

Supplementary data

Table S1: DKQ up, K37Q up

Gene Accession	Symbol	Definition
NM_001695.4	ATP6V1C1	Homo sapiens ATPase, H+ transporting, lysosomal 42kDa, V1 subunit C1 (ATP6V1C1), mRNA.
NR_002786.1	CIDECP	Homo sapiens cell death-inducing DFFA-like effector c pseudogene (CIDECP), non-coding RNA.
NR_001561.1	CYCSL1	Homo sapiens cytochrome c, somatic-like 1 (CYCSL1) on chromosome 6.
NM_182833.1	GDPD4	Homo sapiens glycerophosphodiester phosphodiesterase domain containing 4 (GDPD4), mRNA.
NM_001524.1	HCRT	Homo sapiens hypocretin (orexin) neuropeptide precursor (HCRT), mRNA.
NM_001098516.1	MUC20	Homo sapiens mucin 20, cell surface associated (MUC20), transcript variant S, mRNA.
NM_001042522.1	SPRED3	Homo sapiens sprouty-related, EVH1 domain containing 3 (SPRED3), transcript variant 1, mRNA.
NM_012464.3	TLL1	Homo sapiens tolloid-like 1 (TLL1), mRNA.
NM_178520.2	TMEM105	Homo sapiens transmembrane protein 105 (TMEM105), mRNA.
NM_003432.1	ZNF131	Homo sapiens zinc finger protein 131 (ZNF131), mRNA.

Table S2 : DKQ up, K37 Q down

Gene Accession	Symbol	Definition
NM_004270.3	CRSP9	Homo sapiens cofactor required for Sp1 transcriptional activation, subunit 9, 33kDa (CRSP9), mRNA.
NM_001005340.1	GPNMB	Homo sapiens glycoprotein (transmembrane) nmb (GPNMB), transcript variant 1, mRNA.
NM_014552.2	GRHL1	Homo sapiens grainyhead-like 1 (Drosophila) (GRHL1), transcript variant 1, mRNA.
NM_002217.3	ITIH3	Homo sapiens inter-alpha (globulin) inhibitor H3 (ITIH3), mRNA.
NM_033347.1	KCNK7	Homo sapiens potassium channel, subfamily K, member 7 (KCNK7), transcript variant A, mRNA.
NM_145800.2	SEPTIN6	Homo sapiens septin 6 (SEPT6), transcript variant III, mRNA.
NM_018128.4	TSR1	Homo sapiens TSR1, 20S rRNA accumulation, homolog (S. cerevisiae) (TSR1), mRNA.
NM_006624.3	ZMYND11	Homo sapiens zinc finger, MYND domain containing 11 (ZMYND11), transcript variant 1, mRNA.

Table S3: DKQ up, K37 Q unchanged

Gene Accession	Symbol	Definition
NM_199162.1	ADPRHL1	Homo sapiens ADP-ribosylhydrolase like 1 (ADPRHL1), transcript variant 2, mRNA.
NM_001153.2	ANXA4	Homo sapiens annexin A4 (ANXA4), mRNA.
NM_199077.1	CNNM2	Homo sapiens cyclin M2 (CNNM2), transcript variant 3, mRNA.
NM_001546.2	ID4	Homo sapiens inhibitor of DNA binding 4, dominant negative helix-loop-helix protein (ID4), mRNA.
NM_014790.3	JAKMIP2	Homo sapiens janus kinase and microtubule interacting protein 2 (JAKMIP2), mRNA.
NM_199464.1	KCNRG	Homo sapiens potassium channel regulator (KCNRG), transcript variant 2, mRNA.
NM_002312.3	LIG4	Homo sapiens ligase IV, DNA, ATP-dependent (LIG4), transcript variant 1, mRNA.
NM_001038603.1	MARVELD2	Homo sapiens MARVEL domain containing 2 (MARVELD2), transcript variant 1, mRNA.
NM_002466.2	MYBL2	Homo sapiens v-myb myeloblastosis viral oncogene homolog (avian)-like 2 (MYBL2), mRNA.
NM_001029884.1	PLEKHG1	Homo sapiens pleckstrin homology domain containing, family G (with RhoGef domain) member 1 (PLEKHG1), mRNA.
NM_015723.2	PNPLA8	Homo sapiens patatin-like phospholipase domain containing 8 (PNPLA8), mRNA.
NM_003069.2	SMARCA1	Homo sapiens SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily a, member 1 (SMARCA1), transcript variant 1, mRNA.

Table S4: DKQ down, K37Q up

Gene Accession	Symbol	Definition
NM_002982.3	CCL2	Homo sapiens chemokine (C-C motif) ligand 2 (CCL2), mRNA.
NM_001001391.1	CD44	Homo sapiens CD44 molecule (Indian blood group) (CD44), transcript variant 4, mRNA.
NM_001781.1	CD69	Homo sapiens CD69 molecule (CD69), mRNA.
NM_001511.1	CXCL1	Homo sapiens chemokine (C-X-C motif) ligand 1 (melanoma growth stimulating activity, alpha) (CXCL1), mRNA.
NM_002089.3	CXCL2	Homo sapiens chemokine (C-X-C motif) ligand 2 (CXCL2), mRNA.
NM_002994.3	CXCL5	Homo sapiens chemokine (C-X-C motif) ligand 5 (CXCL5), mRNA.
NM_000584.2	IL8	Homo sapiens interleukin 8 (IL8), mRNA.
NM_002960.1	S100A3	Homo sapiens S100 calcium binding protein A3 (S100A3), mRNA.
NM_016562.3	TLR7	Homo sapiens toll-like receptor 7 (TLR7), mRNA.
NM_000594.2	TNF	Homo sapiens tumor necrosis factor (TNF superfamily, member 2) (TNF), mRNA.
NM_001561.4	TNFRSF9	Homo sapiens tumor necrosis factor receptor superfamily, member 9 (TNFRSF9), mRNA.
NM_033229.2	TRIM15	Homo sapiens tripartite motif-containing 15 (TRIM15), mRNA.

Table S5: DKQ down, K37Q down

Gene Accession	Symbol	Definition
NM_019052.2	CCHCR1	Homo sapiens coiled-coil alpha-helical rod protein 1 (CCHCR1), mRNA.
NM_006727.2	CDH10	Homo sapiens cadherin 10, type 2 (T2-cadherin) (CDH10), mRNA.
NM_001565.2	CXCL10	Homo sapiens chemokine (C-X-C motif) ligand 10 (CXCL10), mRNA.
NM_000780.2	CYP7A1	Homo sapiens cytochrome P450, family 7, subfamily A, polypeptide 1 (CYP7A1), mRNA.
NM_203429.1	DSCR8	Homo sapiens Down syndrome critical region gene 8 (DSCR8), transcript variant 3, mRNA.
NM_004120.3	GBP2	Homo sapiens guanylate binding protein 2, interferon-inducible (GBP2), mRNA.
NM_021067.3	GINS1	Homo sapiens GINS complex subunit 1 (Psf1 homolog) (GINS1), mRNA.
NM_002120.3	HLA-DOB	Homo sapiens major histocompatibility complex, class II, DO beta (HLA-DOB), mRNA.
NM_000864.3	HTR1D	Homo sapiens 5-hydroxytryptamine (serotonin) receptor 1D (HTR1D), mRNA.
NM_005531.1	IFI16	Homo sapiens interferon, gamma-inducible protein 16 (IFI16), mRNA.
NM_022168.2	IFIH1	Homo sapiens interferon induced with helicase C domain 1 (IFIH1), mRNA.
NM_001033112.1	PAIP2	Homo sapiens poly(A) binding protein interacting protein 2 (PAIP2), transcript variant 1, mRNA.
NM_133509.2	RAD51L1	Homo sapiens RAD51-like 1 (<i>S. cerevisiae</i>) (RAD51L1), transcript variant 3, mRNA.
NM_014331.3	SLC7A11	Homo sapiens solute carrier family 7, (cationic amino acid transporter, y+ system) member 11 (SLC7A11), mRNA.
NM_000361.2	THBD	Homo sapiens thrombomodulin (THBD), mRNA.

Table S6: DKQ down, K37Q unchanged

Gene Accession	Symbol	Definition
NM_005623.2	CCL8	Homo sapiens chemokine (C-C motif) ligand 8 (CCL8), mRNA.
NM_001040280.1	CD83	Homo sapiens CD83 molecule (CD83), transcript variant 2, mRNA.
NM_001080848.1	CSAG3B	Homo sapiens CSAG family, member 3B (CSAG3B), mRNA.
NM_001080426.1	DUSP27	Homo sapiens dual specificity phosphatase 27 (putative) (DUSP27), mRNA.
NM_004428.2	EFNA1	Homo sapiens ephrin-A1 (EFNA1), transcript variant 1, mRNA.
NM_013365.3	GGA1	Homo sapiens golgi associated, gamma adaptin ear containing, ARF binding protein 1 (GGA1), transcript variant 1, mRNA.
NM_022081.4	HPS4	Homo sapiens Hermansky-Pudlak syndrome 4 (HPS4), transcript variant 1, mRNA.
NM_003897.3	IER3	Homo sapiens immediate early response 3 (IER3), mRNA.
NM_005204.2	MAP3K8	Homo sapiens mitogen-activated protein kinase kinase kinase 8 (MAP3K8), mRNA.
NM_001085.4	SERPINA3	Homo sapiens serpin peptidase inhibitor, clade A (alpha-1 antiproteinase, antitrypsin), member 3 (SERPINA3), mRNA.
NM_003255.4	TIMP2	Homo sapiens TIMP metalloproteinase inhibitor 2 (TIMP2), mRNA.
NM_001078.2	VCAM1	Homo sapiens vascular cell adhesion molecule 1 (VCAM1), transcript variant 1, mRNA.

Table S7: DKQ unchanged, K37Q up

Gene Accession	Symbol	Definition
NM_024899.2	CEP76	Homo sapiens centrosomal protein 76kDa (CEP76), mRNA.
NM_080760.3	DACH1	Homo sapiens dachshund homolog 1 (Drosophila) (DACH1), transcript variant 2, mRNA.
NM_002229.2	JUNB	Homo sapiens jun B proto-oncogene (JUNB), mRNA.
NM_178587.1	PPP2R5C	Homo sapiens protein phosphatase 2, regulatory subunit B', gamma isoform (PPP2R5C), transcript variant 3, mRNA.
NM_017730.2	QRICH1	Homo sapiens glutamine-rich 1 (QRICH1), transcript variant 1, mRNA.
NM_001010935.1	RAP1A	Homo sapiens RAP1A, member of RAS oncogene family (RAP1A), transcript variant 1, mRNA.
NM_147156.3	SGMS1	Homo sapiens sphingomyelin synthase 1 (SGMS1), mRNA.
NM_004694.3	SLC16A6	Homo sapiens solute carrier family 16, member 6 (monocarboxylic acid transporter 7) (SLC16A6), mRNA.
NM_014258.2	SYCP2	Homo sapiens synaptonemal complex protein 2 (SYCP2), mRNA.
NM_025079.1	ZC3H12A	Homo sapiens zinc finger CCCH-type containing 12A (ZC3H12A), mRNA.

Table S8: DKQ unchanged, K37Q down

Gene Accession	Symbol	Definition
NM_198440.2	DERL3	Homo sapiens Der1-like domain family, member 3
NR_002793.1	LOC220115	Homo sapiens TPTE and PTEN homologous inositol lipid phosphatase pseudogene
NM_138796.2	SPATA17	Homo sapiens spermatogenesis associated 17
NM_003126.2	SPTA1	Homo sapiens spectrin, alpha, erythrocytic 1 (elliptocytosis 2)
NM_001077511.1	TCF19	Homo sapiens transcription factor 19 (TCF19), transcript variant 2
NM_012263.3	TTLL1	Homo sapiens tubulin tyrosine ligase-like family, member 1

Table S9: DKQ unchanged, K37Q unchanged

Gene Accession	Symbol	Definition
NM_020371.2	AVEN	Homo sapiens apoptosis, caspase activation inhibitor (AVEN), mRNA.
NM_004331.2	BNIP3L	Homo sapiens BCL2/adenovirus E1B 19kDa interacting protein 3-like (BNIP3L), mRNA.
NM_001039933.1	CD79B	Homo sapiens CD79b molecule, immunoglobulin-associated beta (CD79B), transcript variant 3, mRNA.
NM_198066.2	GNPNAT1	Homo sapiens glucosamine-phosphate N-acetyltransferase 1 (GNPNAT1), mRNA.
NM_000839.2	GRM2	Homo sapiens glutamate receptor, metabotropic 2 (GRM2), mRNA.
NM_024659.2	GTDC1	Homo sapiens glycosyltransferase-like domain containing 1 (GTDC1), transcript variant 2, mRNA.
NM_016315.2	GULP1	Homo sapiens GULP, engulfment adaptor PTB domain containing 1 (GULP1), mRNA.
NM_130760.2	MADCAM1	Homo sapiens mucosal vascular addressin cell adhesion molecule 1 (MADCAM1), transcript variant 1, mRNA.
NM_003629.2	PIK3R3	Homo sapiens phosphoinositide-3-kinase, regulatory subunit 3 (p55, gamma) (PIK3R3), mRNA.
NM_000963.1	PTGS2	Homo sapiens prostaglandin-endoperoxide synthase 2 (prostaglandin G/H synthase and cyclooxygenase) (PTGS2), mRNA.
NM_002841.2	PTPRG	Homo sapiens protein tyrosine phosphatase, receptor type, G (PTPRG), mRNA.
NM_031309.4	SCRT1	Homo sapiens scratch homolog 1, zinc finger protein (Drosophila) (SCRT1), mRNA.
NM_000543.3	SMPD1	Homo sapiens sphingomyelin phosphodiesterase 1, acid lysosomal (SMPD1), transcript variant ASM-1, mRNA.
NM_006662.2	SRCAP	Homo sapiens Snf2-related CREBBP activator protein (SRCAP), mRNA.
NM_152858.1	WTAP	Homo sapiens Wilms tumor 1 associated protein (WTAP), transcript variant 3, mRNA.