	GAPDH	down-regulated
+	2.717914577	P05121	PAI1_HUMAN	Plasminogenactivatorinhibitor1	Homo sapiens	SERPINE1	up-regulated
+	1.603052806	P05556	ITB1_HUMAN	Integrinbeta-1	Homo sapiens	ITGB1	down-regulated
+	1.526031727	P07737	PROF1_HUMAN	Profilin-1	Homo sapiens	PFN1	down-regulated
+	2.518157148	P05161	ISG15_HUMAN	Ubiquitin-likeproteinISG15	Homo sapiens	ISG15	up-regulated
+	3.119174198	P05362	ICAM1_HUMAN	Intercellularadhesionmolecule1	Homo sapiens	ICAM1	up-regulated
+	2.209848209	P07996	TSP1_HUMAN	Thrombospondin-1	Homo sapiens	THBS1	down-regulated
+	1.242351574	P06703	S10A6_HUMAN	ProteinS100-A6	Homo sapiens	S100A6	down-regulated
+	2.25465283	P06744	G6PI_HUMAN	Glucose-6-phosphateisomerase	Homo sapiens	GPI	down-regulated
+	1.855508392	P09211	GSTP1_HUMAN	GlutathioneS-transferaseP	Homo sapiens	GSTP1	up-regulated

Significant	-LOG(p-value)	Uniprot Accession	Uniprot ID	Name	Species	Gene	Up/down-regulation
+	1.740222305	P09382	LEG1_HUMAN	Galectin-1	Homo sapiens	LGALS1	down-regulated
+	2.368520131	P08195	4F2_HUMAN	4F2cell-surfaceantigenheavychain	Homo sapiens	SLC3A2	down-regulated
+	1.891527327	P09493	TPM1_HUMAN	Tropomyosinalpha-1chain	Homo sapiens	TPM1	up-regulated
+	1.443180756	P09874	PARP1_HUMAN	Poly[ADP-ribose]polymerase1	Homo sapiens	PARP1	down-regulated
+	3.032771209	P12814	ACTN1_HUMAN	Alpha-actinin-1	Homo sapiens	ACTN1	down-regulated
+	2.692592448	P09525	ANXA4_HUMAN	AnnexinA4	Homo sapiens	ANXA4	down-regulated
+	1.897264404	P09601	HMOX1_HUMAN	Hemeoxygenase1	Homo sapiens	HMOX1	down-regulated
+	2.727149711	P14550	AK1A1_HUMAN	Aldo-ketoreductasefamily1memberA1	Homo sapiens	AKR1A1	down-regulated
+	2.790370236	P09914	IFIT1_HUMAN	Interferon-inducedproteinwithtetratricopeptiderepeats1	Homo sapiens	IFIT1	up-regulated
+	1.609073654	Q6PI52	CALM_HUMAN	Calmodulin	Homo sapiens	CALM3	down-regulated
+	3.095542821	P10644	KAP0_HUMAN	cAMP-dependentproteinkinasetypeI-alpha-regulatorysubunit	Homo sapiens	PRKAR1A	down-regulated
+	3.620163005	P11413	G6PD_HUMAN	Glucose-6-phosphate1-dehydrogenase	Homo sapiens	G6PD	down-regulated
+	2.40258352	P11586	C1TC_HUMAN	C-1-tetrahydrofolatesynthase,cytoplasmic	Homo sapiens	MTHFD1	down-regulated
+	4.625454001	P12268	IMDH2_HUMAN	Inosine-5'-monophosphatedehydrogenase2	Homo sapiens	IMPDH2	down-regulated
+	1.894706253	P15121	ALDR_HUMAN	Aldo-ketoreductasefamily1memberB1	Homo sapiens	AKR1B1	down-regulated
+	2.581743903	P13164	IFM1_HUMAN	Interferon-inducedtransmembraneprotein1	Homo sapiens	IFITM1	up-regulated
+	2.327212877	P13473	LAMP2_HUMAN	Lysosome-associatedmembraneglycoprotein2	Homo sapiens	LAMP2	down-regulated
+	3.263787615	P13598	ICAM2_HUMAN	Intercellularadhesionmolecule2	Homo sapiens	ICAM2	down-regulated
+	1.564748621	P14174	MIF_HUMAN	Macrophagemigrationinhibitoryfactor	Homo sapiens	MIF	down-regulated
+	2.989539155	P14317	HCLS1_HUMAN	Hematopoieticlineagecell-specificprotein	Homo sapiens	HCLS1	up-regulated
+	2.910071374	P35241	RADI_HUMAN	Radixin	Homo sapiens	RDX	down-regulated
+	3.191404542	P48681	NEST_HUMAN	Nestin	Homo sapiens	NES	down-regulated
+	3.559212247	P15144	AMPN_HUMAN	AminopeptidaseN	Homo sapiens	ANPEP	down-regulated
+	1.415200052	P15559	NQO1_HUMAN	NAD(P)Hdehydrogenase[quinone]1	Homo sapiens	NQO1	down-regulated
+	3.442546508	P16949	STMN1_HUMAN	Stathmin	Homo sapiens	STMN1	down-regulated
+	1.901770836	P17301	ITA2_HUMAN	Integrinalpha-2	Homo sapiens	ITGA2	down-regulated
+	1.640455436	P17612	KAPCA_HUMAN	cAMP-dependentproteinkinasecatalyticsubunitalpha	Homo sapiens	PRKACA	down-regulated
+	2.284685181	P17655	CAN2_HUMAN	Calpain-2catalyticsubunit	Homo sapiens	CAPN2	down-regulated
+	3.048530771	P19971	TYPH_HUMAN	Thymidinephosphorylase	Homo sapiens	TYMP	up-regulated
+	3.336400095	P20591	MX1_HUMAN	Interferon-inducedGTP-bindingproteinMx1	Homo sapiens	MX1	up-regulated
+	2.287577839	P20700	LMNB1_HUMAN	Lamin-B1	Homo sapiens	LMNB1	down-regulated
+	1.857054822	P21589	5NTD_HUMAN	5'-nucleotidase	Homo sapiens	NT5E	down-regulated
+	1.982435862	P21964	COMT_HUMAN	CatecholO-methyltransferase	Homo sapiens	COMT	up-regulated
+	1.757846938	P22626	ROA2_HUMAN	HeterogeneousnuclearribonucleoproteinsA2/B1	Homo sapiens	HNRNPA2B1	up-regulated

Significant	-LOG(p-value)	Uniprot Accession	Uniprot ID	Name	Species	Gene	Up/down-regulation
+	1.722048997	P23497	SP100_HUMAN	NuclearautoantigenSp-100	Homo sapiens	SP100	up-regulated
+	2.81892956	P25205	MCM3_HUMAN	DNAreplicationlicensingfactorMCM3	Homo sapiens	MCM3	down-regulated
+	1.347814439	P26640	SYVC_HUMAN	Valine--tRNAIlgase	Homo sapiens	VARS	down-regulated
+	1.171753598	P49419	AL7A1_HUMAN	Alpha-aminoadipicsemialdehydedehydrogenase	Homo sapiens	ALDH7A1	down-regulated
+	1.346818553	P29466	CASP1_HUMAN	Caspase-1	Homo sapiens	CASP1	up-regulated
+	1.638845632	P29590	PML_HUMAN	ProteinPML	Homo sapiens	PML	up-regulated
+	1.43416805	P30043	BLVRB_HUMAN	Flavinreductase(NADPH)	Homo sapiens	BLVRB	up-regulated
+	2.540767736	P30837	AL1B1_HUMAN	AldehydedehydrogenaseX,mitochondrial	Homo sapiens	ALDH1B1	down-regulated
+	2.795995598	P32455	GBP1_HUMAN	Guanylate-bindingprotein1	Homo sapiens	GBP1	up-regulated
+	2.464128618	P33316	DUT_HUMAN	Deoxyuridine5'-triphospatenucleotidohydrolase,mitochondrial	Homo sapiens	DUT	down-regulated
+	2.558422427	P33991	MCM4_HUMAN	DNAreplicationlicensingfactorMCM4	Homo sapiens	MCM4	down-regulated
+	2.884703964	P33992	MCM5_HUMAN	DNAreplicationlicensingfactorMCM5	Homo sapiens	MCM5	down-regulated
+	2.754910472	P33993	MCM7_HUMAN	DNAreplicationlicensingfactorMCM7	Homo sapiens	MCM7	down-regulated
+	1.604719285	P52943	CRIP2_HUMAN	Cysteine-richprotein2	Homo sapiens	CRIP2	down-regulated
+	1.333266232	P37268	FDFT_HUMAN	Squalenesynthase	Homo sapiens	FDFT1	down-regulated
+	1.212427275	P41226	UBA7_HUMAN	Ubiquitin-likemodifier-activatingenzyme7	Homo sapiens	UBA7	up-regulated
+	1.821453521	P42224	STAT1_HUMAN	Signaltransducerandactivatoroftranscription1-alpha/beta	Homo sapiens	STAT1	up-regulated
+	2.449511919	P42892	ECE1_HUMAN	Endothelin-convertingenzyme1	Homo sapiens	ECE1	down-regulated
+	2.298576947	P43121	MUC18_HUMAN	CellsurfaceglycoproteinMUC18	Homo sapiens	MCAM	down-regulated
+	1.679473775	P43246	MSH2_HUMAN	DNAismatchrepairproteinMsh2	Homo sapiens	MSH2	down-regulated
+	1.861651687	P56556	NDUA6_HUMAN	NADHdehydrogenase[ubiquinone]1alphasubcomplexsubunit6	Homo sapiens	NDUFA6	down-regulated
+	2.200140577	P48735	IDHP_HUMAN	Isocitratedehydrogenase[NADP],mitochondrial	Homo sapiens	IDH2	down-regulated
+	1.593918793	P68366	TBA4A_HUMAN	Tubulina-4Achain	Homo sapiens	TUBA4A	down-regulated
+	1.597223282	P49593	PPM1F_HUMAN	Proteinphosphatase1F	Homo sapiens	PPM1F	down-regulated
+	1.49838734	P49736	MCM2_HUMAN	DNAreplicationlicensingfactorMCM2	Homo sapiens	MCM2	down-regulated
+	2.07882652	Q10739	MMP14_HUMAN	Matrixmetalloproteinase-14	Homo sapiens	MMP14	down-regulated
+	2.609896121	P50453	SPB9_HUMAN	SerpinB9	Homo sapiens	SERPINB9	up-regulated
+	2.514183214	P98160	PGBM_HUMAN	Basementmembrane-specificheparansulfateproteoglycancoreprotein	Homo sapiens	HSPG2	down-regulated
+	2.274894235	P51991	ROA3_HUMAN	HeterogeneousnuclearribonucleoproteinA3	Homo sapiens	HNRNPA3	up-regulated
+	1.611304258	P52306	GDS1_HUMAN	Rap1GTPase-GDPdissociationstimulator1	Homo sapiens	RAP1GDS1	down-regulated
+	2.321143717	P52597	HNRPF_HUMAN	HeterogeneousnuclearribonucleoproteinF	Homo sapiens	HNRNPF	down-regulated
+	1.329352619	Q03252	LMNB2_HUMAN	Lamin-B2	Homo sapiens	LMNB2	down-regulated
+	1.751193241	P53999	TCP4_HUMAN	ActivatedRNApolymeraseIItranscriptionalcoactivatorp15	Homo sapiens	SUB1	up-regulated

Significant	-LOG(p-value)	Uniprot Accession	Uniprot ID	Name	Species	Gene	Up/down-regulation
+	2.646805136	Q09666	AHNK_HUMAN	Neuroblastdifferentiation-associatedproteinAHNAK	Homo sapiens	AHNAK	down-regulated
+	1.729091791	P60903	S10AA_HUMAN	ProteinS100-A10	Homo sapiens	S100A10	down-regulated
+	1.942369382	P62805	H4_HUMAN	HistoneH4	Homo sapiens	HIST1H4A	down-regulated
+	2.10781878	P62873	GNB1_HUMAN	Guaninenucleotide-bindingproteinG(I)/G(S)/G(T)subunitbeta-1	Homo sapiens	GNB1	down-regulated
+	2.121541309	Q13045	FLII_HUMAN	Proteinflightless-1homolog	Homo sapiens	FLII	down-regulated
+	1.752420731	Q71DI3	H32_HUMAN	HistoneH3.2	Homo sapiens	HIST2H3A	down-regulated
+	1.247860179	P80217	IN35_HUMAN	Interferon-induced35kDaprotein	Homo sapiens	IFI35	up-regulated
+	2.580596148	Q14315	FLNC_HUMAN	Filamin-C	Homo sapiens	FLNC	down-regulated
+	1.878338705	Q01813	PFKAP_HUMAN	ATP-dependent6-phosphofructokinase,platelettype	Homo sapiens	PFKP	down-regulated
+	2.280218766	Q01995	TAGL_HUMAN	Transgelin	Homo sapiens	TAGLN	down-regulated
+	2.452618714	Q02790	FKBP4_HUMAN	Peptidyl-prolylcis-transisomeraseFKBP4	Homo sapiens	FKBP4	up-regulated
+	2.102109949	Q15019	SEPT2_HUMAN	Septin-2	Homo sapiens	SEPT2	down-regulated
+	2.315430492	Q03518	TAP1_HUMAN	Antigenpeptidetransporter1	Homo sapiens	TAP1	up-regulated
+	1.363322983	Q05519	SRS11_HUMAN	Serine/arginine-richsplicingfactor11	Homo sapiens	SRSF11	down-regulated
+	2.233465532	Q06210	GFPT1_HUMAN	Glutamine--fructose-6-phosphateaminotransferase[isomerizing]1	Homo sapiens	GFPT1	up-regulated
+	2.236564905	Q15149	PLEC_HUMAN	Plectin	Homo sapiens	PLEC	down-regulated
+	1.549274675	Q10471	GALT2_HUMAN	PolypeptideN-acetylgalactosaminyltransferase2	Homo sapiens	GALNT2	down-regulated
+	1.320606115	Q10472	GALT1_HUMAN	PolypeptideN-acetylgalactosaminyltransferase1	Homo sapiens	GALNT1	up-regulated
+	2.260549256	Q12874	SF3A3_HUMAN	Splicingfactor3Asubunit3	Homo sapiens	SF3A3	down-regulated
+	1.201522635	Q13011	ECH1_HUMAN	Delta(3,5)-Delta(2,4)-dienoyl-CoAisomerase,mitochondrial	Homo sapiens	ECH1	down-regulated
+	1.628826877	Q16181	SEPT7_HUMAN	Septin-7	Homo sapiens	SEPT7	down-regulated
+	1.354861439	Q13451	FKBP5_HUMAN	Peptidyl-prolylcis-transisomeraseFKBP5	Homo sapiens	FKBP5	down-regulated
+	2.102855785	Q13619	CUL4A_HUMAN	Cullin-4A	Homo sapiens	CUL4A	down-regulated
+	1.878398865	Q14108	SCRB2_HUMAN	Lysosomemembraneprotein2	Homo sapiens	SCARB2	up-regulated
+	1.549515149	Q16555	DPYL2_HUMAN	Dihydropyrimidinase-relatedprotein2	Homo sapiens	DPYSL2	down-regulated
+	3.398949891	Q14554	PDIA5_HUMAN	Proteinindisulfide-isomeraseA5	Homo sapiens	PDIA5	down-regulated
+	2.4553328	Q14764	MVP_HUMAN	Majorvaultprotein	Homo sapiens	MVP	down-regulated
+	2.324005502	Q14914	PTGR1_HUMAN	Prostaglandinreductase1	Homo sapiens	PTGR1	down-regulated
+	3.406335429	Q16658	FSCN1_HUMAN	Fascin	Homo sapiens	FSCN1	down-regulated
+	2.302852662	Q99439	CNN2_HUMAN	Calponin-2	Homo sapiens	CNN2	up-regulated
+	3.283138273	Q15646	OASL_HUMAN	2'-5'-oligoadenylatesynthase-likeprotein	Homo sapiens	OASL	up-regulated
+	2.217394578	Q9BUF5	TBB6_HUMAN	Tubulinbeta-6chain	Homo sapiens	TUBB6	down-regulated
+	2.561061429	Q9NZN4	EHD2_HUMAN	EHdomain-containingprotein2	Homo sapiens	EHD2	down-regulated
+	1.577606286	Q9ULV4	COR1C_HUMAN	Coronin-1C	Homo sapiens	CORO1C	down-regulated

Significant	-LOG(p-value)	Uniprot Accession	Uniprot ID	Name	Species	Gene	Up/down-regulation
+	1.999767899	Q16836	HCDH_HUMAN	Hydroxyacyl-coenzymeAdehydrogenase,mitochondrial	Homo sapiens	HADH	down-regulated
+	1.826012273	Q53EP0	FND3B_HUMAN	FibronectintypeIII domain-containingprotein3B	Homo sapiens	FNDC3B	up-regulated
+	1.552276205	Q58FF8	H90B2_HUMAN	PutativeheatshockproteinHSP90-beta2	Homo sapiens	HSP90AB2P	up-regulated
+	1.270364733	Q5EBM0	CMPK2_HUMAN	UMP-CMPkinase2,mitochondrial	Homo sapiens	CMPK2	up-regulated
+	1.463361821	Q5U651	RAIN_HUMAN	Ras-interactingprotein1	Homo sapiens	RASIP1	down-regulated
+	1.787507794	Q9C0H2	TTYH3_HUMAN	Proteintweetyhomolog3	Homo sapiens	TTYH3	down-regulated
+	1.650812059	Q6P5R6	RL22L_HUMAN	60SribosomalproteinL22-like1	Homo sapiens	RPL22L1	down-regulated
+	2.039280783	Q7Z2W4	ZCCHV_HUMAN	ZincfingerCCCH-typeantiviralprotein1	Homo sapiens	ZC3HAV1	up-regulated
+	1.878171649	Q86UX7	URP2_HUMAN	Fermitinfamilyhomolog3	Homo sapiens	FERMT3	down-regulated
+	1.583697895	Q8NC42	RN149_HUMAN	E3ubiquitin-proteinligaseRNF149	Homo sapiens	RNF149	down-regulated
+	1.497383781	Q8WWM7	ATX2L_HUMAN	Ataxin-2-likeprotein	Homo sapiens	ATXN2L	up-regulated
+	1.694896568	Q92890	UFD1_HUMAN	UbiquitinrecognitionfactorinER-associateddegradationprotein1	Homo sapiens	UFD1	up-regulated
+	1.969505466	Q969H8	MYDGF_HUMAN	Myeloid-derivedgrowthfactor	Homo sapiens	MYDGF	up-regulated
+	1.382502901	Q96C19	EFHD2_HUMAN	EF-handdomain-containingproteinD2	Homo sapiens	EFHD2	down-regulated
+	1.542673009	Q96CV9	OPTN_HUMAN	Optineurin	Homo sapiens	OPTN	up-regulated
+	1.613865805	Q96HY6	DDR GK_HUMAN	DDR GKdomain-containingprotein1	Homo sapiens	DDR GK1	up-regulated
+	2.875678045	Q96IZ0	PAWR_HUMAN	PRKCapoptosisWT1regulatorprotein	Homo sapiens	PAWR	up-regulated
+	1.211081218	Q96JJ7	TMX3_HUMAN	Protein disulfide-isomeraseTMX3	Homo sapiens	TMX3	up-regulated
+	1.801323121	Q96S97	MYADM_HUMAN	Myeloid-associateddifferentiationmarker	Homo sapiens	MYADM	up-regulated
+	4.192993681	P00441	SODC_HUMAN	Superoxidedismutase[Cu-Zn]	Homo sapiens	SOD1	up-regulated
+	1.392978492	Q99584	S10AD_HUMAN	ProteinS100-A13	Homo sapiens	S100A13	up-regulated
+	1.63392292	Q9BRX8	PXL2A_HUMAN	Peroxioredoxin-like2A	Homo sapiens	PRXL2A	down-regulated
+	1.948658409	Q9BS26	ERP44_HUMAN	Endoplasmicreticulumresidentprotein44	Homo sapiens	ERP44	up-regulated
+	1.617333177	P04275	VWF_HUMAN	vonWillebrandfactor	Homo sapiens	VWF	down-regulated
+	1.766838223	Q9H173	SIL1_HUMAN	Nucleotideexchange factorSIL1	Homo sapiens	SIL1	up-regulated
+	1.943140258	Q9NTK5	OLA1_HUMAN	Obg-likeATPase1	Homo sapiens	OLA1	down-regulated
+	1.830215639	Q9NUL5	RYDEN_HUMAN	RepressorofyieldofDENVprotein	Homo sapiens	RYDEN	up-regulated
+	0.842053064	Q9NY15	STAB1_HUMAN	Stabilin-1	Homo sapiens	STAB1	up-regulated
+	2.598572211	Q9NYL4	FKB11_HUMAN	Peptidyl-prolylcis-transisomeraseFKBP11	Homo sapiens	FKBP11	up-regulated
+	1.329038421	Q9NZ45	CISD1_HUMAN	CDGSHiron-sulfur domain-containingprotein1	Homo sapiens	CISD1	up-regulated
+	2.438077482	Q9NZM1	MYOF_HUMAN	Myoferlin	Homo sapiens	MYOF	down-regulated
+	1.548401269	P29279	CCN2_HUMAN	CCNfamilymember2	Homo sapiens	CCN2	up-regulated
+	1.789612702	Q9UBS4	DJB11_HUMAN	DnaJhomologsubfamilyBmember11	Homo sapiens	DNAJB11	up-regulated
+	1.932532493	Q9UKK3	PARP4_HUMAN	Proteinmono-ADP-ribosyltransferasePARP4	Homo sapiens	PARP4	down-regulated

Significant	-LOG(p-value)	Uniprot Accession	Uniprot ID	Name	Species	Gene	Up/down-regulation
+	2.121041419	P50570	DYN2_HUMAN	Dynamin-2	Homo sapiens	DNM2	up-regulated
+	1.663875263	Q9Y371	SHLB1_HUMAN	Endophilin-B1	Homo sapiens	SH3GLB1	up-regulated
+	2.614951661	Q9Y3Z3	SAMH1_HUMAN	DeoxynucleosidetriphosphatetriphosphohydrolaseSAMHD1	Homo sapiens	SAMHD1	down-regulated
+	2.108161482	Q9Y570	PPME1_HUMAN	Proteinphosphatasmethylesterase1	Homo sapiens	PPME1	up-regulated