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Supplementary Material: *Reproduction, Fertility and Development*

Supplementary Material

Short-term effect of FSH on gene expression in bovine granulosa cells *in vitro*

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Table S1. 567 differentially expressed protein-coding transcripts influenced by the 4 h FSH stimulation (fold-change 1.5 and *P*-value 0.05)

Gene symbol	Description	log2 (Fold change)	*P*-value	Mean across conditions
PLK2	polo-like kinase 2 (Drosophila)	3,13	7,99E-05	11,42
NR4A1	nuclear receptor subfamily 4, group A, member 1	3,02	1,49E-05	13,93
HAS2	hyaluronan synthase 2	2,52	1,04E-04	9,69
ARHGAP18	Rho GTPase activating protein 18	2,52	2,04E-05	10,85
ADAMTS1	ADAM metallopeptidase with thrombospondin type 1 motif, 1	2,46	4,24E-04	13,73
BAMBI	BMP and activin membrane-bound inhibitor homolog (Xenopus laevis)	2,37	1,12E-04	11,98
GEM	GTP binding protein overexpressed in skeletal muscle	2,08	8,38E-05	14,79
GFPT2	glutamine-fructose-6-phosphate transaminase 2	2,04	6,64E-05	14,80
THBS1	thrombospondin 1	1,97	8,87E-04	12,72
IGFBP3	insulin-like growth factor binding protein 3	1,81	6,15E-06	9,58
TNFAIP6	tumor necrosis factor, alpha-induced protein 6	1,71	2,86E-06	14,76
BMP2	bone morphogenetic protein 2	1,70	1,03E-03	12,97
FGF2	fibroblast growth factor 2 (basic)	1,68	7,11E-04	8,04
FIBIN	fin bud initiation factor homolog (zebrafish)	1,67	2,62E-04	9,53
FOSL1	FOS-like antigen 1	1,65	3,21E-04	11,07
SRXN1	sulfiredoxin 1 homolog (S. cerevisiae)	1,64	2,86E-05	12,72
HOMER1	homer homolog 1 (Drosophila)	1,64	3,15E-04	8,05
SLC39A8	solute carrier family 39 (zinc transporter), member 8	1,59	1,67E-04	14,56
EGR1	early growth response 1	1,58	2,76E-04	9,96
FGD5	FYVE, RhoGEF and PH domain containing 5	1,58	9,60E-05	10,90
LYPD1	LY6/PLAUR domain containing 1	1,56	2,91E-04	9,78
CNKSR3	CNKSR family member 3	1,56	2,45E-04	13,23
SLC22A23	solute carrier family 22, member 23	1,55	5,34E-05	9,70
TMCC3	transmembrane and coiled-coil domain family 3	1,55	6,89E-04	10,77
WWC2	WW and C2 domain containing 2	1,52	2,55E-04	8,46
IL4R	interleukin 4 receptor	1,50	3,71E-05	12,95
PEG3	paternally expressed 3	1,49	7,16E-05	10,51
STARD13	StAR-related lipid transfer (START) domain containing 13	1,49	1,06E-03	9,15

LITAF	lipopolysaccharide-induced TNF factor	1,47	1,04E-04	10,00
ELL2	elongation factor, RNA polymerase II, 2	1,42	3,19E-06	9,48
GRAMD1B	GRAM domain containing 1B	1,42	7,03E-06	8,81
RASD2	RASD family, member 2	1,42	9,03E-06	9,23
TJP2	tight junction protein 2 (zona occludens 2)	1,41	8,36E-05	11,90
PTPRU	protein tyrosine phosphatase, receptor type, U	1,39	5,42E-05	9,80
DLL4	delta-like 4 (Drosophila)	1,39	3,65E-04	9,48
PGR	progesterone receptor	1,37	1,31E-04	11,78
BDNF	brain-derived neurotrophic factor	1,37	2,94E-05	8,67
GADD45A	growth arrest and DNA-damage-inducible, alpha	1,36	3,63E-03	9,90
RGN	regucalcin (senescence marker protein-30)	1,36	4,97E-04	9,91
NPY1R	neuropeptide Y receptor Y1	1,35	6,30E-05	7,55
RCAN1	regulator of calcineurin 1	1,35	3,62E-04	9,30
ATF3	activating transcription factor 3	1,35	9,36E-04	11,33
TRAF1	TNF receptor-associated factor 1	1,31	3,43E-05	9,96
HK2	hexokinase 2	1,31	1,60E-06	10,97
F2RL1	coagulation factor II (thrombin) receptor-like 1	1,30	1,16E-04	8,48
RGS2	regulator of G-protein signaling 2, 24kDa	1,29	7,26E-04	11,47
ZNF385B	zinc finger protein 385B	1,29	1,61E-03	11,10
GRK5	G protein-coupled receptor kinase 5	1,28	6,93E-04	8,78
TRIB1	tribbles homolog 1 (Drosophila)	1,28	1,66E-03	10,92
RASAL1	RAS protein activator like 1 (GAP1 like)	1,27	9,29E-04	10,19
HMOX2	heme oxygenase (decycling) 2	1,26	6,59E-05	10,84
TNFRSF12A	tumor necrosis factor receptor superfamily, member 12A	1,25	3,69E-03	12,04
RNF128	ring finger protein 128	1,25	5,06E-04	10,35
SYT4	synaptotagmin IV	1,24	1,88E-05	7,80
NGF	nerve growth factor (beta polypeptide)	1,22	7,55E-04	8,84
BTG1	B-cell translocation gene 1, anti-proliferative	1,22	1,66E-03	14,61
SPRY2	sprouty homolog 2 (Drosophila)	1,22	5,94E-04	11,41
CHST2	carbohydrate (N-acetylglucosamine-6-O)	1,22	1,06E-04	8,66
LRRN3	leucine rich repeat neuronal 3	1,21	1,14E-03	8,79
SAMD8	sterile alpha motif domain containing 8	1,21	6,64E-05	9,13
SOCS2	suppressor of cytokine signaling 2	1,20	9,53E-06	8,66
ATP6V1C1	ATPase, H+ transporting, lysosomal 42kDa, V1 subunit C1	1,20	8,81E-05	11,84

PPP1R15B	protein phosphatase 1, regulatory (inhibitor) subunit 15B	1,20	5,03E-06	13,79
BTG2	BTG family, member 2	1,19	1,14E-03	12,55
IER2	immediate early response 2	1,19	1,33E-04	11,53
ARFGAP3	ADP-ribosylation factor GTPase activating protein 3	1,19	2,54E-05	13,76
MS4A8B	membrane-spanning 4-domains, subfamily A, member 8B	1,18	5,41E-04	9,60
SOX4	SRY (sex determining region Y)-box 4	1,18	2,55E-06	9,43
APCDD1	adenomatosis polyposis coli down-regulated 1	1,17	1,41E-06	11,25
AKAP7	A kinase (PRKA) anchor protein 7	1,17	3,86E-04	9,82
RHOB	ras homolog gene family, member B	1,16	1,03E-04	12,28
MARK1	MAP/microtubule affinity-regulating kinase 1	1,15	2,96E-05	11,13
ZFAND5	zinc finger, AN1-type domain 5	1,14	3,09E-04	12,38
AGPAT9	1-acylglycerol-3-phosphate O-acyltransferase 9	1,13	1,22E-04	10,23
ABHD6	abhydrolase domain containing 6	1,13	9,61E-04	9,23
CXCR7	chemokine (C-X-C motif) receptor 7	1,13	1,79E-05	8,85
PCDH8	protocadherin 8	1,12	4,58E-04	8,90
LRRFIP1	leucine rich repeat (in FLII) interacting protein 1	1,12	2,92E-04	10,00
COBLL1	COBL-like 1	1,12	1,12E-03	9,15
FAM110B	family with sequence similarity 110, member B	1,12	5,75E-03	9,79
L3MBTL3	l(3)mbt-like 3 (Drosophila)	1,11	1,26E-04	12,28
CEBPD	CCAAT/enhancer binding protein (C/EBP), delta	1,10	7,76E-05	15,18
PRPF19	PRP19/PSO4 pre-mRNA processing factor 19 homolog (S. cerevisiae)	1,09	5,06E-03	10,93
DLG5	discs, large homolog 5 (Drosophila)	1,09	4,65E-04	13,23
IL21R	interleukin 21 receptor	1,09	5,88E-04	9,18
NTRK1	neurotrophic tyrosine kinase, receptor, type 1	1,09	2,21E-03	8,33
STK17A	serine/threonine kinase 17a	1,09	1,06E-05	11,93
TMEM37	transmembrane protein 37	1,07	4,76E-04	13,12
ABCB1	ATP-binding cassette, sub-family B (MDR/TAP), member 1	1,07	8,58E-04	11,65
TSPAN12	tetraspanin 12	1,05	8,84E-04	8,54
UAP1	UDP-N-acteylglucosamine pyrophosphorylase 1	1,04	2,81E-04	13,26
NDP	Norrie disease (pseudoglioma)	1,04	3,85E-03	13,42
SLC25A28	solute carrier family 25, member 28	1,03	1,97E-04	9,62
PRKAG2	protein kinase, AMP-activated, gamma 2 non-catalytic subunit	1,03	1,75E-03	10,86
OAT	ornithine aminotransferase	1,02	2,42E-04	14,48

GPR77	G protein-coupled receptor 77	1,02	6,89E-04	8,51
RGS2	regulator of G-protein signaling 2, 24kDa	1,02	1,58E-03	9,62
SIK3	SIK family kinase 3	1,02	3,45E-05	13,89
KSR1	kinase suppressor of ras 1	1,01	1,64E-04	8,59
ARRDC3	arrestin domain containing 3	1,00	7,46E-06	7,51
DPH3	DPH3, KTI11 homolog (S. cerevisiae)	1,00	1,38E-05	11,02
NCALD	neurocalcin delta	0,99	1,93E-04	8,76
DMRTA1	DMRT-like family A1	0,99	2,17E-04	7,91
SGMS2	sphingomyelin synthase 2	0,99	8,80E-04	8,27
ISG20	interferon stimulated exonuclease gene 20kDa	0,97	9,34E-03	8,14
COL4A1	collagen, type IV, alpha 1	0,97	4,59E-03	12,47
MYST4	MYST histone acetyltransferase (monocytic leukemia) 4	0,95	1,90E-06	12,07
ANKRD50	ankyrin repeat domain 50	0,95	1,92E-04	12,38
SDC4	syndecan 4	0,94	6,73E-03	10,36
DST	dystonin	0,94	3,23E-04	13,52
B3GALNT2	beta-1,3-N-acetylgalactosaminyltransferase 2	0,93	1,55E-03	9,57
ZNF462	zinc finger protein 462	0,93	6,44E-05	11,04
SBDS	Shwachman-Bodian-Diamond syndrome	0,93	3,48E-03	9,17
REG4	regenerating islet-derived family, member 4	0,93	2,87E-05	8,36
GCH1	GTP cyclohydrolase 1	0,93	3,49E-05	12,83
SCARB1	scavenger receptor class B, member 1	0,93	1,52E-03	11,54
PCBD1	pterin-4 alpha-carbinolamine dehydratase/dimerization cofactor of hepatocyte nuclear factor 1 alpha	0,92	2,09E-04	10,46
NEDD9	neural precursor cell expressed, developmentally down-regulated 9	0,92	1,03E-02	9,05
CMTM8	CKLF-like MARVEL transmembrane domain containing 8	0,92	2,80E-03	12,38
RND3	Rho family GTPase 3	0,92	1,08E-02	9,94
BAALC	brain and acute leukemia, cytoplasmic	0,92	2,60E-03	7,49
CREM	cAMP responsive element modulator	0,91	8,44E-04	7,92
SNAI2	snail homolog 2 (Drosophila)	0,91	1,27E-02	8,33
FGFR2	fibroblast growth factor receptor 2	0,91	1,97E-04	10,06
GINS4	GINS complex subunit 4 (Sld5 homolog)	0,90	5,14E-04	11,01
YWHAQ	tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein, theta polypeptide	0,89	2,42E-04	15,38
ZFAND2A	zinc finger, AN1-type domain 2A	0,89	6,63E-04	11,40
SCG2	secretogranin II (chromogranin C)	0,89	8,24E-04	11,03

IL33	interleukin 33	0,89	4,18E-03	10,13
SLC37A3	solute carrier family 37 (glycerol-3-phosphate transporter), member 3	0,89	1,39E-03	12,68
PITPNB	phosphatidylinositol transfer protein, beta	0,88	4,88E-05	7,68
CDC42SE1	CDC42 small effector 1	0,87	5,17E-05	11,31
DCLRE1B	DNA cross-link repair 1B (PSO2 homolog, S. cerevisiae)	0,87	1,22E-04	9,30
STAR	steroidogenic acute regulatory protein	0,87	3,14E-05	12,28
GLCCI1	glucocorticoid induced transcript 1	0,87	2,72E-04	8,73
ETS2	v-ets erythroblastosis virus E26 oncogene homolog 2 (avian)	0,86	3,42E-04	9,45
FBLN2	fibulin 2	0,86	2,00E-03	9,63
INPP1	inositol polyphosphate-1-phosphatase	0,86	4,11E-04	10,28
CLMN	calmin (calponin-like, transmembrane)	0,86	1,60E-04	9,51
JOSD1	Josephin domain containing 1	0,86	7,81E-05	11,95
HERC5	hect domain and RLD 5	0,85	4,87E-04	10,65
FOS	FBJ murine osteosarcoma viral oncogene homolog	0,85	1,16E-04	10,93
PARM1	prostate androgen-regulated mucin-like protein 1	0,85	6,62E-05	8,83
LIX1	Lix1 homolog (chicken)	0,85	5,61E-06	9,77
NDRG1	N-myc downstream regulated 1	0,84	6,12E-04	10,74
GOT1	glutamic-oxaloacetic transaminase 1, soluble (aspartate aminotransferase 1)	0,84	2,66E-04	10,31
SLC4A7	solute carrier family 4, sodium bicarbonate cotransporter, member 7	0,84	6,42E-05	9,38
ARHGEF3	Rho guanine nucleotide exchange factor (GEF) 3	0,84	3,35E-03	10,00
ITGA7	integrin, alpha 7	0,84	3,82E-04	10,32
IRF2BP2	interferon regulatory factor 2 binding protein 2	0,84	3,10E-04	11,31
CLDND1	claudin domain containing 1	0,83	2,50E-04	14,92
SUCLA2	succinate-CoA ligase, ADP-forming, beta subunit	0,83	2,18E-03	11,44
FBXW2	F-box and WD repeat domain containing 2	0,83	2,68E-04	11,71
PRDM1	PR domain containing 1, with ZNF domain	0,83	1,68E-03	7,87
PTPN13	protein tyrosine phosphatase, non-receptor type 13 (APO-1/CD95 (Fas)-associated phosphatase)	0,83	1,07E-02	11,56
JUND	jun D proto-oncogene	0,83	1,32E-03	10,16
ZNF295	zinc finger protein 295	0,82	7,16E-06	9,03

RASSF8	Ras association (RalGDS/AF-6) domain family (N-terminal) member 8	0,82	9,40E-04	9,81
CYP3A5	cytochrome P450, family 3, subfamily A, polypeptide 5	0,81	1,20E-02	8,15
SOBP	sine oculis binding protein homolog (Drosophila)	0,81	2,32E-05	12,83
OSTM1	osteopetrosis associated transmembrane protein 1	0,81	3,37E-06	11,40
JPH1	junctophilin 1	0,81	1,05E-03	8,73
NUDT4	nudix (nucleoside diphosphate linked moiety X)-type motif 4	0,81	4,47E-04	9,20
CYP11A1	cytochrome P450, family 11, subfamily A, polypeptide 1	0,81	1,69E-03	12,38
ENKUR	enkurin, TRPC channel interacting protein	0,81	2,74E-04	7,83
LRP6	low density lipoprotein receptor-related protein 6	0,80	5,08E-06	12,40
NINJ1	ninjurin 1	0,80	2,53E-04	12,17
EHD3	EH-domain containing 3	0,80	1,60E-03	8,73
LTA	lymphotoxin alpha (TNF superfamily, member 1)	0,80	3,98E-05	10,00
PSMB9	proteasome (prosome, macropain) subunit, beta type, 9 (large multifunctional peptidase 2)	0,80	1,28E-04	9,51
TP53BP2	tumor protein p53 binding protein, 2	0,80	3,73E-03	14,80
TET3	tet oncogene family member 3	0,80	3,95E-04	11,45
NOG	noggin	0,79	1,75E-04	7,76
PLIN3	perilipin 3	0,79	4,44E-03	10,46
PRPSAP2	phosphoribosyl pyrophosphate synthetase-associated protein 2	0,79	7,70E-05	12,62
PLIN2	perilipin 2	0,79	9,27E-04	14,17
FKBP1A	FK506 binding protein 1A, 12kDa	0,78	7,86E-05	11,57
SLCO2B1	solute carrier organic anion transporter family, member 2B1	0,78	1,86E-02	8,48
PRR12	proline rich 12	0,78	4,57E-06	11,57
RCOR2	REST corepressor 2	0,78	4,58E-05	12,60
CLN8	ceroid-lipofuscinosis. neuronal 8 (epilepsy. progressive with mental retardation)	0,78	1,42E-04	10,53
CDC42EP1	CDC42 effector protein (Rho GTPase binding) 1	0,78	2,23E-05	11,84
TCHH	trichohyalin	0,78	6,07E-04	11,22
TIMP2	TIMP metallopeptidase inhibitor 2	0,78	1,84E-04	14,68
JUNB	jun B proto-oncogene	0,77	7,28E-04	8,62
SCP2	sterol carrier protein 2	0,77	5,79E-05	11,72
KDR	kinase insert domain receptor (a type III receptor tyrosine kinase)	0,77	9,97E-04	7,70

BARX2	BARX homeobox 2	0,77	1,78E-04	10,91
AGTR2	angiotensin II receptor, type 2	0,77	3,31E-03	7,80
FADS1	fatty acid desaturase 1	0,76	4,46E-04	11,64
MAP1LC3C	microtubule-associated protein 1 light chain 3 gamma	0,76	5,42E-04	9,75
NT5E	5'-nucleotidase, ecto (CD73)	0,76	1,73E-03	9,46
ARID3A	AT rich interactive domain 3A (BRIGHT-like)	0,76	2,15E-04	8,11
HSPA13	stress 70 protein chaperone, microsome-associated, 60kDa	0,76	3,42E-06	9,10
GPR162	G protein-coupled receptor 162	0,76	4,36E-05	10,99
POLDIP3	polymerase (DNA-directed), delta interacting protein 3	0,76	1,64E-06	8,50
TMEM159	transmembrane protein 159	0,75	1,01E-04	11,93
CYP19A1	cytochrome P450. family 19. subfamily A. polypeptide 1	0,75	9,58E-05	8,64
EEA1	early endosome antigen 1	0,75	1,19E-03	8,14
CAMK2N2	calcium/calmodulin-dependent protein kinase II inhibitor 2	0,75	5,08E-04	9,29
SRRM2	serine/arginine repetitive matrix 2	0,74	8,63E-03	12,41
DMBT1	deleted in malignant brain tumors 1	0,74	1,03E-05	11,09
GLDN	gliomedin	0,74	3,61E-04	7,98
MAPK8	mitogen-activated protein kinase 8	0,74	7,84E-05	11,76
GLRX5	glutaredoxin 5	0,74	3,43E-04	13,06
AGPAT4	1-acylglycerol-3-phosphate O-acyltransferase 4 (lysophosphatidic acid acyltransferase, delta)	0,74	3,15E-04	8,56
TCF7L1	transcription factor 7-like 1 (T-cell specific, HMG-box)	0,74	6,89E-04	7,77
ZKSCAN5	zinc finger with KRAB and SCAN domains 5	0,73	1,94E-05	11,91
S1PR2	sphingosine-1-phosphate receptor 2	0,73	9,99E-05	11,10
SLC35F5	solute carrier family 35, member F5	0,73	5,20E-03	11,88
SERTAD1	SERTA domain containing 1	0,73	1,94E-04	8,53
ITGB1BP1	integrin beta 1 binding protein 1	0,73	7,74E-05	13,19
ZNF75D	zinc finger protein 75D	0,73	1,58E-04	10,62
BBOX1	butyrobetaine (gamma), 2-oxoglutarate dioxygenase (gamma-butyrobetaine hydroxylase) 1	0,72	5,43E-05	7,10
EPHB4	EPH receptor B4	0,72	7,88E-06	12,85
INGX	inhibitor of growth family, X-linked, pseudogene	0,72	1,14E-04	10,56
POLI	polymerase (DNA directed) iota	0,72	5,10E-03	11,61
MMP17	matrix metallopeptidase 17 (membrane-inserted)	0,72	6,51E-04	10,58
UPK3A	uroplakin 3A	0,72	1,67E-05	10,80
RASD1	RAS, dexamethasone-induced 1	0,71	1,73E-03	9,54

SLAMF6	SLAM family member 6	0,71	2,60E-05	12,53
IGF1R	insulin-like growth factor 1 receptor	0,71	5,29E-06	8,69
NIT2	nitrilase family. member 2	0,71	1,05E-05	10,03
PERP	PERP. TP53 apoptosis effector	0,71	4,37E-05	12,16
TLE3	transducin-like enhancer of split 3 (E(sp1) homolog, Drosophila)	0,71	6,45E-05	10,66
CDC42BPA	CDC42 binding protein kinase alpha (DMPK-like)	0,71	5,05E-04	9,46
SMYD2	SET and MYND domain containing 2	0,71	1,74E-04	11,41
CRMP1	collapsin response mediator protein 1	0,70	6,22E-06	9,92
ARL4C	ADP-ribosylation factor-like 4C	0,70	2,59E-06	12,40
ERBB2IP	erbb2 interacting protein	0,70	2,32E-06	11,92
EPB41L2	erythrocyte membrane protein band 4.1-like 2	0,70	6,93E-06	9,11
PLCXD3	phosphatidylinositol-specific phospholipase C. X domain containing 3	0,70	1,83E-04	9,27
HERC1	hect (homologous to the E6-AP (UBE3A) carboxyl terminus) domain and RCC1 (CHC1)-like domain (RLD) 1	0,70	6,04E-04	8,05
ARHGAP21	Rho GTPase activating protein 21	0,70	3,59E-03	10,30
TIMP1	TIMP metallopeptidase inhibitor 1	0,70	5,73E-03	11,72
SIPA1L1	signal-induced proliferation-associated 1 like 1	0,70	6,56E-04	12,99
RAI2	retinoic acid induced 2	0,69	4,20E-05	8,95
ANXA11	annexin A11	0,69	6,20E-05	13,12
TSC22D1	TSC22 domain family, member 1	0,69	3,69E-03	9,36
GRHL1	grainyhead-like 1 (Drosophila)	0,69	1,29E-02	8,67
GAT	glycine-N-acyltransferase-like	0,69	2,53E-05	8,47
LFNG	LFNG O-fucosylpeptide 3-beta-N-acetylglucosaminyltransferase	0,69	3,26E-05	12,84
RB1CC1	RB1-inducible coiled-coil 1	0,69	5,77E-05	11,11
TAF15	TAF15 RNA polymerase II, TATA box binding protein (TBP)-associated factor, 68kDa	0,69	1,27E-04	13,00
BCO2	beta-carotene oxygenase 2	0,69	2,32E-03	8,67
AQP3	aquaporin 3 (Gill blood group)	0,69	1,08E-05	12,14
ZFP36L1	zinc finger protein 36, C3H type-like 1	0,69	5,29E-03	13,42
CLEC2L	C-type lectin domain family 2, member L	0,69	5,47E-03	7,44
PANK3	pantothenate kinase 3	0,69	6,32E-04	9,62
PALMD	palmdelphin	0,68	1,28E-04	7,62
STAT3	signal transducer and activator of transcription 3 (acute-phase response factor)	0,68	6,63E-05	8,53
NRIP3	nuclear receptor interacting protein 3	0,68	1,89E-04	8,19
PLCL2	phospholipase C-like 2	0,68	2,30E-05	12,77

PDE4B	phosphodiesterase 4B. cAMP-specific (phosphodiesterase E4 dunce homolog. Drosophila)	0,68	7,75E-04	9,56
DCTN6	dynactin 6	0,68	9,74E-04	11,78
GP1BA	glycoprotein Ib (platelet), alpha polypeptide	0,68	6,48E-05	12,98
ADCY6	adenylate cyclase 6	0,68	4,05E-05	12,49
NPC1	Niemann-Pick disease, type C1	0,67	5,23E-03	9,42
UNC93A	unc-93 homolog A (C. elegans)	0,67	2,34E-03	10,33
JMJD1C	jumonji domain containing 1C	0,67	6,70E-03	12,50
ACOT11	acyl-CoA thioesterase 11	0,67	1,17E-06	10,69
IL20RA	interleukin 20 receptor. Alpha	0,67	2,81E-06	11,27
CSNK1G2	casein kinase 1, gamma 2	0,67	1,83E-05	14,87
PRKCQ	protein kinase C, theta	0,67	1,13E-04	13,50
SOCS1	suppressor of cytokine signaling 1	0,67	2,63E-03	9,82
OGDH	oxoglutarate (alpha-ketoglutarate) dehydrogenase (lipoamide)	0,66	1,20E-03	10,37
MAFF	v-maf musculoaponeurotic fibrosarcoma oncogene homolog F (avian)	0,66	2,44E-03	7,86
NR1H2	nuclear receptor subfamily 1, group H, member 2	0,66	1,58E-05	11,83
ATXN7L3	ataxin 7-like 3	0,66	1,17E-05	13,13
BZW1	basic leucine zipper and W2 domains 1	0,66	8,58E-03	9,63
RAP2C	RAP2C, member of RAS oncogene family	0,66	3,69E-02	5,80
MIIP	migration and invasion inhibitory protein	0,66	2,48E-05	12,39
MCL1	myeloid cell leukemia sequence 1 (BCL2-related)	0,66	2,42E-03	11,65
PPP1R8	protein phosphatase 1, regulatory (inhibitor) subunit 8	0,66	2,67E-06	12,06
COQ10B	coenzyme Q10 homolog B (S. cerevisiae)	0,66	5,74E-03	11,62
MIR2478	microRNA mir-2478	0,66	1,74E-04	10,60
TWIST2	twist homolog 2 (Drosophila)	0,65	1,38E-05	12,73
SSFA2	sperm specific antigen 2	0,65	8,71E-05	12,23
INPP4B	inositol polyphosphate-4-phosphatase, type II, 105kDa	0,65	1,62E-05	12,50
RNF157	ring finger protein 157	0,65	1,56E-05	11,84
ACBD3	acyl-Coenzyme A binding domain containing 3	0,65	1,76E-03	13,23
LMNB1	lamin B1	0,65	3,94E-04	13,45
ITPK1	inositol 1,3,4-triphosphate 5/6 kinase	0,65	1,47E-04	11,95
BAHD1	bromo adjacent homology domain containing 1	0,65	3,43E-03	9,20

NSMCE1	non-SMC element 1 homolog (S. cerevisiae)	0,65	4,43E-03	11,07
KRAS	v-Ki-ras2 Kirsten rat sarcoma viral oncogene homolog	0,65	2,24E-04	10,15
NCKIPSD	NCK interacting protein with SH3 domain	0,64	1,30E-04	12,94
CCDC86	coiled-coil domain containing 86	0,64	1,16E-05	9,77
MARCH3	membrane-associated ring finger (C3HC4) 3	0,64	3,34E-05	9,66
SP9	Sp9 transcription factor homolog (mouse)	0,64	1,31E-02	12,38
STRN3	striatin, calmodulin binding protein 3	0,64	3,00E-05	12,02
EXO1	exonuclease 1	0,64	1,87E-02	9,50
FBP1	fructose-1,6-bisphosphatase 1	0,64	4,72E-03	8,05
RHOC	ras homolog gene family. member C	0,64	1,35E-05	12,31
TMEM150C	transmembrane protein 150C	0,64	9,42E-04	9,31
SRPK2	SFRS protein kinase 2	0,64	1,36E-03	11,42
S100B	S100 calcium binding protein B	0,64	2,33E-03	9,37
PEA15	phosphoprotein enriched in astrocytes 15	0,64	9,38E-05	13,94
IER3	immediate early response 3	0,64	5,65E-04	14,11
GTF2F2	general transcription factor IIF, polypeptide 2, 30kDa	0,64	5,44E-06	9,34
MTMR11	myotubularin related protein 11	0,64	3,68E-05	12,39
KLHL26	kelch-like 26 (Drosophila)	0,64	2,99E-04	12,08
ZNF498	zinc finger protein 498	0,64	1,78E-05	10,80
HERC4	hect domain and RLD 4	0,63	1,62E-04	10,78
SH3BP4	SH3-domain binding protein 4	0,63	1,77E-05	8,79
CACNA1H	calcium channel, voltage-dependent, T type, alpha 1H subunit	0,63	9,41E-03	7,85
MYO6	myosin VI	0,63	1,51E-04	7,92
AUP1	ancient ubiquitous protein 1	0,63	6,89E-05	10,43
ADCK4	aarF domain containing kinase 4	0,63	7,25E-03	10,92
MXI1	MAX interactor 1	0,63	6,71E-03	8,87
CYP3A4	cytochrome P450, subfamily IIIA, polypeptide 4	0,63	2,74E-02	8,02
PCMTD1	protein-L-isoaspartate (D-aspartate) O-methyltransferase domain containing 1	0,63	7,15E-05	11,93
UCHL1	ubiquitin carboxyl-terminal esterase L1 (ubiquitin thiolesterase)	0,63	1,22E-03	10,89
FAHD2A	Fumarylacetoacetate hydrolase domain containing 2A	0,63	1,56E-03	9,98
SCG3	secretogranin III	0,63	1,00E-05	11,87
FAM8A1	family with sequence similarity 8, member A1	0,63	1,88E-05	9,07

UBE2B	ubiquitin-conjugating enzyme E2B (RAD6 homolog)	0,63	8,75E-03	10,81
APBB1IP	amyloid beta (A4) precursor protein-binding, family B, member 1 interacting protein	0,62	9,83E-05	12,33
ZNF154	zinc finger protein 154	0,62	1,35E-04	8,51
SIRT2	sirtuin (silent mating type information regulation 2 homolog) 2 (S. cerevisiae)	0,62	3,89E-03	10,64
PGP	phosphoglycolate phosphatase	0,62	3,97E-05	12,61
NTS	neurotensin	0,62	5,01E-04	8,36
GABARAPL1	GABA(A) receptor-associated protein like 1	0,62	1,14E-02	10,54
FAR2	fatty acyl CoA reductase 2	0,62	1,21E-03	9,02
TAP1	transporter 1, ATP-binding cassette, sub-family B (MDR/TAP)	0,62	1,25E-03	8,50
ENTPD7	ectonucleoside triphosphate diphosphohydrolase 7	0,62	1,69E-03	8,35
ATP6V1F	ATPase, H+ transporting, lysosomal 14kDa, V1 subunit F	0,62	1,62E-04	11,69
ID2	inhibitor of DNA binding 2, dominant negative helix-loop-helix protein	0,62	2,66E-02	11,93
CREB3L2	cAMP responsive element binding protein 3-like 2	0,62	1,54E-05	11,45
SLC43A3	solute carrier family 43, member 3	0,62	4,17E-04	11,95
ACSS3	acyl-CoA synthetase short-chain family member 3	0,62	1,11E-06	11,41
UNC5B	unc-5 homolog B (C. elegans)	0,61	1,87E-03	7,71
GAL	galanin prepropeptide	0,61	8,11E-04	8,33
TMEM144	transmembrane protein 144	0,61	4,57E-04	10,17
RIMKLB	ribosomal modification protein rimK-like family member B	0,61	5,23E-05	8,53
PRKAA1	protein kinase. AMP-activated. alpha 1 catalytic subunit	0,61	1,73E-03	10,42
NOTCH1	Notch homolog 1. translocation-associated (Drosophila)	0,61	2,83E-03	10,05
FECH	ferrochelatase (protoporphyria)	0,61	5,46E-04	8,69
WDFY2	WD repeat and FYVE domain containing 2	0,61	1,46E-04	8,57
UBE2E1	ubiquitin-conjugating enzyme E2E 1 (UBC4/5 homolog, yeast)	0,61	1,19E-04	12,51
INHBB	inhibin, beta B	0,61	7,31E-03	12,75
NRXN2	neurexin 2	0,60	2,43E-04	13,80
NETO1	neuropilin (NRP) and tolloid (TLL)-like 1	0,60	2,77E-03	8,95
SREBF2	sterol regulatory element binding transcription factor 2	0,60	1,39E-05	13,57
LAPTM5	lysosomal protein transmembrane 5	0,60	7,92E-03	7,38

EFNA2	ephrin-A2	0,60	1,22E-03	14,39
APBB3	amyloid beta (A4) precursor protein-binding, family B, member 3	0,60	1,99E-04	10,40
TSPAN5	tetraspanin 5	0,60	1,56E-03	11,93
DOCK7	dedicator of cytokinesis 7	0,60	3,45E-04	12,48
BTG3	BTG family, member 3	0,60	8,48E-03	11,59
CPNE7	copine VII	0,59	1,20E-05	12,52
ARMC5	armadillo repeat containing 5	0,59	5,11E-06	11,33
SPIRE1	spire homolog 1 (Drosophila)	0,59	9,07E-04	9,56
ETV1	ets variant 1	0,59	1,54E-04	12,67
ANO10	anoctamin 10	0,59	3,64E-03	11,04
REXO4	REX4, RNA exonuclease 4 homolog (S. cerevisiae)	0,59	2,15E-03	9,30
GFER	growth factor. augmenter of liver regeneration	0,59	4,92E-06	12,28
ZNF345	zinc finger protein 345	0,59	1,23E-05	12,36
NAB1	NGFI-A binding protein 1 (EGR1 binding protein 1)	0,59	4,04E-04	8,66
NFKB1	nuclear factor of kappa light polypeptide gene enhancer in B-cells 1	0,59	9,29E-04	10,87
PTPRM	protein tyrosine phosphatase, receptor type, M	0,59	4,36E-03	10,40
NMRAL1	NmrA-like family domain containing 1	0,59	6,76E-04	10,01
NSG1	neuron specific gene family member 1	0,59	9,65E-05	12,93
NR5A2	nuclear receptor subfamily 5, group A, member 2	0,59	2,50E-05	12,49
CD3EAP	CD3e molecule, epsilon associated protein	-0,59	2,55E-04	10,30
APH1A	anterior pharynx defective 1 homolog A (C. elegans)	-0,59	8,17E-05	11,25
FZD1	frizzled homolog 1 (Drosophila)	-0,59	6,55E-04	7,89
FBXO15	F-box protein 15	-0,59	2,67E-04	8,22
VPS35	vacuolar protein sorting 35 homolog (S. cerevisiae)	-0,59	5,51E-04	12,23
CSTF1	RNA. subunit 1. 50kDa	-0,59	3,04E-04	9,42
MBNL2	muscleblind-like 2 (Drosophila)	-0,59	1,81E-03	13,80
PPM1K	protein phosphatase 1K (PP2C domain containing)	-0,59	1,08E-02	7,97
TP53BP1	tumor protein p53 binding protein 1	-0,59	3,45E-04	10,07
SLC35C1	solute carrier family 35, member C1	-0,59	2,61E-03	9,67
MVK	mevalonate kinase	-0,59	1,89E-05	12,67
ARL4A	ADP-ribosylation factor-like 4A	-0,59	2,38E-03	10,53
LRRC8D	leucine rich repeat containing 8 family, member D	-0,60	1,16E-03	9,86
BPGM	2,3-bisphosphoglycerate mutase	-0,60	2,85E-05	9,71
HPS3	Hermansky-Pudlak syndrome 3	-0,60	5,96E-03	10,13

WDR19	WD repeat domain 19	-0,60	8,24E-04	11,28
PIK3IP1	phosphoinositide-3-kinase interacting protein 1	-0,60	5,41E-03	10,96
PPEF1	protein phosphatase, EF-hand calcium binding domain 1	-0,60	2,49E-04	10,17
ANKRD43	ankyrin repeat domain 43	-0,60	5,44E-06	8,08
KCTD1	potassium channel tetramerisation domain containing 1	-0,60	1,52E-03	8,69
TM7SF3	transmembrane 7 superfamily member 3	-0,60	4,94E-03	10,31
ICK	intestinal cell (MAK-like) kinase	-0,60	1,18E-05	9,25
ARFGEF1	ADP-ribosylation factor guanine nucleotide-exchange factor 1(brefeldin A-inhibited)	-0,60	1,34E-04	11,25
PDLIM1	PDZ and LIM domain 1	-0,60	8,38E-04	9,72
LRRC17	leucine rich repeat containing 17	-0,61	2,50E-03	8,96
AASDH	aminoadipate-semialdehyde dehydrogenase	-0,61	1,67E-04	7,92
SNX24	sorting nexin 24	-0,61	3,74E-05	9,38
CLUAP1	clusterin associated protein 1	-0,61	4,25E-04	10,92
NMT2	N-myristoyltransferase 2	-0,61	1,40E-05	10,27
MFAP3	microfibrillar-associated protein 3	-0,61	3,75E-04	10,21
KCTD9	domain containing 9	-0,61	6,36E-04	8,69
DDAH1	dimethylaminohydrolase 1	-0,61	1,04E-03	13,26
ZNF592	zinc finger protein 592	-0,61	8,15E-05	11,41
CTPS	CTP synthase	-0,61	2,14E-03	11,90
ZNF45	zinc finger protein 45	-0,61	7,40E-06	8,81
CLDN11	claudin 11	-0,61	6,01E-04	13,05
RASSF7	Ras association (RalGDS/AF-6) domain family (N-terminal) member 7	-0,61	6,12E-03	9,32
PPIG	peptidylprolyl isomerase G (cyclophilin G)	-0,61	2,47E-03	10,50
LNP1	leukemia NUP98 fusion partner 1	-0,62	1,07E-05	11,51
TUBGCP5	tubulin, gamma complex associated protein 5	-0,62	3,36E-04	9,19
APPL2	adaptor protein, phosphotyrosine interaction, PH domain and leucine zipper containing 2	-0,62	4,80E-03	12,18
POPDC3	popeye domain containing 3	-0,62	1,49E-03	8,51
MRPL43	mitochondrial ribosomal protein L43	-0,62	1,63E-05	10,29
NOTCH2	Notch homolog 2 (Drosophila)	-0,62	6,67E-03	13,48
RECQL	RecQ protein-like (DNA helicase Q1-like)	-0,62	1,77E-03	8,61
GATA4	GATA binding protein 4	-0,63	7,74E-04	14,08
WNT2B	wingless-type MMTV integration site family, member 2B	-0,63	8,97E-04	8,69

SYNC	syncoilin, intermediate filament protein	-0,63	6,82E-04	8,28
GOLPH3	golgi phosphoprotein 3 (coat-protein)	-0,63	1,95E-03	9,99
RABGAP1	RAB GTPase activating protein 1	-0,63	1,48E-04	10,45
RBMS1	RNA binding motif, single stranded interacting protein 1	-0,63	1,98E-03	10,71
BANP	BTG3 associated nuclear protein	-0,63	7,24E-03	11,52
GATM	glycine amidinotransferase (L-arginine:glycine amidinotransferase)	-0,63	6,88E-03	10,52
DCLRE1A	DNA cross-link repair 1A (PSO2 homolog, S. cerevisiae)	-0,64	1,74E-04	10,68
HIST2H2BE	histone cluster 2. H2be	-0,64	1,05E-03	9,10
MLLT3	leukemia (trithorax homolog. Drosophila); translocated to. 3	-0,64	1,91E-03	8,06
MAP2K6	mitogen-activated protein kinase kinase 6	-0,64	5,74E-03	7,74
SH3GL3	SH3-domain GRB2-like 3	-0,64	2,49E-06	8,82
RAB15	RAB15, member RAS onocogene family	-0,65	2,37E-05	13,50
MKX	mohawk homeobox	-0,65	1,60E-03	11,62
TSEN15	tRNA splicing endonuclease 15 homolog (S. cerevisiae)	-0,65	2,33E-04	9,59
MEOX2	mesenchyme homeobox 2	-0,65	4,39E-04	9,02
WDR76	WD repeat domain 76	-0,65	1,93E-03	11,01
CCDC45	coiled-coil domain containing 45	-0,65	2,84E-04	9,84
MEIS2	Meis homeobox 2	-0,65	1,77E-03	8,19
RRAGD	Ras-related GTP binding D	-0,65	5,58E-03	9,68
ZNF32	zinc finger protein 32	-0,65	2,86E-04	9,69
SPIN2	spindlin family, member 2	-0,66	5,86E-04	9,34
H4	histone H4	-0,66	1,57E-05	8,89
ZNF362	zinc finger protein 362	-0,66	1,49E-03	8,77
PRSS35	protease. serine. 35	-0,66	5,70E-06	9,92
ZMYND8	zinc finger. MYND-type containing 8	-0,66	5,98E-03	10,53
PTEN	phosphatase and tensin homolog	-0,66	3,54E-03	8,36
ID3	inhibitor of DNA binding 3, dominant negative helix-loop-helix protein	-0,66	1,03E-02	11,35
ZUFSP	zinc finger with UFM1-specific peptidase domain	-0,66	4,25E-05	10,55
PLA2G4A	phospholipase A2, group IVA (cytosolic, calcium-dependent)	-0,66	3,47E-04	9,58
FAM49A	family with sequence similarity 49, member A	-0,67	6,82E-03	10,23
KLF13	Kruppel-like factor 13	-0,67	1,62E-04	10,84
LIAS	lipoic acid synthetase	-0,67	1,92E-05	9,74
MTERFD3	MTERF domain containing 3	-0,67	5,25E-05	8,12
MTCP1	mature T-cell proliferation 1	-0,67	3,24E-06	8,93
HIST1H1D	histone cluster 1. H1d	-0,67	5,77E-06	8,03

SYNE2	spectrin repeat containing. nuclear envelope 2	-0,67	4,94E-03	14,48
SMAD2	SMAD family member 2	-0,67	8,97E-04	12,39
PTGR1	prostaglandin reductase 1	-0,67	2,41E-04	12,81
MTCP1	mature T-cell proliferation 1	-0,67	3,23E-06	12,15
PCK2	phosphoenolpyruvate carboxykinase 2 (mitochondrial)	-0,67	3,57E-02	9,96
AMIGO2	adhesion molecule with Ig-like domain 2	-0,68	1,52E-03	10,69
ZNF397	zinc finger protein 397	-0,68	7,88E-04	9,20
PDZRN3	PDZ domain containing RING finger 3	-0,68	6,49E-04	8,08
MCC	mutated in colorectal cancers	-0,69	8,37E-03	9,92
GPR85	G protein-coupled receptor 85	-0,69	5,26E-03	8,21
VPS26A	vacuolar protein sorting 26 homolog A (S. pombe)	-0,69	3,75E-04	13,06
PLCB4	phospholipase C, beta 4	-0,69	9,51E-04	9,86
STEAP2	six transmembrane epithelial antigen of the prostate 2	-0,69	6,68E-05	8,92
ZRANB3	zinc finger, RAN-binding domain containing 3	-0,69	1,11E-05	9,58
RASL11B	RAS-like, family 11, member B	-0,70	3,11E-03	9,79
ODF2L	outer dense fiber of sperm tails 2-like	-0,70	1,57E-04	11,54
ANKRD54	ankyrin repeat domain 54	-0,70	2,25E-04	8,92
RTTN	rotatin	-0,70	1,67E-05	10,42
SEMA6D	(semaphorin) 6D	-0,70	1,97E-04	8,96
KCNN2	potassium intermediate/small conductance calcium-activated channel, subfamily N, member 2	-0,70	1,05E-02	8,82
RAP2A	RAP2A, member of RAS oncogene family	-0,70	2,10E-03	8,01
SOCS5	suppressor of cytokine signaling 5	-0,71	5,12E-05	11,45
TMEM143	transmembrane protein 143	-0,71	3,00E-05	10,06
ZFP1	zinc finger protein 1 homolog (mouse)	-0,72	7,03E-04	9,24
BCAR3	breast cancer anti-estrogen resistance 3	-0,72	4,30E-03	11,44
MAP7	microtubule-associated protein 7	-0,72	1,43E-05	8,34
SS18	chromosome 18	-0,72	5,49E-05	11,93
CYR61	cysteine-rich, angiogenic inducer, 61	-0,73	2,30E-04	11,13
TSG118	protein C16orf88 homolog	-0,73	2,11E-04	9,73
TRIM2	tripartite motif-containing 2	-0,73	3,29E-06	11,54
MOBKL2B	MOB1. Mps One Binder kinase activator-like 2B (yeast)	-0,73	2,41E-04	8,14
FST	follistatin	-0,73	5,84E-03	12,86
vldlr	very low density lipoprotein receptor	-0,73	4,13E-06	8,25
KIF3C	kinesin family member 3C	-0,74	1,21E-04	10,26
CCDC14	coiled-coil domain containing 14	-0,74	1,66E-05	8,04
CCDC66	coiled-coil domain containing 66	-0,74	1,31E-05	9,73

B3GNT2	UDP-GlcNAc:betaGal beta-1,3-N-acetylglucosaminyltransferase 2	-0,75	5,35E-03	10,24
ZBED5	zinc finger, BED-type containing 5	-0,75	3,07E-04	10,46
RNF19A	ring finger protein 19A	-0,75	1,16E-04	10,46
MCAM	melanoma cell adhesion molecule	-0,76	2,41E-04	11,00
ROR2	receptor tyrosine kinase-like orphan receptor 2	-0,76	4,74E-04	10,01
DARS2	aspartyl-tRNA synthetase 2. mitochondrial	-0,76	1,74E-05	8,54
DIDO1	death inducer-obliterator 1	-0,76	2,44E-04	8,76
B3GALT2	galactosyltransferase. polypeptide 2	-0,76	8,31E-04	9,57
UNG	uracil-DNA glycosylase	-0,76	1,50E-04	12,69
DNAJC30	DnaJ (Hsp40) homolog, subfamily C, member 30	-0,77	3,16E-05	10,64
RCAN3	RCAN family member 3	-0,77	1,97E-05	10,97
BCL2L2	BCL2-like 2	-0,77	5,87E-05	10,84
SHISA3	shisa homolog 3 (Xenopus laevis)	-0,78	9,74E-04	8,86
LNX2	ligand of numb-protein X 2	-0,78	1,75E-04	11,88
XRCC6BP1	XRCC6 binding protein 1	-0,79	1,93E-05	10,00
CA8	carbonic anhydrase VIII	-0,79	6,09E-03	10,11
TRIM38	tripartite motif-containing 38	-0,79	3,75E-04	11,14
APOL	apolipoprotein O-like	-0,79	1,07E-05	9,14
TEC	tec protein tyrosine kinase	-0,79	1,13E-05	9,90
PRKAG3	protein kinase, AMP-activated, gamma 3 non-catalytic subunit	-0,79	1,81E-04	8,14
ACP1	acid phosphatase 1, soluble	-0,79	5,73E-05	8,41
KANK1	KN motif and ankyrin repeat domains 1	-0,79	1,24E-04	8,40
STK36	serine/threonine kinase 36, fused homolog (Drosophila)	-0,80	2,20E-04	10,25
EFCAB7	EF-hand calcium binding domain 7	-0,80	5,50E-04	10,11
RFX7	regulatory factor X. 7	-0,80	1,87E-03	11,61
EFNA1	ephrin-A1	-0,80	5,55E-03	8,64
NDRG3	NDRG family member 3	-0,80	2,27E-05	12,12
IFFO1	intermediate filament family orphan 1	-0,81	4,43E-04	11,15
SWAP70	SWAP switching B-cell complex 70kDa subunit	-0,82	1,19E-05	10,09
AFAP1L2	actin filament associated protein 1-like 2	-0,82	3,23E-05	8,22
ORC3L	origin recognition complex, subunit 3-like (yeast)	-0,83	2,80E-04	10,23
MACF1	microtubule-actin crosslinking factor 1	-0,83	1,77E-04	13,85
CDC42EP3	CDC42 effector protein (Rho GTPase binding) 3	-0,84	1,44E-03	9,62
RRAD	Ras-related associated with diabetes	-0,84	8,19E-04	7,89
TMEM161A	transmembrane protein 161A	-0,85	3,87E-05	10,06
ZNF568	zinc finger protein 568	-0,85	1,13E-03	5,64

RARA	retinoic acid receptor, alpha	-0,85	1,77E-04	9,23
ELAC1	elaC homolog 1 (E. coli)	-0,86	4,74E-05	10,26
AUTS2	autism susceptibility candidate 2	-0,86	7,54E-07	12,38
NPAS2	neuronal PAS domain protein 2	-0,86	1,89E-03	8,85
WDR67	WD repeat domain 67	-0,86	7,10E-05	11,59
HSD3B1	hydroxy-delta-5-steroid dehydrogenase, 3 beta- and steroid delta-isomerase 1	-0,87	1,73E-04	11,79
BCL11A	B-cell CLL/lymphoma 11A (zinc finger protein)	-0,87	6,54E-06	8,08
MAML2	mastermind-like 2 (Drosophila)	-0,88	1,12E-04	9,89
LYPLAL1	lysophospholipase-like 1	-0,88	2,89E-04	10,18
CITED2	Cbp/p300-interacting transactivator, with Glu/Asp-rich carboxy-terminal domain, 2	-0,88	2,90E-04	9,95
CAPRIN2	caprin family member 2	-0,89	1,84E-04	8,86
ANKA3	ankyrin 3. node of Ranvier (ankyrin G)	-0,89	2,38E-03	9,30
GPR125	G protein-coupled receptor 125	-0,89	7,42E-04	14,40
IPP	intracisternal A particle-promoted polypeptide	-0,90	2,12E-05	8,86
LRRC16A	leucine rich repeat containing 16A	-0,90	1,94E-06	9,98
MSH2	mutS homolog 2, colon cancer, nonpolyposis type 1 (E. coli)	-0,90	9,41E-05	10,95
EEPD1	endonuclease/exonuclease/phosphatase family domain containing 1	-0,91	2,18E-04	7,69
GAB1	GRB2-associated binding protein 1	-0,91	2,62E-04	10,59
SPIN1	spindlin 1	-0,92	1,21E-05	12,15
CHN1	chimerin (chimaerin) 1	-0,93	6,34E-04	9,38
TMEM229B	transmembrane protein 229B	-0,93	3,52E-05	9,57
ORC1L	origin recognition complex, subunit 1-like (yeast)	-0,93	6,57E-06	9,15
INPP5B	inositol polyphosphate-5-phosphatase, 75kDa	-0,94	6,49E-04	8,14
RMI2	chromosome 16 open reading frame 75 ortholog	-0,94	1,47E-04	12,33
CDCA7	cell division cycle associated 7	-0,95	6,91E-04	9,63
NSUN3	NOP2/Sun domain family, member 3	-0,96	9,29E-05	9,74
LRRC3B	leucine rich repeat containing 3B	-1,02	4,95E-04	10,30
EXOSC10	exosome component 10	-1,02	1,83E-07	11,16
DIXDC1	DIX domain containing 1	-1,04	5,84E-04	9,06
CDC7	cell division cycle 7 homolog (S. cerevisiae)	-1,05	6,91E-04	11,08
USP50	ubiquitin specific peptidase 50	-1,06	8,95E-03	10,60
ALDH3A2	aldehyde dehydrogenase 3 family. member A2	-1,07	5,18E-05	13,66
PGF	placental growth factor	-1,07	2,81E-04	10,41

KCNJ8	potassium inwardly-rectifying channel, subfamily J, member 8	-1,08	1,24E-04	7,82
PTGS2	prostaglandin-endoperoxide synthase 2 (prostaglandin G/H synthase and cyclooxygenase)	-1,08	-6,16E-05	8,81
FAM55C	family with sequence similarity 55, member C	-1,12	8,03E-04	9,61
PNMAL1	PNMA-like 1	-1,15	1,91E-06	7,93
CHN2	chimerin (chimaerin) 2	-1,16	1,88E-04	10,32
NOSTRIN	nitric oxide synthase trafficker	-1,16	1,45E-05	8,91
MAP3K5	mitogen-activated protein kinase kinase kinase 5	-1,23	9,59E-05	8,65
TCHHL1	trichohyalin-like 1	-1,27	2,82E-03	4,77
CNIH3	cornichon homolog 3 (Drosophila)	-1,35	1,39E-04	11,10
PPARG	peroxisome proliferator-activated receptor gamma	-1,47	2,57E-05	11,66
NOS2	nitric oxide synthase 2, inducible	-1,58	1,49E-05	8,74
LRRC45	leucine rich repeat containing 45	-1,59	2,33E-04	10,55
PRR15	proline rich 15	-1,79	7,45E-06	10,21
STBD1	starch binding domain 1	-2,06	2,12E-05	8,41
TOX2	TOX high mobility group box family member 2	-2,06	8,36E-05	13,80
TRIB2	tribbles homolog 2 (Drosophila)	-2,25	1,06E-04	9,92

Table S2. Gene list

Symbol	Entrez Gene Name	Gene Symbol	Fold Change	p-value	Mean across condition	Location
cytokine						
LTA	lymphotoxin alpha (TNF superfamily. member 1)	LTA	1,743	3,98E-05	10,002	Extracellular Space
SOCS5	suppressor of cytokine signaling 5	SOCS5	-1,633	5,12E-05	11,454	Extracellular Space
SCG2	secretogranin II	SCG2	1,856	8,24E-04	11,034	Extracellular Space
CMTM8	CKLF-like MARVEL transmembrane domain containing 8	CMTM8	1,894	2,80E-03	12,376	Extracellular Space
IL33	interleukin 33	IL33	1,855	4,18E-03	10,131	Extracellular Space
transporter						
APOL1	apolipoprotein L. 1	APOL	-1,728	1,07E-05	9,143	Extracellular Space
ARFGAP3	ADP-ribosylation factor GTPase activating protein 3	ARFGAP3	2,359	1,17E-05	13,76	Cytoplasm
CPNE7	copine VII	CPNE7	1,51	1,20E-05	12,525	Other
SYT4	synaptotagmin IV	SYT4	2,368	1,88E-05	13,099	Cytoplasm
SNX24	sorting nexin 24	SNX24	-1,526	3,74E-05	9,381	Other
PITPNB	phosphatidylinositol transfer protein. beta	PITPNB	1,84	4,88E-05	7,679	Cytoplasm
SLC22A23	solute carrier family 22. member 23	SLC22A23	2,925	5,34E-05	9,703	Other
SCP2	sterol carrier protein 2	SCP2	1,707	5,79E-05	11,722	Cytoplasm
SLC4A7	solute carrier family 4. sodium bicarbonate cotransporter. member 7	SLC4A7	1,791	6,42E-05	9,382	Plasma Membrane
STEAP2	STEAP family member 2. metalloreductase	STEAP2	-1,617	6,68E-05	8,922	Plasma Membrane
ATP6V1C1	ATPase. H+ transporting. lysosomal 42kDa. V1 subunit C1	ATP6V1C1	2,294	8,81E-05	11,844	Cytoplasm
PEA15	phosphoprotein enriched in astrocytes 15	PEA15	1,558	9,38E-05	13,942	Cytoplasm
CNIH3	cornichon homolog 3 (Drosophila)	CNIH3	-2,556	1,39E-04	11,103	Plasma Membrane
SLC39A8	solute carrier family 39 (zinc transporter). member 8	SLC39A8	3,009	1,67E-04	14,561	Extracellular Space
NRXN2	neurexin 2	NRXN2	1,521	2,43E-04	13,799	Plasma Membrane
VPS35	vacuolar protein sorting 35 homolog (S. cerevisiae)	VPS35	-1,505	5,51E-04	12,235	Cytoplasm
VPS26A	vacuolar protein sorting 26 homolog A (S. pombe)	VPS26A	-1,734	7,53E-04	13,067	Cytoplasm
ABCB1	ATP-binding cassette. sub-family B (MDR/TAP). member 1	ABCB1	2,093	8,58E-04	11,646	Plasma Membrane
TAP1	transporter 1. ATP-binding cassette. sub-family B (MDR/TAP)	TAP1	1,536	1,25E-03	8,499	Cytoplasm
SLC37A3	solute carrier family 37 (glycerol-3-phosphate transporter). member 3	SLC37A3	1,849	1,39E-03	12,68	Other
SLC35C1	solute carrier family 35. member C1	SLC35C1	-1,508	2,61E-03	9,672	Cytoplasm
NSMCE1	non-SMC element 1 homolog (S. cerevisiae)	NSMCE1	1,565	4,43E-03	11,066	Nucleus
NPC1	Niemann-Pick disease. type C1	NPC1	1,597	5,23E-03	9,417	Cytoplasm

SLCO2B1	solute carrier organic anion transporter family. member 2B1	SLCO2B1	1,722	1,86E-02	8,481	Plasma Membrane
transcription factor regulation						
SOX4	SRY (sex determining region Y)-box 4	SOX4	2,264	2,55E-06	9,431	Nucleus
CEBPD	CCAAT/enhancer binding protein (C/EBP). delta	CEBPD	2,403	5,43E-06	8,889	Nucleus
GTF2F2	general transcription factor IIF. polypeptide 2. 30kDa	GTF2F2	1,557	5,44E-06	9,341	Nucleus
RCAN1	regulator of calcineurin 1	RCAN1	3,285	5,52E-06	9,298	Nucleus
ZNF45	zinc finger protein 45	ZNF45	-1,53	7,40E-06	8,806	Nucleus
ATXN7L3	ataxin 7-like 3	ATXN7L3	1,582	1,17E-05	13,128	Nucleus
ZNF345	zinc finger protein 345	ZNF345	1,501	1,23E-05	12,365	Nucleus
TWIST2	twist basic helix-loop-helix transcription factor 2	TWIST2	1,572	1,38E-05	12,732	Nucleus
SREBF2	sterol regulatory element binding transcription factor 2	SREBF2	1,52	1,39E-05	13,575	Nucleus
NOSTRIN	nitric oxide synthase trafficker	NOSTRIN	-2,241	1,45E-05	8,913	Cytoplasm
ZKSCAN5	zinc finger with KRAB and SCAN domains 5	ZKSCAN5	1,661	1,94E-05	11,913	Nucleus
STRN3	striatin. calmodulin binding protein 3	STRN3	1,56	3,00E-05	12,018	Nucleus
RCOR2	REST corepressor 2	RCOR2	1,718	4,58E-05	12,603	Nucleus
MTERFD3	MTERF domain containing 3	MTERFD3	-1,591	5,25E-05	8,125	Cytoplasm
SS18	synovial sarcoma translocation. chromosome 18	SS18	-1,649	5,49E-05	11,927	Nucleus
STAT3	signal transducer and activator of transcription 3 (acute-phase response factor)	STAT3	1,605	6,63E-05	8,527	Nucleus
TOX2	TOX high mobility group box family member 2	TOX2	-4,172	8,36E-05	13,798	Nucleus
LITAF	lipopolysaccharide-induced TNF factor	LITAF	2,763	1,04E-04	9,999	Nucleus
MAML2	mastermind-like 2 (Drosophila)	MAML2	-1,838	1,12E-04	9,887	Nucleus
KANK1	KN motif and ankyrin repeat domains 1	KANK1	-1,735	1,24E-04	8,4	Nucleus
ZNF154	zinc finger protein 154	ZNF154	1,542	1,35E-04	8,51	Nucleus
ETV1	ets variant 1	ETV1	1,508	1,54E-04	12,666	Nucleus
KLF13	Kruppel-like factor 13	KLF13	-1,59	1,62E-04	10,838	Nucleus
BARX2	BARX homeobox 2	BARX2	1,703	1,78E-04	10,912	Nucleus
SERTAD1	SERTA domain containing 1	SERTAD1	1,656	1,94E-04	8,532	Nucleus
PCBD1	pterin-4 alpha-carbinolamine dehydratase/dimerization cofactor of hepatocyte nuclear factor 1 alpha	PCBD1	1,897	2,09E-04	10,461	Nucleus
ARID3A	AT rich interactive domain 3A (BRIGHT-like)	ARID3A	1,695	2,15E-04	8,105	Nucleus
ANKRD54	ankyrin repeat domain 54	ANKRD54	-1,624	2,25E-04	8,919	Nucleus
FBXO15	F-box protein 15	FBXO15	-1,505	2,67E-04	8,219	Other
EGR1	early growth response 1	EGR1	2,987	2,76E-04	9,963	Nucleus
CITED2	Cbp/p300-interacting transactivator. with Glu/Asp-rich carboxy-terminal domain. 2	CITED2	-1,846	2,90E-04	9,953	Nucleus
IRF2BP2	interferon regulatory factor 2 binding protein 2	IRF2BP2	1,784	3,10E-04	11,314	Nucleus
ETS2	v-ets erythroblastosis virus E26 oncogene homolog 2 (avian)	ETS2	1,821	3,42E-04	9,455	Nucleus
TP53BP1	tumor protein p53 binding protein 1	TP53BP1	-1,507	3,45E-04	10,073	Nucleus

NAB1	NGFI-A binding protein 1 (EGR1 binding protein 1)	NAB1	1,508	4,04E-04	8,662	Nucleus
MEOX2	mesenchyme homeobox 2	MEOX2	-1,567	4,39E-04	9,02	Nucleus
TCF7L1	transcription factor 7-like 1 (T-cell specific. HMG-box)	TCF7L1	1,666	6,89E-04	7,771	Nucleus
ZNF397	zinc finger protein 397	ZNF397	-1,603	7,88E-04	9,202	Nucleus
PDLIM1	PDZ and LIM domain 1	PDLIM1	-1,521	8,38E-04	9,716	Cytoplasm
PRDM1	PR domain containing 1. with ZNF domain	PRDM1	1,811	8,91E-04	7,866	Nucleus
NFKB1	nuclear factor of kappa light polypeptide gene enhancer in B-cells 1	NFKB1	1,505	9,29E-04	10,868	Nucleus
ATF3	activating transcription factor 3	ATF3	2,549	9,36E-04	11,332	Nucleus
KCTD1	potassium channel tetramerization domain containing 1	KCTD1	-1,515	1,06E-03	8,69	Nucleus
JUND	jun D proto-oncogene	JUND	1,773	1,32E-03	10,156	Nucleus
BTG1	B-cell translocation gene 1. anti-proliferative	BTG1	2,331	1,66E-03	14,608	Nucleus
MEIS2	Meis homeobox 2	MEIS2	-1,572	1,77E-03	8,192	Nucleus
NPAS2	neuronal PAS domain protein 2	NPAS2	-1,82	1,89E-03	8,852	Nucleus
REXO4	REX4. RNA exonuclease 4 homolog (S. cerevisiae)	REXO4	1,505	2,15E-03	9,299	Nucleus
MAFF	v-maf musculoaponeurotic fibrosarcoma oncogene homolog F (avian)	MAFF	1,581	2,44E-03	7,86	Nucleus
NOTCH1	notch 1	NOTCH1	1,529	2,83E-03	10,051	Plasma Membrane
RYBP	RING1 and YY1 binding protein	RYBP	1,507	2,93E-03	8,301	Nucleus
TSC22D1	TSC22 domain family. member 1	TSC22D1	1,614	3,69E-03	9,358	Nucleus
SIRT2	sirtuin 2	SIRT2	1,541	3,89E-03	10,638	Nucleus
ZFP36L1	ZFP36 ring finger protein-like 1	ZFP36L1	1,61	5,29E-03	13,417	Nucleus
ZMYND8	zinc finger. MYND-type containing 8	ZMYND8	-1,582	5,98E-03	10,532	Nucleus
NOTCH2	notch 2	NOTCH2	-1,539	6,67E-03	13,484	Plasma Membrane
MXI1	MAX interactor 1. dimerization protein	MXI1	1,549	6,71E-03	8,871	Nucleus
ID3	inhibitor of DNA binding 3. dominant negative helix-loop-helix protein	ID3	-1,582	1,03E-02	11,346	Nucleus
SNAI2	snail family zinc finger 2	SNAI2	1,88	1,27E-02	8,325	Nucleus
GRHL1	grainyhead-like 1 (Drosophila)	GRHL1	1,608	1,29E-02	8,673	Nucleus
ID2	inhibitor of DNA binding 2. dominant negative helix-loop-helix protein	ID2	1,535	2,66E-02	11,931	Nucleus
G-protein coupled receptor						
CXCR7	chemokine (C-X-C motif) receptor 7	CXCR7	2,186	1,79E-05	8,849	Plasma Membrane
GPR162	G protein-coupled receptor 162	GPR162	1,69	4,36E-05	10,988	Plasma Membrane
S1PR2	sphingosine-1-phosphate receptor 2	S1PR2	1,66	9,99E-05	11,1	Plasma Membrane
F2RL1	coagulation factor II (thrombin) receptor-like 1	F2RL1	2,468	1,16E-04	8,483	Plasma Membrane
LYPD1	LY6/PLAUR domain containing 1	LYPD1	2,95	2,91E-04	9,783	Plasma Membrane
FZD1	frizzled family receptor 1	FZD1	-1,504	6,55E-04	7,892	Plasma Membrane

GPR125	G protein-coupled receptor 125	GPR125	-1,856	7,42E-04	14,4	Plasma Membrane
LRRC8D	leucine rich repeat containing 8 family. member D	LRRC8D	-1,513	1,16E-03	9,858	Plasma Membrane
AGTR2	angiotensin II receptor. type 2	AGTR2	1,702	3,31E-03	7,802	Plasma Membrane
GPR85	G protein-coupled receptor 85	GPR85	-1,61	5,26E-03	8,207	Plasma Membrane
growth factor regulation						
NOG	noggin	NOG	1,732	1,75E-04	7,764	Extracellular Space
PGF	placental growth factor	PGF	-2,107	2,81E-04	10,407	Extracellular Space
NDP	Norrie disease (pseudoglioma)	NDP	2,698	4,68E-04	13,418	Extracellular Space
NGF	nerve growth factor (beta polypeptide)	NGF	2,332	7,55E-04	8,84	Extracellular Space
BMP2	bone morphogenetic protein 2	BMP2	3,259	1,03E-03	12,97	Extracellular Space