Online table 1: Up and down-regulated molecules comparing coiled versus untreated aneurysms, determined by IPA.

Gene Symbol	Gene name	Gene main function determined by Gene Ontology	Fold Change	P Value	False Discovery Rate (q Value)	Direction of Expression
ABCB6	ATP-binding cassette, sub-family B (MDR/TAP), member 6 (Langereis blood group)	Integral component of mitochondrial outer membrane	2,541	4,28E-05	5,90E-04	Up-Regulated
ABCC1	ATP-binding cassette, sub-family C (CFTR/MRP), member 1	Atpase activity, coupled to transmembrane movement of substances	3,132	4,94E-10	6,17E-08	Up-Regulated
ACOT11	Acyl-coa thioesterase 11	Carboxylic ester hydrolase activity	3,973	2,58E-04	2,42E-03	Up-Regulated
ADAM10	ADAM metallopeptidase domain 10	PMA-inducible membrane protein ectodomain proteolysis	3,425	1,33E-04	1,44E-03	Up-Regulated
ADAM8	ADAM metallopeptidase domain 8	Positive regulation of tumor necrosis factor (ligand) superfamily member 11 production	3,417	1,42E-13	6,74E-11	Up-Regulated
ADAMTS4	ADAM metallopeptidase with thrombospondin type 1 motif, 4	Proteinaceous extracellular matrix	2,134	2,49E-08	1,52E-06	Up-Regulated
ADH4	Alcohol dehydrogenase 4 (class II), pi polypeptide	Oxidoreductase activity, acting on the aldehyde or oxo group of donors, NAD or NADP as acceptor	-2,657	4,44E-05	6,04E-04	Down-Regulated
ADORA2B	Adenosine A2b receptor	Positive regulation of chronic inflammatory response to non-antigenic stimulus	2,056	1,95E-05	3,22E-04	Up-Regulated
AK4	Adenylate kinase 4	Nucleoside triphosphate adenylate kinase activity	2,074	1,96E-08	1,25E-06	Up-Regulated
ALCAM	Activated leukocyte cell adhesion molecule	External side of plasma membrane	2,575	5,08E-12	1,38E-09	Up-Regulated
ANLN	Anillin, actin binding protein	Hematopoietic progenitor cell differentiation	2,981	1,65E-07	6,90E-06	Up-Regulated
AOAH	Acyloxyacyl hydrolase (neutrophil)	Acyloxyacyl hydrolase activity	2,388	2,34E-06	5,68E-05	Up-Regulated
APLN	Apelin	Positive regulation of corticotropin-releasing hormone secretion	4,238	2,53E-08	1,52E-06	Up-Regulated
APOBR	Apolipoprotein B receptor	Very-low-density lipoprotein particle receptor activity	3,469	5,03E-11	9,14E-09	Up-Regulated
AQP4	Aquaporin 4	Multicellular organismal water homeostasis	-2,236	1,10E-06	3,10E-05	Down-Regulated

AQP9	Aquaporin 9	Pyrimidine nucleobase transmembrane transporter activity	3,773	8,71E-08	4,21E-06	Up-Regulated
ARG1	Arginase 1	Cellular response to transforming growth factor beta stimulus	4,363	1,46E-09	1,49E-07	Up-Regulated
ARHGAP25	Rho gtpase activating protein 25	Regulation of small gtpase mediated signal transduction	2,275	2,28E-09	2,21E-07	Up-Regulated
ART3	ADP-ribosyltransferase 3	NAD(P)+-protein-arginine ADP-ribosyltransferase activity	-2,691	5,08E-08	2,68E-06	Down-Regulated
ASB5	Ankyrin repeat and SOCS box containing 5	Intracellular signal transduction	5,114	5,83E-11	1,04E-08	Up-Regulated
ASPM	Asp (abnormal spindle) homolog, microcephaly associated (Drosophila)	Positive regulation of canonical Wnt signaling pathway	3,715	1,08E-09	1,16E-07	Up-Regulated
ATP6V0D2	Atpase, H+ transporting, lysosomal 38kda, V0 subunit d2	Vacuolar proton-transporting V-type atpase complex	5,247	1,19E-15	2,38E-12	Up-Regulated
ATP6V1A	Atpase, H+ transporting, lysosomal 70kda, V1 subunit A	Proton-transporting atpase activity, rotational mechanism	2,036	1,04E-09	1,15E-07	Up-Regulated
ATP8B4	Atpase, class I, type 8B, member 4	Phospholipid-translocating atpase activity	2,028	3,58E-08	2,03E-06	Up-Regulated
AURKB	Aurora kinase B	Anaphase-promoting complex-dependent proteasomal ubiquitin-dependent protein catabolic process	3,068	1,52E-05	2,64E-04	Up-Regulated
B3GALNT1	Beta-1,3-N-acetylgalactosaminyltransferase 1 (globoside blood group)	Galactosylgalactosylglucosylceramide beta-D-acetylgalactosaminyltransferase activity	2,588	2,05E-05	3,34E-04	Up-Regulated
BANK1	B-cell scaffold protein with ankyrin repeats 1	Negative regulation of protein kinase B signaling	2,906	6,26E-09	5,01E-07	Up-Regulated
BASP1	Brain abundant, membrane attached signal protein 1	Positive regulation of metanephric ureteric bud development	2,576	4,77E-10	6,11E-08	Up-Regulated
BATF	Basic leucine zipper transcription factor, ATF-like	RNA polymerase II core promoter proximal region sequence-specific DNA binding transcription factor activity involved in positive regulation of transcription	2,041	1,23E-04	1,35E-03	Up-Regulated
BCL2L15	BCL2-like 15	Apoptotic process	2,39	2,79E-04	2,57E-03	Up-Regulated
BLK	BLK proto-oncogene, Src family tyrosine kinase	Transmembrane receptor protein tyrosine kinase signaling pathway	3,377	1,91E-05	3,16E-04	Up-Regulated
BUB1	BUB1 mitotic checkpoint serine/threonine kinase	Positive regulation of intrinsic apoptotic signaling pathway	2,613	2,96E-05	4,43E-04	Up-Regulated

BUB1B	BUB1 mitotic checkpoint serine/threonine kinase B	Anaphase-promoting complex-dependent proteasomal ubiquitin-dependent protein catabolic process	2,989	1,34E-08	9,08E-07	Up-Regulated
C11orf16	Chromosome 11 open reading frame 16	Unknown	2,305	1,14E-07	5,16E-06	Up-Regulated
C12orf40	Chromosome 12 open reading frame 40	Protein binding	-2,078	1,46E-04	1,55E-03	Down-Regulated
C1orf162	Chromosome 1 open reading frame 162	Integral component of membrane	2,949	3,55E-08	2,03E-06	Up-Regulated
C1orf228	Chromosome 1 open reading frame 228	Unknown	3,692	3,18E-08	1,86E-06	Up-Regulated
C4orf47	Chromosome 4 open reading frame 47	Centrosome	2,351	5,23E-06	1,10E-04	Up-Regulated
CA2	Carbonic anhydrase II	Positive regulation of dipeptide transmembrane transport	5,324	2,67E-14	2,14E-11	Up-Regulated
CA9	Carbonic anhydrase IX	Regulation of transcription from RNA polymerase II promoter in response to hypoxia	2,045	2,16E-06	5,30E-05	Up-Regulated
CAPG	Capping protein (actin filament), gelsolin-like	Positive regulation of podosome assembly	2,042	2,38E-07	9,24E-06	Up-Regulated
CASC5	Cancer susceptibility candidate 5	Attachment of spindle microtubules to kinetochore	2,901	1,95E-05	3,22E-04	Up-Regulated
CCDC68	Coiled-coil domain containing 68	Protein binding	-2,216	5,51E-06	1,14E-04	Down-Regulated
CCL20	Chemokine (C-C motif) ligand 20	Positive regulation of nitric-oxide synthase biosynthetic process	2,926	3,64E-07	1,35E-05	Up-Regulated
CCL4	Chemokine (C-C motif) ligand 4	Positive regulation of natural killer cell chemotaxis	2,307	1,99E-06	4,97E-05	Up-Regulated
CCL5	Chemokine (C-C motif) ligand 5	Negative regulation of G-protein coupled receptor protein signaling pathway	4,023	2,98E-10	4,26E-08	Up-Regulated
CCNB1	Cyclin B1	Positive regulation of ubiquitin-protein ligase activity involved in regulation of mitotic cell cycle transition	2,835	4,02E-07	1,45E-05	Up-Regulated
CCNB2	Cyclin B2	G2/M transition of mitotic cell cycle	3,617	6,36E-07	2,04E-05	Up-Regulated
CCR1	Chemokine (C-C motif) receptor 1	G-protein coupled receptor signaling pathway, coupled to cyclic nucleotide second messenger	4,059	7,57E-14	4,02E-11	Up-Regulated
CCR5	Chemokine (C-C motif) receptor 5 (gene/pseudogene)	Release of sequestered calcium ion into cytosol by sarcoplasmic reticulum	2,797	8,41E-11	1,42E-08	Up-Regulated

CCR8	Chemokine (C-C motif) receptor 8	Positive regulation of cytosolic calcium ion concentration	3,355	4,70E-04	3,86E-03	Up-Regulated
CCRL2	Chemokine (C-C motif) receptor-like 2	G-protein coupled receptor signaling pathway	3,088	5,46E-06	1,13E-04	Up-Regulated
CD101	CD101 molecule	Hydrolase activity, acting on carbon-nitrogen (but not peptide) bonds, in cyclic amides	2,892	4,71E-06	1,01E-04	Up-Regulated
CD14	CD14 molecule	Activation of cysteine-type endopeptidase activity involved in apoptotic signaling pathway	2,059	1,68E-05	2,85E-04	Up-Regulated
CD163	CD163 molecule	Integral component of plasma membrane	2,478	6,36E-06	1,28E-04	Up-Regulated
CD19	CD19 molecule	Positive regulation of release of sequestered calcium ion into cytosol	2,589	2,83E-04	2,59E-03	Up-Regulated
CD1C	CD1c molecule	Antigen processing and presentation, exogenous lipid antigen via MHC class Ib	2,843	6,48E-08	3,25E-06	Up-Regulated
CD27	CD27 molecule	Negative regulation of cysteine-type endopeptidase activity involved in apoptotic process	2,146	1,24E-05	2,21E-04	Up-Regulated
CD38	CD38 molecule	Positive regulation of cytosolic calcium ion concentration	2,384	9,01E-06	1,71E-04	Up-Regulated
CD48	CD48 molecule	Integral component of plasma membrane	2,297	8,12E-09	6,19E-07	Up-Regulated
CD53	CD53 molecule	Positive regulation of myoblast fusion	2,295	4,80E-07	1,65E-05	Up-Regulated
CD68	CD68 molecule	Cellular response to organic substance	2,852	6,07E-09	4,89E-07	Up-Regulated
CD69	CD69 molecule	Transmembrane signaling receptor activity	2,086	1,87E-04	1,88E-03	Up-Regulated
CD72	CD72 molecule	Transmembrane signaling receptor activity	4,449	1,11E-11	2,58E-09	Up-Regulated
CD79B	CD79b molecule, immunoglobulin-associated beta	Transmembrane signaling receptor activity	2,731	2,67E-05	4,13E-04	Up-Regulated
CD84	CD84 molecule	Homophilic cell adhesion via plasma membrane adhesion molecules	2,222	5,36E-07	1,77E-05	Up-Regulated
CDA	Cytidine deaminase	Nucleobase-containing small molecule metabolic process	2,095	4,82E-08	2,60E-06	Up-Regulated
CDC20	Cell division cycle 20	Positive regulation of ubiquitin-protein ligase activity involved in regulation of mitotic cell cycle transition	2,244	6,07E-05	7,67E-04	Up-Regulated

CDCA2	Cell division cycle associated 2	Positive regulation of protein dephosphorylation	2,411	6,72E-05	8,36E-04	Up-Regulated
CDCA7	Cell division cycle associated 7	Regulation of transcription, DNA-templated	3,452	1,43E-05	2,50E-04	Up-Regulated
CDH18	Cadherin 18, type 2	Homophilic cell adhesion via plasma membrane adhesion molecules	-2,039	1,72E-04	1,77E-03	Down-Regulated
CDH19	Cadherin 19, type 2	Calcium-dependent cell-cell adhesion via plasma membrane cell adhesion molecules	-2,025	9,47E-06	1,78E-04	Down-Regulated
CDK1	Cyclin-dependent kinase 1	Positive regulation of ubiquitin-protein ligase activity involved in regulation of mitotic cell cycle transition	2,666	4,48E-07	1,57E-05	Up-Regulated
CELSR3	Cadherin, EGF LAG seven-pass G-type receptor 3	Homophilic cell adhesion via plasma membrane adhesion molecules	2,031	3,61E-05	5,19E-04	Up-Regulated
CENPA	Centromere protein A	Protein localization to chromosome, centromeric region	3,417	5,63E-07	1,84E-05	Up-Regulated
CENPE	Centromere protein E, 312kda	Antigen processing and presentation of exogenous peptide antigen via MHC class II	3,006	4,88E-06	1,03E-04	Up-Regulated
CENPF	Centromere protein F, 350/400kda	Negative regulation of transcription, DNA-templated	2,959	6,77E-06	1,35E-04	Up-Regulated
CEP55	Centrosomal protein 55kda	Establishment of protein localization	3,098	2,71E-06	6,44E-05	Up-Regulated
CERKL	Ceramide kinase-like	Negative regulation of apoptotic process	2,374	8,82E-08	4,23E-06	Up-Regulated
CHI3L1	Chitinase 3-like 1 (cartilage glycoprotein-39)	Positive regulation of peptidyl-threonine phosphorylation	5,602	1,11E-17	1,10E-13	Up-Regulated
CHI3L2	Chitinase 3-like 2	Carbohydrate metabolic process	2,777	8,73E-06	1,66E-04	Up-Regulated
CHIT1	Chitinase 1 (chitotriosidase)	Polysaccharide catabolic process	4,887	6,77E-12	1,76E-09	Up-Regulated
CKS2	CDC28 protein kinase regulatory subunit 2	Regulation of cyclin-dependent protein serine/threonine kinase activity	3,33	1,86E-08	1,20E-06	Up-Regulated
CLDN19	Claudin 19	Calcium-independent cell-cell adhesion via plasma membrane cell-adhesion molecules	-2,28	3,53E-04	3,06E-03	Down-Regulated
CLEC4A	C-type lectin domain family 4, member A	Stimulatory C-type lectin receptor signaling pathway	3,273	1,56E-11	3,40E-09	Up-Regulated
CLEC4D	C-type lectin domain family 4, member D	Stimulatory C-type lectin receptor signaling pathway	4,201	8,63E-15	1,02E-11	Up-Regulated
CLEC4E	C-type lectin domain family 4, member E	Stimulatory C-type lectin receptor signaling	3,776	2,30E-17	1,15E-13	Up-

		pathway				Regulated
CLEC9A	C-type lectin domain family 9, member A	Positive regulation of cytokine secretion	2,474	1,53E-04	1,61E-03	Up-Regulated
CLIP4	CAP-GLY domain containing linker protein family, member 4	Negative regulation of T cell receptor signaling pathway	-2,572	6,89E-08	3,44E-06	Down-Regulated
CLSTN2	Calsyntenin 2	Homophilic cell adhesion via plasma membrane adhesion molecules	4,223	2,43E-10	3,63E-08	Up-Regulated
CNR2	Cannabinoid receptor 2 (macrophage)	G-protein coupled receptor signaling pathway, coupled to cyclic nucleotide second messenger	2,199	3,56E-04	3,08E-03	Up-Regulated
COCH	Cochlin	Positive regulation of innate immune response	2,861	4,37E-08	2,44E-06	Up-Regulated
CPA5	Carboxypeptidase A5	Metallocarboxypeptidase activity	3,777	2,89E-14	2,14E-11	Up-Regulated
CPPED1	Calcineurin-like phosphoesterase domain containing 1	Phosphoprotein phosphatase activity	2,068	9,46E-13	3,63E-10	Up-Regulated
CPVL	Carboxypeptidase, vitellogenic-like	Serine-type carboxypeptidase activity	2,233	1,14E-06	3,17E-05	Up-Regulated
CSF2RB	Colony stimulating factor 2 receptor, beta, low-affinity (granulocyte-macrophage)	Granulocyte macrophage colony-stimulating factor receptor complex	2,367	3,05E-06	7,14E-05	Up-Regulated
CTSB	Cathepsin B	Proteolysis involved in cellular protein catabolic process	2,15	1,77E-08	1,15E-06	Up-Regulated
CTSE	Cathepsin E	Antigen processing and presentation of exogenous peptide antigen via MHC class II	4,164	2,35E-14	2,14E-11	Up-Regulated
CTSS	Cathepsin S	Antigen processing and presentation of exogenous peptide antigen via MHC class I, TAP-independent	2,432	2,67E-09	2,51E-07	Up-Regulated
CTSV	Cathepsin V	Antigen processing and presentation of exogenous peptide antigen via MHC class II	2,803	3,38E-11	6,49E-09	Up-Regulated
CXCL11	Chemokine (C-X-C motif) ligand 11	Positive regulation of release of sequestered calcium ion into cytosol	2,203	2,11E-05	3,43E-04	Up-Regulated
CXCL13	Chemokine (C-X-C motif) ligand 13	Negative regulation of endothelial cell chemotaxis to fibroblast growth factor	6,286	9,57E-14	4,78E-11	Up-Regulated
CXCL13	Chemokine (C-X-C motif) ligand 13	Negative regulation of endothelial cell chemotaxis to fibroblast growth factor	2,92	1,34E-06	3,67E-05	Up-Regulated
CXCL13	Chemokine (C-X-C motif) ligand 13	Negative regulation of endothelial cell chemotaxis to fibroblast growth factor	2,471	3,65E-06	8,11E-05	Up-Regulated
CXCL13	Chemokine (C-X-C motif) ligand 13	Negative regulation of endothelial cell	6,49	5,49E-09	4,53E-07	Up-

		chemotaxis to fibroblast growth factor				Regulated
CXCL8	Chemokine (C-X-C motif) ligand 8	Regulation of single stranded viral RNA replication via double stranded DNA intermediate	5,463	2,09E-10	3,21E-08	Up-Regulated
CXCR4	Chemokine (C-X-C motif) receptor 4	Positive regulation of cytosolic calcium ion concentration	3,211	9,02E-10	1,01E-07	Up-Regulated
CYBB	Cytochrome b-245, beta polypeptide	Antigen processing and presentation of exogenous peptide antigen via MHC class I, TAP-dependent	2,643	3,20E-09	2,95E-07	Up-Regulated
CYP2D6	Cytochrome P450, family 2, subfamily D, polypeptide 6	Oxidoreductase activity, acting on paired donors, with incorporation or reduction of molecular oxygen, reduced flavin or flavoprotein as one donor, and incorporation of one atom of oxygen	-2,991	4,23E-06	9,28E-05	Down-Regulated
DAPL1	Death associated protein-like 1	Cellular response to amino acid starvation	-3,922	2,45E-12	7,41E-10	Down-Regulated
DCHS2	Dachsous cadherin-related 2	Homophilic cell adhesion via plasma membrane adhesion molecules	-2,599	3,27E-08	1,89E-06	Down-Regulated
DCSTAMP	Dendrocyte expressed seven transmembrane protein	Cellular response to macrophage colony-stimulating factor stimulus	5,363	3,91E-10	5,43E-08	Up-Regulated
DDIAS	DNA damage-induced apoptosis suppressor	Negative regulation of fibroblast apoptotic process	2,475	4,89E-07	1,67E-05	Up-Regulated
DEPDC1B	DEP domain containing 1B	Regulation of small gtpase mediated signal transduction	2,134	7,09E-05	8,74E-04	Up-Regulated
DHRS9	Dehydrogenase/reductase (SDR family) member 9	Integral component of endoplasmic reticulum membrane	3,533	1,41E-09	1,45E-07	Up-Regulated
DKK3	Dickkopf WNT signaling pathway inhibitor 3	Negative regulation of aldosterone biosynthetic process	-2,125	2,65E-09	2,51E-07	Down-Regulated
DLGAP5	Discs, large (Drosophila) homolog-associated protein 5	Positive regulation of mitotic metaphase/anaphase transition	3,329	9,92E-08	4,61E-06	Up-Regulated
DOK3	Docking protein 3	Ras protein signal transduction	2,136	1,69E-06	4,41E-05	Up-Regulated
DRP2	Dystrophin related protein 2	Nucleobase-containing compound metabolic process	-2,492	8,65E-06	1,66E-04	Down-Regulated
DSC2	Desmocollin 2	Cell adhesive protein binding involved in bundle of His cell-Purkinje myocyte communication	-2,182	1,46E-06	3,92E-05	Down-Regulated
DSG2	Desmoglein 2	Cell adhesive protein binding involved in	3,073	5,42E-06	1,12E-04	Up-

		bundle of His cell-Purkinje myocyte communication				Regulated
DSP	Desmoplakin	Cell adhesive protein binding involved in bundle of His cell-Purkinje myocyte communication	-2,382	5,40E-07	1,78E-05	Down-Regulated
DUSP5	Dual specificity phosphatase 5	MAP kinase tyrosine/serine/threonine phosphatase activity	2,151	1,84E-07	7,46E-06	Up-Regulated
E2F1	E2F transcription factor 1	Positive regulation of protein insertion into mitochondrial membrane involved in apoptotic signaling pathway	2,147	3,23E-05	4,75E-04	Up-Regulated
E2F8	E2F transcription factor 8	RNA polymerase II core promoter proximal region sequence-specific DNA binding transcription factor activity involved in negative regulation of transcription	2,332	1,35E-04	1,46E-03	Up-Regulated
ECT2	Epithelial cell transforming 2	Regulation of attachment of spindle microtubules to kinetochore	3,077	7,67E-07	2,34E-05	Up-Regulated
EGLN3	Egl-9 family hypoxia-inducible factor 3	Oxidoreductase activity, acting on paired donors, with incorporation or reduction of molecular oxygen, 2-oxoglutarate as one donor, and incorporation of one atom each of oxygen into both donors	4,415	9,82E-12	2,39E-09	Up-Regulated
EMILIN2	Elastin microfibril interfacer 2	Extracellular matrix constituent conferring elasticity	2,493	1,80E-08	1,17E-06	Up-Regulated
ENO2	Enolase 2 (gamma, neuronal)	Phosphopyruvate hydratase activity	3,632	9,22E-15	1,02E-11	Up-Regulated
EPCAM	Epithelial cell adhesion molecule	Positive regulation of transcription from RNA polymerase II promoter	2,012	3,20E-06	7,36E-05	Up-Regulated
EPHA6	EPH receptor A6	Integral component of plasma membrane	-2,681	6,10E-06	1,24E-04	Down-Regulated
EPHX4	Epoxide hydrolase 4	Integral component of membrane	2,876	4,31E-09	3,69E-07	Up-Regulated
EPX	Eosinophil peroxidase	Negative regulation of interleukin-10 production	-2,128	3,95E-04	3,34E-03	Down-Regulated
ERBB3	Erb-b2 receptor tyrosine kinase 3	Transmembrane receptor protein tyrosine kinase signaling pathway	-2,192	2,01E-07	8,09E-06	Down-Regulated
ERCC6L	Excision repair cross-complementation group 6-like	Small gtpase mediated signal transduction	2,505	1,37E-05	2,41E-04	Up-Regulated
ERO1L	ERO1-like (S. Cerevisiae)	Oxidoreductase activity, acting on a sulfur	2,47	7,94E-11	1,37E-08	Up-

		group of donors, disulfide as acceptor				Regulated
ESCO2	Establishment of sister chromatid cohesion N-acetyltransferase 2	Lysine N-acetyltransferase activity, acting on acetyl phosphate as donor	2,366	3,58E-04	3,09E-03	Up-Regulated
ETV4	Ets variant 4	RNA polymerase II core promoter proximal region sequence-specific DNA binding transcription factor activity involved in positive regulation of transcription	2,198	5,31E-05	6,91E-04	Up-Regulated
EVI2B	Ecotropic viral integration site 2B	Integral component of plasma membrane	2,132	7,67E-07	2,34E-05	Up-Regulated
EXO1	Exonuclease 1	Humoral immune response mediated by circulating immunoglobulin	2,993	3,09E-06	7,19E-05	Up-Regulated
F3	Coagulation factor III (thromboplastin, tissue factor)	Activation of cysteine-type endopeptidase activity involved in apoptotic process	-2,058	1,09E-08	7,74E-07	Down-Regulated
FABP5	Fatty acid binding protein 5 (psoriasis-associated)	Phosphatidylcholine biosynthetic process	3,9	6,86E-14	4,02E-11	Up-Regulated
FADS1	Fatty acid desaturase 1	Unsaturated fatty acid biosynthetic process	2,073	1,37E-04	1,47E-03	Up-Regulated
FADS1	Fatty acid desaturase 1	Unsaturated fatty acid biosynthetic process	2,138	3,32E-06	7,55E-05	Up-Regulated
FAIM2	Fas apoptotic inhibitory molecule 2	Negative regulation of apoptotic signaling pathway	2,91	9,48E-04	6,85E-03	Up-Regulated
FAIM3	Fas apoptotic inhibitory molecule 3	Negative regulation of apoptotic process	2,952	2,35E-04	2,25E-03	Up-Regulated
FAM150A	Family with sequence similarity 150, member A	Extracellular region	-2,532	3,46E-05	5,01E-04	Down-Regulated
FAM46C	Family with sequence similarity 46, member C	Protein binding	2,024	1,25E-05	2,22E-04	Up-Regulated
FBP1	Fructose-1,6-bisphosphatase 1	Negative regulation of Ras protein signal transduction	2,021	3,45E-04	3,02E-03	Up-Regulated
FCRL1	Fc receptor-like 1	Integral component of membrane	3,566	2,64E-04	2,46E-03	Up-Regulated
FCRL3	Fc receptor-like 3	Integral component of membrane	2,054	5,07E-05	6,66E-04	Up-Regulated
FCRLA	Fc receptor-like A	Cell differentiation	3,344	2,09E-04	2,06E-03	Up-Regulated
FGF23	Fibroblast growth factor 23	Positive regulation of MAPKKK cascade by fibroblast growth factor receptor signaling pathway	7,423	9,83E-12	2,39E-09	Up-Regulated

FGF7	Fibroblast growth factor 7	Regulation of branching involved in salivary gland morphogenesis by mesenchymal-epithelial signaling	2,551	3,25E-08	1,89E-06	Up-Regulated
FGL1	Fibrinogen-like 1	Extracellular exosome	3,707	4,16E-06	9,14E-05	Up-Regulated
FLVCR2	Feline leukemia virus subgroup C cellular receptor family, member 2	Integral component of membrane	2,29	2,52E-06	6,03E-05	Up-Regulated
FMN1	Formin 1	Microtubule binding	2,028	1,43E-05	2,50E-04	Up-Regulated
FNTB	Farnesyltransferase, CAAX box, beta	Positive regulation of nitric-oxide synthase biosynthetic process	2,317	7,65E-14	4,02E-11	Up-Regulated
FOLR2	Folate receptor 2 (fetal)	Regulation of thymidylate synthase biosynthetic process	2,325	7,52E-06	1,48E-04	Up-Regulated
FOXM1	Forkhead box M1	DNA damage response, signal transduction by p53 class mediator resulting in transcription of p21 class mediator	2,688	9,37E-06	1,77E-04	Up-Regulated
FRMPD1	FERM and PDZ domain containing 1	Extracellular exosome	-2,298	9,03E-08	4,27E-06	Down-Regulated
FRRS1	Ferric-chelate reductase 1	Ferric-chelate reductase activity	2,436	5,53E-08	2,83E-06	Up-Regulated
FTL	Ferritin, light polypeptide	Post-Golgi vesicle-mediated transport	3,393	4,20E-10	5,66E-08	Up-Regulated
GALNT6	Polypeptide N-acetylgalactosaminyltransferase 6	Polypeptide N-acetylgalactosaminyltransferase activity	3,685	5,19E-10	6,39E-08	Up-Regulated
GAPT	GRB2-binding adaptor protein, transmembrane	Immunoglobulin production involved in immunoglobulin mediated immune response	2,689	6,80E-04	5,21E-03	Up-Regulated
GGH	Gamma-glutamyl hydrolase (conjugase, folylpolygammaglutamyl hydrolase)	Gamma-glutamyl-peptidase activity	2,62	4,43E-08	2,44E-06	Up-Regulated
GLRX	Glutaredoxin (thioltransferase)	Positive regulation of sodium ion transmembrane transporter activity	2,955	1,78E-06	4,55E-05	Up-Regulated
GPD1	Glycerol-3-phosphate dehydrogenase 1 (soluble)	Glycerol-3-phosphate dehydrogenase [NAD+] activity	-2,568	1,08E-07	4,93E-06	Down-Regulated
GPI	Glucose-6-phosphate isomerase	Negative regulation of cysteine-type endopeptidase activity involved in apoptotic process	2,093	1,12E-09	1,19E-07	Up-Regulated
GPNMB	Glycoprotein (transmembrane) nmb	Negative regulation of tumor necrosis factor production	2,746	2,32E-06	5,66E-05	Up-Regulated
GPR158	G protein-coupled receptor 158	Regulation of G-protein coupled receptor	5,884	1,27E-09	1,34E-07	Up-

		protein signaling pathway				Regulated
GPR171	G protein-coupled receptor 171	G-protein coupled purinergic nucleotide receptor signaling pathway	2,211	1,56E-04	1,63E-03	Up-Regulated
GPR18	G protein-coupled receptor 18	G-protein coupled receptor signaling pathway	3,07	7,58E-09	5,83E-07	Up-Regulated
GPR84	G protein-coupled receptor 84	Phospholipase C-activating G-protein coupled receptor signaling pathway	3,628	2,07E-05	3,37E-04	Up-Regulated
GPRC5D	G protein-coupled receptor, class C, group 5, member D	G-protein coupled receptor signaling pathway	2,051	1,16E-03	8,03E-03	Up-Regulated
GPRIN3	GPRIN family member 3	Unknown	2,444	6,77E-05	8,40E-04	Up-Regulated
GSG2	Germ cell associated 2 (haspin)	Histone H3-T3 phosphorylation involved in chromosome passenger complex localization to kinetochore	2,477	1,71E-04	1,77E-03	Up-Regulated
GTF3C6	General transcription factor IIIC, polypeptide 6, alpha 35kda	5S class rrna transcription from RNA polymerase III type 1 promoter	4,617	6,18E-13	2,57E-10	Up-Regulated
HAAO	3-hydroxyanthranilate 3,4-dioxygenase	'De novo' NAD biosynthetic process from tryptophan	2,565	3,85E-07	1,40E-05	Up-Regulated
HAS2	Hyaluronan synthase 2	Positive regulation of substrate adhesion-dependent cell spreading	2,676	3,13E-11	6,24E-09	Up-Regulated
HAVCR1	Hepatitis A virus cellular receptor 1	Integral component of membrane	2,297	3,83E-05	5,43E-04	Up-Regulated
HCK	HCK proto-oncogene, Src family tyrosine kinase	Regulation of sequence-specific DNA binding transcription factor activity	2,154	6,94E-07	2,20E-05	Up-Regulated
HELLS	Helicase, lymphoid-specific	Methylation-dependent chromatin silencing	2,417	1,22E-07	5,38E-06	Up-Regulated
HHIP	Hedgehog interacting protein	Oxidoreductase activity, acting on the CH-OH group of donors, quinone or similar compound as acceptor	-3,512	4,82E-15	6,88E-12	Down-Regulated
HILS1	Histone linker H1 domain, spermatid-specific 1, pseudogene	Regulation of transcription, DNA-templated	2,327	4,35E-05	5,95E-04	Up-Regulated
HK3	Hexokinase 3 (white cell)	Early endosome to late endosome transport	2,099	4,66E-05	6,27E-04	Up-Regulated
HLA-DRA	Major histocompatibility complex, class II, DR alpha	Antigen processing and presentation of peptide or polysaccharide antigen via MHC class II	2,073	2,53E-08	1,52E-06	Up-Regulated
HMGA2	High mobility group AT-hook 2	RNA polymerase II core promoter proximal region sequence-specific DNA binding transcription factor activity involved in negative	3,322	7,53E-09	5,83E-07	Up-Regulated

		regulation of transcription				
HMMR	Hyaluronan-mediated motility receptor (RHAMM)	Glycosaminoglycan metabolic process	3,965	1,21E-08	8,43E-07	Up-Regulated
HMOX1	Heme oxygenase 1	Regulation of transcription from RNA polymerase II promoter in response to oxidative stress	4,416	5,12E-08	2,69E-06	Up-Regulated
HNMT	Histamine N-methyltransferase	Positive regulation of protein targeting to mitochondrion	2,28	4,04E-10	5,53E-08	Up-Regulated
HOOK1	Hook microtubule-tethering protein 1	Early endosome to late endosome transport	2,098	3,70E-04	3,17E-03	up-Regulated
HRH1	Histamine receptor H1	Positive regulation of adenylate cyclase activity involved in G-protein coupled receptor signaling pathway	-2,394	7,10E-07	2,23E-05	Down-Regulated
HS3ST3B1	Heparan sulfate (glucosamine) 3-O-sulfotransferase 3B1	Heparan sulfate proteoglycan biosynthetic process, enzymatic modification	2,026	1,55E-04	1,63E-03	Up-Regulated
HSPB3	Heat shock 27kda protein 3	Response to unfolded protein	2,298	2,42E-04	2,31E-03	Up-Regulated
IBSP	Integrin-binding sialoprotein	Cellular response to growth factor stimulus	6,221	6,88E-12	1,76E-09	Up-Regulated
ICOS	Inducible T-cell co-stimulator	Integral component of plasma membrane	2,105	8,52E-05	1,01E-03	Up-Regulated
IGF2BP3	Insulin-like growth factor 2 mrna binding protein 3	Regulation of cytokine biosynthetic process	2,684	6,51E-06	1,31E-04	Up-Regulated
IGHV3-23	Immunoglobulin heavy variable 3-23	Fc-gamma receptor signaling pathway involved in phagocytosis	2,1	6,12E-06	1,24E-04	Up-Regulated
IGHV3-23	Immunoglobulin heavy variable 3-23	Fc-gamma receptor signaling pathway involved in phagocytosis	2,326	6,85E-07	2,18E-05	Up-Regulated
IGSF6	Immunoglobulin superfamily, member 6	Transmembrane signaling receptor activity	3,615	4,48E-14	2,80E-11	Up-Regulated
IKZF3	IKAROS family zinc finger 3 (Aiolos)	RNA polymerase II transcription regulatory region sequence-specific DNA binding transcription factor activity involved in positive regulation of transcription	2,782	1,22E-05	2,19E-04	Up-Regulated
IL10	Interleukin 10	Positive regulation of sequence-specific DNA binding transcription factor activity	2,12	4,41E-05	6,01E-04	Up-Regulated
IL18BP	Interleukin 18 binding protein	Extracellular negative regulation of signal transduction	2,181	2,81E-13	1,28E-10	Up-Regulated
IL18R1	Interleukin 18 receptor 1	Positive regulation of NF-kappab import into	2,517	1,18E-05	2,13E-04	Up-

		nucleus				Regulated
IL18RAP	Interleukin 18 receptor accessory protein	Cell surface receptor signaling pathway	2,351	4,44E-04	3,67E-03	Up-Regulated
IL1B	Interleukin 1, beta	Positive regulation of vascular endothelial growth factor receptor signaling pathway	3,209	7,84E-06	1,53E-04	Up-Regulated
IL1RAP	Interleukin 1 receptor accessory protein	Integral component of plasma membrane	2,577	4,25E-10	5,66E-08	Up-Regulated
IL1RN	Interleukin 1 receptor antagonist	Negative regulation of interleukin-1-mediated signaling pathway	3,248	4,45E-08	2,44E-06	Up-Regulated
IL23A	Interleukin 23, alpha subunit p19	Positive regulation of granulocyte macrophage colony-stimulating factor production	3,604	1,63E-07	6,82E-06	Up-Regulated
IL2RG	Interleukin 2 receptor, gamma	Interleukin-2-mediated signaling pathway	2,185	6,27E-06	1,27E-04	Up-Regulated
IL6	Interleukin 6	Negative regulation of cysteine-type endopeptidase activity involved in apoptotic process	3,778	6,67E-09	5,25E-07	Up-Regulated
IL7R	Interleukin 7 receptor	Positive regulation of T cell differentiation in thymus	3,702	2,60E-16	6,79E-13	Up-Regulated
INHBB	Inhibin, beta B	Positive regulation of pathway-restricted SMAD protein phosphorylation	3,305	2,28E-09	2,21E-07	Up-Regulated
IRG1	Immunoresponsive 1 homolog (mouse)	Positive regulation of reactive oxygen species metabolic process	4,375	1,11E-10	1,84E-08	Up-Regulated
ITGA4	Integrin, alpha 4 (antigen CD49D, alpha 4 subunit of VLA-4 receptor)	Heterophilic cell-cell adhesion via plasma membrane cell adhesion molecules	2,695	2,87E-08	1,70E-06	Up-Regulated
JCHAIN	Joining chain of multimeric iga and igm	Positive regulation of protein oligomerization	5,132	1,42E-08	9,55E-07	Up-Regulated
KANK4	KN motif and ankyrin repeat domains 4	Cytoplasm	-2,066	2,45E-04	2,32E-03	Down-Regulated
KCNIP1	Kv channel interacting protein 1	Extrinsic component of cytoplasmic side of plasma membrane	2,307	1,78E-05	2,97E-04	Up-Regulated
KIAA0101	Kiaa0101	Cellular response to DNA damage stimulus	3,592	1,28E-08	8,82E-07	Up-Regulated
KIAA1598	Kiaa1598	Regulation of establishment of cell polarity	2,119	2,43E-08	1,49E-06	Up-Regulated
KIF11	Kinesin family member 11	Antigen processing and presentation of exogenous peptide antigen via MHC class II	2,931	3,70E-06	8,21E-05	Up-Regulated
KIF14	Kinesin family member 14	SCF-dependent proteasomal ubiquitin-dependent protein catabolic process	2,541	4,87E-08	2,60E-06	Up-Regulated

KIF18B	Kinesin family member 18B	ATP-dependent microtubule motor activity, plus-end-directed	2,962	8,08E-07	2,44E-05	Up-Regulated
KIF20A	Kinesin family member 20A	Cell separation after cytokinesis	2,58	2,09E-07	8,27E-06	Up-Regulated
KIF24	Kinesin family member 24	Microtubule depolymerization	2,502	6,33E-07	2,03E-05	Up-Regulated
KIFC1	Kinesin family member C1	ATP-dependent microtubule motor activity, minus-end-directed	2,352	2,03E-07	8,10E-06	Up-Regulated
KLC1	Kinesin light chain 1	Antigen processing and presentation of exogenous peptide antigen via MHC class II	2,125	1,35E-04	1,46E-03	Up-Regulated
KLC1	Kinesin light chain 1	Antigen processing and presentation of exogenous peptide antigen via MHC class II	2,618	3,36E-05	4,90E-04	Up-Regulated
KLHL6	Kelch-like family member 6	Cul3-RING ubiquitin ligase complex	2,582	5,48E-10	6,59E-08	Up-Regulated
KRT32	Keratin 32, type I	Structural molecule activity	2,387	8,07E-05	9,72E-04	Up-Regulated
KRT8	Keratin 8, type II	Cell differentiation involved in embryonic placenta development	2,138	1,14E-03	7,92E-03	Up-Regulated
LANCL3	Lanc lantibiotic synthetase component C-like 3 (bacterial)	Catalytic activity	2,389	4,00E-05	5,63E-04	Up-Regulated
LAT	Linker for activation of T cells	Nuclear origin of replication recognition complex	2,113	3,19E-06	7,36E-05	Up-Regulated
LCP1	Lymphocyte cytosolic protein 1 (L-plastin)	Regulation of intracellular protein transport	2,276	6,00E-08	3,03E-06	Up-Regulated
LECT1	Leukocyte cell derived chemotaxin 1	Negative regulation of vascular endothelial growth factor receptor signaling pathway	-2,176	2,26E-04	2,18E-03	Down-Regulated
LEP	Leptin	Positive regulation of peroxisome proliferator activated receptor signaling pathway	-2,371	1,20E-06	3,32E-05	Down-Regulated
LGALS3	Lectin, galactoside-binding, soluble, 3	Negative regulation of T cell activation via T cell receptor contact with antigen bound to MHC molecule on antigen presenting cell	3,583	2,72E-16	6,79E-13	Up-Regulated
LGALS7/LGALS7B	Lectin, galactoside-binding, soluble, 7	Heterophilic cell-cell adhesion via plasma membrane cell adhesion molecules	3,084	4,99E-06	1,05E-04	Up-Regulated
LIPA	Lipase A, lysosomal acid, cholesterol esterase	Homeostasis of number of cells within a tissue	3,589	1,78E-07	7,29E-06	Up-Regulated
LIPA	Lipase A, lysosomal acid, cholesterol esterase	Homeostasis of number of cells within a tissue	5,181	7,73E-10	8,98E-08	Up-Regulated
LPAR3	Lysophosphatidic acid receptor 3	Positive regulation of cytosolic calcium ion	3,454	1,16E-07	5,23E-06	Up-

		concentration involved in phospholipase C-activating G-protein coupled signaling pathway				Regulated
LPCAT2	Lysophosphatidylcholine acyltransferase 2	1-alkylglycerophosphocholine O-acetyltransferase activity	2,074	3,12E-07	1,18E-05	Up-Regulated
LPXN	Leupaxin	Negative regulation of B cell receptor signaling pathway	2,25	2,29E-07	8,94E-06	Up-Regulated
LTA	Lymphotoxin alpha	Positive regulation of humoral immune response mediated by circulating immunoglobulin	2,109	9,99E-05	1,14E-03	Up-Regulated
LY86	Lymphocyte antigen 86	Positive regulation of lipopolysaccharide-mediated signaling pathway	2,762	2,16E-08	1,36E-06	Up-Regulated
MAP3K19	Mitogen-activated protein kinase kinase kinase 19	Activation of protein kinase activity	7,854	1,13E-10	1,85E-08	Up-Regulated
MAPK13	Mitogen-activated protein kinase 13	Vascular endothelial growth factor receptor signaling pathway	2,389	3,92E-07	1,42E-05	Up-Regulated
MBNL3	Muscleblind-like splicing regulator 3	Negative regulation of myoblast differentiation	2,542	6,87E-07	2,18E-05	Up-Regulated
MC5R	Melanocortin 5 receptor	G-protein coupled receptor signaling pathway, coupled to cyclic nucleotide second messenger	-2,426	1,31E-07	5,70E-06	Down-Regulated
MCM8	Minichromosome maintenance complex component 8	Double-strand break repair via homologous recombination	2,144	2,69E-04	2,50E-03	Up-Regulated
MCOLN2	Mucolipin 2	Calcium ion transmembrane transport	2,947	1,73E-07	7,15E-06	Up-Regulated
MELK	Maternal embryonic leucine zipper kinase	Intrinsic apoptotic signaling pathway in response to oxidative stress	3,825	6,19E-07	2,00E-05	Up-Regulated
MFSD8	Major facilitator superfamily domain containing 8	Substrate-specific transmembrane transporter activity	3,658	4,01E-14	2,67E-11	Up-Regulated
MILR1	Mast cell immunoglobulin-like receptor 1	Negative regulation of mast cell activation	2,481	8,78E-07	2,60E-05	Up-Regulated
MLANA	Melan-A	Integral component of plasma membrane	2,085	5,42E-05	7,01E-04	Up-Regulated
MMP1	Matrix metallopeptidase 1	Positive regulation of protein oligomerization	8,407	1,93E-10	3,06E-08	Up-Regulated
MMP12	Matrix metallopeptidase 12	Positive regulation of epithelial cell proliferation involved in wound healing	6,206	1,97E-10	3,07E-08	Up-Regulated
MMP13	Matrix metallopeptidase 13	Low-density lipoprotein particle receptor binding	7,201	6,86E-13	2,74E-10	Up-Regulated
MMP3	Matrix metallopeptidase 3	Negative regulation of hydrogen peroxide	4,084	1,22E-05	2,19E-04	Up-

		metabolic process				Regulated
MOGAT1	Monoacylglycerol O-acyltransferase 1	2-acylglycerol O-acyltransferase activity	2,101	3,32E-04	2,93E-03	Up-Regulated
MPEG1	Macrophage expressed 1	Integral component of membrane	2,847	1,03E-06	2,95E-05	Up-Regulated
MPZ	Myelin protein zero	Negative regulation of apoptotic process	-3,4	1,33E-09	1,38E-07	Down-Regulated
MREG	Melanoregulin	Melanocyte differentiation	3,746	1,45E-15	2,42E-12	Up-Regulated
MS4A1	Membrane-spanning 4-domains, subfamily A, member 1	Protein kinase C-activating G-protein coupled receptor signaling pathway	4,07	4,19E-07	1,48E-05	Up-Regulated
MSR1	Macrophage scavenger receptor 1	Positive regulation of macrophage derived foam cell differentiation	3,213	9,40E-09	6,86E-07	Up-Regulated
MTFP1	Mitochondrial fission process 1	Integral component of membrane	3,372	1,06E-08	7,54E-07	Up-Regulated
MTTP	Microsomal triglyceride transfer protein	Small molecule metabolic process	2,753	1,49E-03	9,73E-03	Up-Regulated
MYH7	Myosin, heavy chain 7, cardiac muscle, beta	Regulation of slow-twitch skeletal muscle fiber contraction	4,158	1,24E-07	5,44E-06	Up-Regulated
MYH7B	Myosin, heavy chain 7B, cardiac muscle, beta	Metabolic process	-3,342	1,79E-07	7,29E-06	Down-Regulated
MYO1G	Myosin IG	Fc-gamma receptor signaling pathway involved in phagocytosis	2,815	1,66E-12	5,72E-10	Up-Regulated
MYOZ2	Myozenin 2	Protein phosphatase 2B binding	-2,448	1,95E-05	3,22E-04	Down-Regulated
MZB1	Marginal zone B and B1 cell-specific protein	Negative regulation of glucose import in response to insulin stimulus	4,437	5,72E-08	2,91E-06	Up-Regulated
NCAPG	Non-SMC condensin I complex, subunit G	Mitotic chromosome condensation	2,443	3,72E-05	5,32E-04	Up-Regulated
NCMAP	Noncompact myelin associated protein	Peripheral nervous system myelin formation	-2,569	3,34E-06	7,58E-05	Down-Regulated
NDUFA5	NADH dehydrogenase (ubiquinone) 1 alpha subcomplex, 5	Mitochondrial electron transport, NADH to ubiquinone	2,865	2,17E-11	4,51E-09	Up-Regulated
NEIL3	Nei endonuclease VIII-like 3 (E. Coli)	DNA-(apurinic or apyrimidinic site) lyase activity	2,628	1,08E-03	7,61E-03	Up-Regulated
NEK2	NIMA-related kinase 2	Anaphase-promoting complex-dependent proteasomal ubiquitin-dependent protein catabolic process	3,178	1,02E-07	4,71E-06	Up-Regulated

NFASC	Neurofascin	Protein binding involved in heterotypic cell-cell adhesion	-2,249	2,29E-04	2,21E-03	Down-Regulated
NIPAL4	NIPA-like domain containing 4	Magnesium ion transmembrane transporter activity	-2,161	3,23E-05	4,75E-04	Down-Regulated
NKAIN1	Na+/K+ transporting atpase interacting 1	Regulation of sodium ion transport	3,565	8,48E-09	6,42E-07	Up-Regulated
NPM1	Nucleophosmin (nucleolar phosphoprotein B23, numatrin)	Negative regulation of protein kinase activity by regulation of protein phosphorylation	3,607	8,01E-06	1,55E-04	Up-Regulated
NUF2	NUF2, NDC80 kinetochore complex component	Small gtpase mediated signal transduction	3,212	7,47E-07	2,30E-05	Up-Regulated
NYAP2	Neuronal tyrosine-phosphorylated phosphoinositide-3-kinase adaptor 2	Phosphatidylinositol 3-kinase signaling	2,779	2,43E-10	3,63E-08	Up-Regulated
OGDHL	Oxoglutarate dehydrogenase-like	Oxoglutarate dehydrogenase (succinyl-transferring) activity	-2,099	1,15E-05	2,09E-04	Down-Regulated
OVGP1	Oviductal glycoprotein 1, 120kda	Negative regulation of binding of sperm to zona pellucida	2,855	8,14E-08	3,95E-06	Up-Regulated
P2RX1	Purinergic receptor P2X, ligand gated ion channel, 1	Activation of cysteine-type endopeptidase activity involved in apoptotic process	-2,211	1,94E-06	4,87E-05	Down-Regulated
P2RY10	Purinergic receptor P2Y, G-protein coupled, 10	G-protein coupled purinergic nucleotide receptor signaling pathway	2,564	4,54E-05	6,15E-04	Up-Regulated
PARPBP	PARP1 binding protein	Negative regulation of double-strand break repair via homologous recombination	2,383	2,57E-04	2,42E-03	Up-Regulated
PAX5	Paired box 5	RNA polymerase II core promoter proximal region sequence-specific DNA binding transcription factor activity involved in positive regulation of transcription	2,793	1,73E-05	2,91E-04	Up-Regulated
PBK	PDZ binding kinase	Negative regulation of proteasomal ubiquitin-dependent protein catabolic process	2,934	3,12E-06	7,21E-05	Up-Regulated
PCDHAC2	Protocadherin alpha subfamily C, 2	Homophilic cell adhesion via plasma membrane adhesion molecules	-3,112	7,76E-11	1,36E-08	Down-Regulated
PDE4B	Phosphodiesterase 4B, camp-specific	Regulation of high voltage-gated calcium channel activity	2,299	1,45E-04	1,54E-03	Up-Regulated
PDE6A	Phosphodiesterase 6A, cgmp-specific, rod, alpha	Regulation of rhodopsin mediated signaling pathway	2,271	8,55E-06	1,64E-04	Up-Regulated
PFKFB1	6-phosphofructo-2-kinase/fructose-2,6-biphosphatase 1	6-phosphofructo-2-kinase/fructose-2,6-biphosphatase complex	-2,417	5,80E-07	1,89E-05	Down-Regulated
PGBD5	Piggybac transposable element derived 5	Integral component of membrane	4,221	3,32E-11	6,49E-09	Up-Regulated

PIGR	Polymeric immunoglobulin receptor	Immunoglobulin transcytosis in epithelial cells mediated by polymeric immunoglobulin receptor	3,309	1,73E-05	2,91E-04	Up-Regulated
PIGR	Polymeric immunoglobulin receptor	Immunoglobulin transcytosis in epithelial cells mediated by polymeric immunoglobulin receptor	3,876	1,71E-06	4,41E-05	Up-Regulated
PKIB	Protein kinase (camp-dependent, catalytic) inhibitor beta	Negative regulation of cyclin-dependent protein kinase activity	2,442	4,66E-10	6,11E-08	Up-Regulated
PLB1	Phospholipase B1	Phosphatidylcholine acyl-chain remodeling	2,755	4,24E-12	1,21E-09	Up-Regulated
PLEK	Pleckstrin	Negative regulation of G-protein coupled receptor protein signaling pathway	2,5	1,54E-11	3,40E-09	Up-Regulated
PLEKHM1	Pleckstrin homology domain containing, family M (with RUN domain) member 1	Intracellular signal transduction	2,181	2,35E-11	4,78E-09	Up-Regulated
PLIN2	Perilipin 2	Response to organic cyclic compound	3,099	3,90E-09	3,42E-07	Up-Regulated
PLP1	Proteolipid protein 1	Long-chain fatty acid biosynthetic process	-2,244	3,60E-09	3,24E-07	Down-Regulated
PLXNC1	Plexin C1	Semaphorin-plexin signaling pathway	2,155	3,79E-08	2,12E-06	Up-Regulated
POU2AF1	POU class 2 associating factor 1	Transcription from RNA polymerase II promoter	4,23	1,89E-08	1,21E-06	Up-Regulated
PRDM1	PR domain containing 1, with ZNF domain	RNA polymerase II core promoter proximal region sequence-specific DNA binding transcription factor activity involved in negative regulation of transcription	2,611	3,39E-08	1,94E-06	Up-Regulated
PRND	Prion protein 2 (dublet)	Anchored component of membrane	5,761	1,44E-08	9,56E-07	Up-Regulated
PRR11	Proline rich 11	Regulation of cell cycle	2,744	1,86E-05	3,10E-04	Up-Regulated
PRTG	Protogenin	Multicellular organismal development	2,802	1,18E-07	5,27E-06	Up-Regulated
PSG4	Pregnancy specific beta-1-glycoprotein 4	Extracellular exosome	5,119	4,50E-05	6,11E-04	Up-Regulated
PSG4	Pregnancy specific beta-1-glycoprotein 4	Extracellular exosome	4,975	7,50E-08	3,69E-06	Up-Regulated
PSG4	Pregnancy specific beta-1-glycoprotein 4	Extracellular exosome	4,979	2,73E-08	1,62E-06	Up-Regulated

PTGER3	Prostaglandin E receptor 3 (subtype EP3)	Ligand-activated sequence-specific DNA binding RNA polymerase II transcription factor activity	-2,149	1,66E-07	6,90E-06	Down-Regulated
PTGS2	Prostaglandin-endoperoxide synthase 2 (prostaglandin G/H synthase and cyclooxygenase)	Positive regulation of cell migration involved in sprouting angiogenesis	2,685	1,78E-12	5,72E-10	Up-Regulated
PTPN22	Protein tyrosine phosphatase, non-receptor type 22 (lymphoid)	Negative regulation of nucleotide-binding oligomerization domain containing 2 signaling pathway	2,464	4,14E-07	1,47E-05	Up-Regulated
PTPRC	Protein tyrosine phosphatase, receptor type, C	Negative regulation of cell adhesion involved in substrate-bound cell migration	2,396	4,32E-09	3,69E-07	Up-Regulated
PTPRO	Protein tyrosine phosphatase, receptor type, O	Transmembrane receptor protein tyrosine phosphatase signaling pathway	2,288	9,59E-09	6,94E-07	Up-Regulated
PTX3	Pentraxin 3, long	RNA polymerase II core promoter proximal region sequence-specific DNA binding transcription factor activity involved in positive regulation of transcription	2,131	3,07E-06	7,16E-05	Up-Regulated
PVR	Poliovirus receptor	Positive regulation of natural killer cell mediated cytotoxicity directed against tumor cell target	4,28	1,31E-07	5,70E-06	Up-Regulated
PVR	Poliovirus receptor	Positive regulation of natural killer cell mediated cytotoxicity directed against tumor cell target	3,815	1,41E-12	5,21E-10	Up-Regulated
RAB27B	RAB27B, member RAS oncogene family	Vesicle docking involved in exocytosis	-2,289	6,02E-05	7,63E-04	Down-Regulated
RACGAP1	Rac gtpase activating protein 1	Antigen processing and presentation of exogenous peptide antigen via MHC class II	2,232	5,39E-06	1,12E-04	Up-Regulated
RAD23A	RAD23 homolog A (S. Cerevisiae)	Regulation of proteasomal ubiquitin-dependent protein catabolic process	4,195	8,31E-07	2,48E-05	Up-Regulated
RAD51	RAD51 recombinase	Replication-born double-strand break repair via sister chromatid exchange	2,416	2,93E-05	4,40E-04	Up-Regulated
RAD51AP1	RAD51 associated protein 1	Regulation of double-strand break repair via homologous recombination	2,404	1,01E-05	1,88E-04	Up-Regulated
RAD9A	RAD9 homolog A (S. Pombe)	Positive regulation of intrinsic apoptotic signaling pathway in response to DNA damage	2,398	5,81E-04	4,60E-03	Up-Regulated
RASSF6	Ras association (ralgds/AF-6) domain family member 6	Positive regulation of apoptotic process	3,185	4,90E-07	1,67E-05	Up-Regulated
RBM47	RNA binding motif protein 47	Poly(A) RNA binding	2,039	7,37E-08	3,64E-06	Up-

						Regulated
RGR	Retinal G protein coupled receptor	G-protein coupled receptor signaling pathway	2,506	5,54E-07	1,82E-05	Up-Regulated
RGS1	Regulator of G-protein signaling 1	Adenylate cyclase-inhibiting G-protein coupled receptor signaling pathway	3,944	1,77E-12	5,72E-10	Up-Regulated
RGS18	Regulator of G-protein signaling 18	Termination of G-protein coupled receptor signaling pathway	2,003	3,13E-05	4,62E-04	Up-Regulated
RHOH	Ras homolog family member H	Negative regulation of I-kappab kinase/NF-kappab signaling	2,159	6,89E-04	5,27E-03	Up-Regulated
RMI2	Recq mediated genome instability 2	DNA replication	2,708	6,58E-06	1,32E-04	Up-Regulated
RNF128	Ring finger protein 128, E3 ubiquitin protein ligase	Protein ubiquitination involved in ubiquitin-dependent protein catabolic process	3,244	1,03E-11	2,45E-09	Up-Regulated
RPS24	Ribosomal protein S24	Maturation of SSU-rrna from tricistronic rrna transcript (SSU-rrna, 5.8S rrna, LSU-rrna)	2,617	1,10E-03	7,69E-03	Up-Regulated
RS1	Retinoschisin 1	Phosphatidylinositol-3,4,5-trisphosphate binding	2,487	1,52E-04	1,61E-03	Up-Regulated
RTN4RL2	Reticulon 4 receptor-like 2	Anchored component of plasma membrane	4,082	3,00E-14	2,14E-11	Up-Regulated
S100A12	S100 calcium binding protein A12	Positive regulation of NF-kappab transcription factor activity	3,974	1,55E-05	2,68E-04	Up-Regulated
S100A8	S100 calcium binding protein A8	Activation of cysteine-type endopeptidase activity involved in apoptotic process	4,471	8,81E-10	1,00E-07	Up-Regulated
S100A9	S100 calcium binding protein A9	Activation of cysteine-type endopeptidase activity involved in apoptotic process	3,88	4,40E-07	1,55E-05	Up-Regulated
S100B	S100 calcium binding protein B	Negative regulation of skeletal muscle cell differentiation	-2,304	1,68E-12	5,72E-10	Down-Regulated
S1PR3	Sphingosine-1-phosphate receptor 3	Adenylate cyclase-inhibiting G-protein coupled receptor signaling pathway	3,312	4,08E-07	1,45E-05	Up-Regulated
SAMSN1	SAM domain, SH3 domain and nuclear localization signals 1	Negative regulation of peptidyl-tyrosine phosphorylation	2,718	6,50E-10	7,64E-08	Up-Regulated
SAPCD1	Suppressor APC domain containing 1	Unknown	-2,205	1,57E-10	2,53E-08	Down-Regulated
SCG2	Secretogranin II	Negative regulation of sequence-specific DNA binding transcription factor activity	3,773	3,93E-04	3,34E-03	Up-Regulated
SCIMP	SLP adaptor and CSK interacting membrane protein	Positive regulation of ERK1 and ERK2 cascade	5,091	5,28E-09	4,40E-07	Up-Regulated
SCN4A	Sodium channel, voltage gated, type IV	Membrane depolarization during action	2,368	3,47E-05	5,02E-04	Up-

	alpha subunit	potential				Regulated
SCN7A	Sodium channel, voltage gated, type VII alpha subunit	Membrane depolarization during action potential	-2,228	4,81E-06	1,02E-04	Down-Regulated
SERPINB2	Serpin peptidase inhibitor, clade B (ovalbumin), member 2	Negative regulation of endopeptidase activity	3,195	6,47E-05	8,09E-04	Up-Regulated
SFRP5	Secreted frizzled-related protein 5	Negative regulation of Wnt signaling pathway involved in digestive tract morphogenesis	-2,394	4,40E-08	2,44E-06	Down-Regulated
SGOL1	Shugoshin-like 1 (S. Pombe)	Attachment of spindle microtubules to kinetochore	2,318	3,17E-04	2,82E-03	Up-Regulated
SGPL1	Sphingosine-1-phosphate lyase 1	Platelet-derived growth factor receptor signaling pathway	2,051	1,78E-07	7,29E-06	Up-Regulated
SH2D1B	SH2 domain containing 1B	Positive regulation of natural killer cell mediated immunity	2,482	9,19E-07	2,68E-05	Up-Regulated
SIGLEC15	Sialic acid binding Ig-like lectin 15	Cellular response to lipoprotein particle stimulus	3,027	2,86E-07	1,10E-05	Up-Regulated
SIRPB1	Signal-regulatory protein beta 1	Cell surface receptor signaling pathway	3,985	1,78E-04	1,82E-03	Up-Regulated
SIRPB1	Signal-regulatory protein beta 1	Cell surface receptor signaling pathway	5,665	5,54E-09	4,53E-07	Up-Regulated
SIRPB2	Signal-regulatory protein beta 2	Positive regulation of cell-cell adhesion	2,091	5,04E-08	2,68E-06	Up-Regulated
SLAMF1	Signaling lymphocytic activation molecule family member 1	Positive regulation of cell proliferation	2,893	7,33E-07	2,27E-05	Up-Regulated
SLAMF6	SLAM family member 6	Integral component of membrane	3,339	3,93E-09	3,42E-07	Up-Regulated
SLAMF7	SLAM family member 7	Natural killer cell mediated cytotoxicity	6,67	2,89E-14	2,14E-11	Up-Regulated
SLAMF8	SLAM family member 8	Regulation of NAD(P)H oxidase activity	2,166	1,01E-05	1,88E-04	Up-Regulated
SLC11A1	Solute carrier family 11 (proton-coupled divalent metal ion transporter), member 1	Positive regulation of dendritic cell antigen processing and presentation	4,39	1,37E-08	9,22E-07	Up-Regulated
SLC16A6	Solute carrier family 16, member 6	Monocarboxylic acid transmembrane transporter activity	3,28	1,01E-09	1,13E-07	Up-Regulated
SLC35D2	Solute carrier family 35 (UDP-glcnac/UDP-glucose transporter), member D2	Pyrimidine nucleotide-sugar transmembrane transporter activity	2,056	1,37E-07	5,90E-06	Up-Regulated
SLC35D3	Solute carrier family 35, member D3	Pyrimidine nucleotide-sugar transmembrane	2,987	1,17E-05	2,11E-04	Up-

		transporter activity				Regulated
SLC35F1	Solute carrier family 35, member F1	Integral component of membrane	-2,288	3,95E-07	1,43E-05	Down-Regulated
SLC36A2	Solute carrier family 36 (proton/amino acid symporter), member 2	Hydrogen ion transmembrane transporter activity	-2,072	4,47E-05	6,08E-04	Down-Regulated
SLC44A4	Solute carrier family 44, member 4	Glycerophospholipid biosynthetic process	2,198	4,23E-05	5,84E-04	Up-Regulated
SLC6A15	Solute carrier family 6 (neutral amino acid transporter), member 15	Neurotransmitter:sodium symporter activity	3,409	4,83E-08	2,60E-06	Up-Regulated
SLC6A7	Solute carrier family 6 (neurotransmitter transporter), member 7	L-proline transmembrane transporter activity	2,689	1,62E-06	4,28E-05	Up-Regulated
SLC7A10	Solute carrier family 7 (neutral amino acid transporter light chain, asc system), member 10	Neutral amino acid transmembrane transporter activity	-2,088	4,76E-04	3,89E-03	Down-Regulated
SLC7A11	Solute carrier family 7 (anionic amino acid transporter light chain, xc- system), member 11	Integral component of plasma membrane	3,344	3,59E-06	8,02E-05	Up-Regulated
SLC7A7	Solute carrier family 7 (amino acid transporter light chain, y+L system), member 7	Basic amino acid transmembrane transporter activity	2,097	4,66E-07	1,62E-05	Up-Regulated
SLCO4C1	Solute carrier organic anion transporter family, member 4C1	Sodium-independent organic anion transport	4,099	1,31E-08	8,96E-07	Up-Regulated
SMPDL3B	Sphingomyelin phosphodiesterase, acid-like 3B	Hydrolase activity, acting on glycosyl bonds	2,57	5,66E-05	7,28E-04	Up-Regulated
SNX10	Sorting nexin 10	Extrinsic component of endosome membrane	2,372	2,34E-09	2,25E-07	Up-Regulated
SORCS1	Sortilin-related VPS10 domain containing receptor 1	Integral component of membrane	-2,703	3,77E-07	1,38E-05	Down-Regulated
SOST	Sclerostin	Negative regulation of Wnt signaling pathway involved in dorsal/ventral axis specification	-2,05	9,65E-04	6,95E-03	Down-Regulated
SPAG5	Sperm associated antigen 5	Regulation of attachment of spindle microtubules to kinetochore	3,271	1,92E-06	4,87E-05	Up-Regulated
SPI1	Spi-1 proto-oncogene	RNA polymerase II core promoter proximal region sequence-specific DNA binding transcription factor activity involved in negative regulation of transcription	2,178	1,22E-08	8,47E-07	Up-Regulated
SPOCK1	Sparc/osteonectin, cwcv and kazal-like domains proteoglycan (testican) 1	Negative regulation of neuron projection development	2,393	1,29E-04	1,41E-03	Up-Regulated

SRCIN1	SRC kinase signaling inhibitor 1	Negative regulation of protein tyrosine kinase activity	-4,21	7,90E-08	3,85E-06	Down-Regulated
SRGN	Serglycin	Maintenance of protease location in mast cell secretory granule	3,309	3,29E-10	4,63E-08	Up-Regulated
SSTR1	Somatostatin receptor 1	G-protein coupled receptor signaling pathway, coupled to cyclic nucleotide second messenger	-2,067	3,72E-04	3,18E-03	Down-Regulated
ST3GAL5	ST3 beta-galactoside alpha-2,3-sialyltransferase 5	Neolactotetraosylceramide alpha-2,3-sialyltransferase activity	2,093	2,02E-07	8,09E-06	Up-Regulated
STAP1	Signal transducing adaptor family member 1	Positive regulation of non-membrane spanning protein tyrosine kinase activity	2,109	1,19E-04	1,32E-03	Up-Regulated
STIL	SCL/TAL1 interrupting locus	Positive regulation of cyclin-dependent protein serine/threonine kinase activity	3,181	6,65E-06	1,33E-04	Up-Regulated
STX11	Syntaxin 11	Synaptic vesicle fusion to presynaptic membrane	3,049	2,42E-08	1,49E-06	Up-Regulated
SUCNR1	Succinate receptor 1	G-protein coupled receptor signaling pathway	3,843	1,59E-07	6,76E-06	Up-Regulated
SUSD3	Sushi domain containing 3	Integral component of membrane	2,1	9,75E-08	4,55E-06	Up-Regulated
TCF19	Transcription factor 19	Regulation of transcription from RNA polymerase II promoter	2,048	9,95E-05	1,14E-03	Up-Regulated
TCN1	Transcobalamin I (vitamin B12 binding protein, R binder family)	Water-soluble vitamin metabolic process	3,345	1,77E-05	2,96E-04	Up-Regulated
TESPA1	Thymocyte expressed, positive selection associated 1	Positive regulation of T cell receptor signaling pathway	2,938	8,77E-09	6,59E-07	Up-Regulated
TFEC	Transcription factor EC	RNA polymerase II core promoter proximal region sequence-specific DNA binding transcription factor activity involved in positive regulation of transcription	2,519	2,49E-07	9,66E-06	Up-Regulated
TGFA	Transforming growth factor, alpha	Positive regulation of epidermal growth factor-activated receptor activity	4,673	1,17E-11	2,65E-09	Up-Regulated
THRSP	Thyroid hormone responsive	Regulation of triglyceride biosynthetic process	-3,089	1,78E-06	4,55E-05	Down-Regulated
TIAM1	T-cell lymphoma invasion and metastasis 1	Extrinsic component of cytoplasmic side of plasma membrane	2,143	5,87E-08	2,98E-06	Up-Regulated
TLR10	Toll-like receptor 10	Myd88-dependent toll-like receptor signaling pathway	2,209	1,58E-05	2,72E-04	Up-Regulated
TLR2	Toll-like receptor 2	Induction by symbiont of defense-related host nitric oxide production	2,165	1,22E-07	5,38E-06	Up-Regulated

TMEM156	Transmembrane protein 156	Integral component of membrane	2,456	4,77E-06	1,02E-04	Up-Regulated
TMEM233	Transmembrane protein 233	Integral component of membrane	-2,646	2,31E-05	3,68E-04	Down-Regulated
TMEM26	Transmembrane protein 26	Integral component of membrane	2,509	1,56E-06	4,13E-05	Up-Regulated
TMEM37	Transmembrane protein 37	Regulation of ion transmembrane transport	2,096	1,52E-06	4,06E-05	Up-Regulated
TMPRSS11D	Transmembrane protease, serine 11D	Integral component of plasma membrane	2,239	9,63E-04	6,94E-03	Up-Regulated
TNFRSF17	Tumor necrosis factor receptor superfamily, member 17	Multicellular organismal development	3,411	5,91E-06	1,21E-04	Up-Regulated
TNFSF11	Tumor necrosis factor (ligand) superfamily, member 11	Positive regulation of fever generation by positive regulation of prostaglandin secretion	2,237	2,91E-04	2,63E-03	Up-Regulated
TNFSF13B	Tumor necrosis factor (ligand) superfamily, member 13b	Positive regulation of germinal center formation	2,231	2,23E-08	1,39E-06	Up-Regulated
TNIP3	TNFAIP3 interacting protein 3	Negative regulation of I-kappab kinase/NF-kappab signaling	3,007	2,67E-08	1,60E-06	Up-Regulated
TOP2A	Topoisomerase (DNA) II alpha 170kda	Positive regulation of single stranded viral RNA replication via double stranded DNA intermediate	2,336	1,03E-05	1,91E-04	Up-Regulated
TREM1	Triggering receptor expressed on myeloid cells 1	Activation of mitophagy in response to mitochondrial depolarization	4,346	4,86E-10	6,14E-08	Up-Regulated
TREML2	Triggering receptor expressed on myeloid cells-like 2	Integral component of membrane	4,572	2,79E-06	6,59E-05	Up-Regulated
TREML2	Triggering receptor expressed on myeloid cells-like 2	Integral component of membrane	4,098	1,28E-04	1,39E-03	Up-Regulated
TREML2	Triggering receptor expressed on myeloid cells-like 2	Integral component of membrane	4,275	1,97E-06	4,95E-05	Up-Regulated
TREML2	Triggering receptor expressed on myeloid cells-like 2	Integral component of membrane	5,991	5,24E-10	6,39E-08	Up-Regulated
TREML2	Triggering receptor expressed on myeloid cells-like 2	Integral component of membrane	3,421	2,42E-04	2,31E-03	Up-Regulated
TREML2	Triggering receptor expressed on myeloid cells-like 2	Integral component of membrane	5,149	9,33E-07	2,70E-05	Up-Regulated
TREML2	Triggering receptor expressed on myeloid cells-like 2	Integral component of membrane	5,487	1,12E-06	3,13E-05	Up-Regulated
TREML2	Triggering receptor expressed on	Integral component of membrane	4	5,31E-08	2,75E-06	Up-

	myeloid cells-like 2					Regulated
TREML2	Triggering receptor expressed on myeloid cells-like 2	Integral component of membrane	5,191	3,80E-09	3,36E-07	Up-Regulated
TREML2	Triggering receptor expressed on myeloid cells-like 2	Integral component of membrane	5,02	3,35E-06	7,60E-05	Up-Regulated
TREML2	Triggering receptor expressed on myeloid cells-like 2	Integral component of membrane	3,547	1,67E-04	1,73E-03	Up-Regulated
TREML2	Triggering receptor expressed on myeloid cells-like 2	Integral component of membrane	3,839	1,01E-05	1,88E-04	Up-Regulated
TREML2	Triggering receptor expressed on myeloid cells-like 2	Integral component of membrane	5,332	9,17E-09	6,79E-07	Up-Regulated
TREML2	Triggering receptor expressed on myeloid cells-like 2	Integral component of membrane	5,417	9,11E-09	6,79E-07	Up-Regulated
TREML2	Triggering receptor expressed on myeloid cells-like 2	Integral component of membrane	5,139	8,77E-07	2,60E-05	Up-Regulated
TREML2	Triggering receptor expressed on myeloid cells-like 2	Integral component of membrane	3,754	1,27E-05	2,26E-04	Up-Regulated
TREML2	Triggering receptor expressed on myeloid cells-like 2	Integral component of membrane	5,665	5,03E-07	1,70E-05	Up-Regulated
TREML2	Triggering receptor expressed on myeloid cells-like 2	Integral component of membrane	4,579	1,50E-05	2,61E-04	Up-Regulated
TREML2	Triggering receptor expressed on myeloid cells-like 2	Integral component of membrane	4,251	2,09E-06	5,16E-05	Up-Regulated
TREML2	Triggering receptor expressed on myeloid cells-like 2	Integral component of membrane	6,037	6,86E-09	5,35E-07	Up-Regulated
TREML2	Triggering receptor expressed on myeloid cells-like 2	Integral component of membrane	5,1	5,23E-08	2,72E-06	Up-Regulated
TREML2	Triggering receptor expressed on myeloid cells-like 2	Integral component of membrane	3,996	2,68E-05	4,14E-04	Up-Regulated
TREML2	Triggering receptor expressed on myeloid cells-like 2	Integral component of membrane	7,583	1,06E-06	3,01E-05	Up-Regulated
TREML2	Triggering receptor expressed on myeloid cells-like 2	Integral component of membrane	6,054	2,37E-08	1,47E-06	Up-Regulated
TREML2	Triggering receptor expressed on myeloid cells-like 2	Integral component of membrane	3,771	2,79E-04	2,57E-03	Up-Regulated
TREML2	Triggering receptor expressed on myeloid cells-like 2	Integral component of membrane	4,355	2,88E-05	4,34E-04	Up-Regulated
TREML2	Triggering receptor expressed on	Integral component of membrane	5,873	3,82E-11	7,20E-09	Up-

	myeloid cells-like 2					Regulated
TREML2	Triggering receptor expressed on myeloid cells-like 2	Integral component of membrane	4,231	8,54E-06	1,64E-04	Up-Regulated
TREML2	Triggering receptor expressed on myeloid cells-like 2	Integral component of membrane	4,745	1,62E-07	6,82E-06	Up-Regulated
TREML2	Triggering receptor expressed on myeloid cells-like 2	Integral component of membrane	3,894	1,76E-05	2,95E-04	Up-Regulated
TREML2	Triggering receptor expressed on myeloid cells-like 2	Integral component of membrane	4,291	3,87E-05	5,47E-04	Up-Regulated
TREML2	Triggering receptor expressed on myeloid cells-like 2	Integral component of membrane	7,083	1,36E-07	5,87E-06	Up-Regulated
TREML2	Triggering receptor expressed on myeloid cells-like 2	Integral component of membrane	6,245	1,16E-06	3,22E-05	Up-Regulated
TREML2	Triggering receptor expressed on myeloid cells-like 2	Integral component of membrane	4,9	1,73E-06	4,47E-05	Up-Regulated
TREML2	Triggering receptor expressed on myeloid cells-like 2	Integral component of membrane	4,671	1,08E-06	3,07E-05	Up-Regulated
TREML2	Triggering receptor expressed on myeloid cells-like 2	Integral component of membrane	4,948	7,10E-07	2,23E-05	Up-Regulated
TREML2	Triggering receptor expressed on myeloid cells-like 2	Integral component of membrane	3,039	3,98E-04	3,36E-03	Up-Regulated
TREML3P	Triggering receptor expressed on myeloid cells-like 3, pseudogene	Unknown	4,932	4,66E-08	2,53E-06	Up-Regulated
TROAP	Trophinin associated protein	Protein binding	2,021	4,90E-04	3,97E-03	Up-Regulated
TTK	TTK protein kinase	Positive regulation of pathway-restricted SMAD protein phosphorylation	2,88	2,66E-04	2,48E-03	Up-Regulated
TUBA4A	Tubulin, alpha 4a	'De novo' posttranslational protein folding	3,153	4,56E-08	2,49E-06	Up-Regulated
TXLNB	Taxilin beta	Syntaxin binding	2,408	4,68E-06	1,00E-04	Up-Regulated
UBASH3B	Ubiquitin associated and SH3 domain containing B	Regulation of release of sequestered calcium ion into cytosol	2,427	6,47E-09	5,13E-07	Up-Regulated
UBE2T	Ubiquitin-conjugating enzyme E2T	Cellular response to DNA damage stimulus	2,217	2,81E-05	4,27E-04	Up-Regulated
USH2A	Usher syndrome 2A (autosomal recessive, mild)	Inner ear receptor cell differentiation	-2,932	9,33E-08	4,39E-06	Down-Regulated
VSIG4	V-set and immunoglobulin domain	Negative regulation of interleukin-2 production	2,174	3,88E-05	5,49E-04	Up-

	containing 4					Regulated
VSTM2A	V-set and transmembrane domain containing 2A	Extracellular region	-2,366	2,43E-06	5,89E-05	Down-Regulated
VTN	Vitronectin	Positive regulation of vascular endothelial growth factor receptor signaling pathway	2,774	9,01E-04	6,56E-03	Up-Regulated
XCR1	Chemokine (C motif) receptor 1	G-protein coupled receptor signaling pathway, coupled to cyclic nucleotide second messenger	2,505	8,06E-05	9,71E-04	Up-Regulated
XDH	Xanthine dehydrogenase	Activation of cysteine-type endopeptidase activity involved in apoptotic process	6,298	2,62E-10	3,85E-08	Up-Regulated
XIRP1	Xin actin-binding repeat containing 1	Actin cytoskeleton organization	-2,233	4,43E-04	3,67E-03	Down-Regulated
XPR1	Xenotropic and polytropic retrovirus receptor 1	G-protein coupled receptor signaling pathway	2,217	1,80E-11	3,82E-09	Up-Regulated
ZWILCH	Zwilch kinetochore protein	Small gtpase mediated signal transduction	2,427	2,05E-06	5,08E-05	Up-Regulated

Note: Genes were determined to be differentially expressed if the P value was <0.05, the false discovery rate was <0.01, and the fold change was > 2 (up-regulated) or < - 2 (down-regulated). Genes variation were determined by IPA software. Genes main functions were determined using gene ontology (http://geneontology.org/).

Online table 2: Most involved canonical pathways, coil versus control, determined by IPA

Canonical Biological Pathway	No. of Genes Up-Regulated	Genes	No. of Genes Down-Regulated	Gene(s)
Altered T Cell and B Cell Signaling in Rheumatoid Arthritis	**15**	*CD79B, CXCL13, HLA-DRA, IL6, Il10, IL1B, IL1RN, IL23A, LTA, SLAMF1, TLR2, TLR10, TNFRSF17, TNFSF11, TNFSF13B*	**0**	NA
Granulocyte Adhesion and Diapedesis	**16**	*CCL4, CCL5, CCL20, CXCL8, CXCL13, CXCR4, IL18RAP, IL1B, IL1RAP, IL1RN, ITGA4, MMP1, MMP3, MMP12, MMP13*	**2**	*CLDN19, HRH1*
Agranulocyte Adhesion and Diapedesis	**15**	*CCL4, CCL5, CCL20, CXCL8, CXCL11, CXCL13, CXCR4, IL1B, IL1RN, ITGA4, MMP1, MMP3, MMP12, MMP13, MYH7*	**3**	*CDN19, HRH1, MYH7B*
Interleukin-10 Signaling	**11**	*CCR1, CCR5, CD14, HMOX1, IL6, IL10, IL18RAP, IL18, IL1RAP, IL1RN, MAPK13*	**0**	NA
Communication between Innate and Adaptive Immune Cells	**12**	*CCL4, CCL5, CXCL8, HLA-DRA, IL6, IL10, IL1B, IL1RN, TLR2, TLR10, TNFRSF17, TNFSF13B*	**0**	NA

Note: NA indicates not applicable

Online table 3: Up and down-regulated molecules comparing flow-diverted versus untreated aneurysms, determined by IPA.

Gene Symbol	Gene name	Gene main function determined by Gene Ontology	Fold Change	P Value	False Discovery Rate (q Value)	Direction of Expression
ADAMTS14	ADAM metallopeptidase with thrombospondin type 1 motif, 14	Proteinaceous extracellular matrix	2,265	6,43E-04	3,81E-02	Up-Regulated
ADAMTS4	ADAM metallopeptidase with thrombospondin type 1 motif, 4	Proteinaceous extracellular matrix	3,275	4,22E-07	1,41E-03	Up-Regulated
ALAS2	5'-aminolevulinate synthase 2	Porphyrin-containing compound metabolic process	2,34	1,19E-03	4,90E-02	Up-Regulated
APLN	Apelin	Positive regulation of corticotropin-releasing hormone secretion	4,412	2,37E-05	9,93E-03	Up-Regulated
ARG1	Arginase 1	Cellular response to transforming growth factor beta stimulus	2,451	2,42E-03	6,91E-02	Up-Regulated
ASPM	Asp (abnormal spindle) homolog, microcephaly associated (Drosophila)	Positive regulation of canonical Wnt signaling pathway	2,623	3,22E-04	2,69E-02	Up-Regulated
ATP6V0D2	Atpase, H+ transporting, lysosomal 38kda, V0 subunit d2	Vacuolar proton-transporting V-type atpase complex	2,422	4,02E-03	9,07E-02	Up-Regulated
AURKB	Aurora kinase B	Anaphase-promoting complex-dependent proteasomal ubiquitin-dependent protein catabolic process	3,335	9,08E-04	4,41E-02	Up-Regulated
BCL6B	B-cell CLL/lymphoma 6, member B	RNA polymerase II transcription regulatory region sequence-specific DNA binding transcription factor activity involved in negative regulation of transcription	2,615	1,56E-04	2,06E-02	Up-Regulated
BUB1	BUB1 mitotic checkpoint serine/threonine kinase	Positive regulation of intrinsic apoptotic signaling pathway	2,934	8,31E-04	4,17E-02	Up-Regulated
BUB1B	BUB1 mitotic checkpoint serine/threonine kinase B	Anaphase-promoting complex-dependent proteasomal ubiquitin-dependent protein catabolic process	2,734	2,27E-04	2,43E-02	Up-Regulated
C17orf53	Chromosome 17 open reading frame 53	Unknown	2,01	4,21E-04	3,13E-02	Up-Regulated
CA1	Carbonic anhydrase I	Small molecule metabolic process	2,999	2,45E-04	2,48E-02	Up-Regulated

CA12	Carbonic anhydrase XII	Small molecule metabolic process	2,38	3,49E-04	2,78E-02	Up-Regulated
CA2	Carbonic anhydrase II	Positive regulation of dipeptide transmembrane transport	2,728	5,05E-04	3,47E-02	Up-Regulated
CA9	Carbonic anhydrase IX	Regulation of transcription from RNA polymerase II promoter in response to hypoxia	2,561	1,36E-04	1,90E-02	Up-Regulated
CAMK1G	Calcium/calmodulin-dependent protein kinase IG	Calcium- and calmodulin-dependent protein kinase complex	2,953	2,50E-04	2,49E-02	Up-Regulated
CCDC163P	Coiled-coil domain containing 163, pseudogene	Unknown	2,131	4,99E-04	3,46E-02	Up-Regulated
CCL2	Chemokine (C-C motif) ligand 2	G-protein coupled receptor signaling pathway, coupled to cyclic nucleotide second messenger	2,062	1,08E-03	4,68E-02	Up-Regulated
CCNB1	Cyclin B1	Positive regulation of ubiquitin-protein ligase activity involved in regulation of mitotic cell cycle transition	3,289	6,76E-05	1,31E-02	Up-Regulated
CCNB2	Cyclin B2	G2/M transition of mitotic cell cycle	3,441	5,43E-04	3,58E-02	Up-Regulated
CD72	CD72 molecule	Transmembrane signaling receptor activity	2,52	2,62E-03	7,19E-02	Up-Regulated
CDC20	Cell division cycle 20	Positive regulation of ubiquitin-protein ligase activity involved in regulation of mitotic cell cycle transition	2,792	3,88E-04	2,97E-02	Up-Regulated
CDC25A	Cell division cycle 25A	Regulation of cyclin-dependent protein serine/threonine kinase activity	2,54	7,99E-04	4,11E-02	Up-Regulated
CDC45	Cell division cycle 45	Pre-replicative complex assembly involved in nuclear cell cycle DNA replication	3,057	6,27E-04	3,81E-02	Up-Regulated
CDCA2	Cell division cycle associated 2	Positive regulation of protein dephosphorylation	2,488	2,53E-03	7,04E-02	Up-Regulated
CDCA3	Cell division cycle associated 3	Mitotic nuclear division	2,028	4,82E-05	1,18E-02	Up-Regulated
CDCA7	Cell division cycle associated 7	Regulation of transcription, DNA-templated	3,687	5,54E-04	3,61E-02	Up-Regulated
CDH5	Cadherin 5, type 2 (vascular endothelium)	Homophilic cell adhesion via plasma membrane adhesion molecules	2,032	4,80E-04	3,34E-02	Up-Regulated
CDK1	Cyclin-dependent kinase 1	Positive regulation of ubiquitin-protein ligase activity involved in regulation of mitotic cell cycle transition	2,41	6,59E-04	3,81E-02	Up-Regulated
CELSR3	Cadherin, EGF LAG seven-pass G-type	Homophilic cell adhesion via plasma membrane adhesion molecules	2,625	1,69E-03	5,80E-02	Up-Regulated

	receptor 3					
CENPA	Centromere protein A	Protein localization to chromosome, centromeric region	3,83	1,36E-04	1,90E-02	Up-Regulated
CENPE	Centromere protein E, 312kda	Antigen processing and presentation of exogenous peptide antigen via MHC class II	2,257	2,74E-03	7,33E-02	Up-Regulated
CENPT	Centromere protein T	Small gtpase mediated signal transduction	2,089	1,24E-03	4,96E-02	Up-Regulated
CEP55	Centrosomal protein 55kda	Establishment of protein localization	2,791	1,32E-03	5,15E-02	Up-Regulated
CFAP52	Cilia and flagella associated protein 52	Cell projection	3,426	1,07E-06	2,03E-03	Up-Regulated
CHI3L1	Chitinase 3-like 1 (cartilage glycoprotein-39)	Positive regulation of peptidyl-threonine phosphorylation	4,249	3,04E-06	3,05E-03	Up-Regulated
CHRDL2	Chordin-like 2	Negative regulation of BMP signaling pathway	3,005	6,76E-05	1,31E-02	Up-Regulated
CHTOP	Chromatin target of PRMT1	Regulation of transcription, DNA-templated	3,228	8,12E-04	4,16E-02	Up-Regulated
CKS2	CDC28 protein kinase regulatory subunit 2	Regulation of cyclin-dependent protein serine/threonine kinase activity	3,405	2,11E-05	9,21E-03	Up-Regulated
CLSTN2	Calsyntenin 2	Homophilic cell adhesion via plasma membrane adhesion molecules	4,168	7,91E-05	1,42E-02	Up-Regulated
COL9A1	Collagen, type IX, alpha 1	Extracellular matrix structural constituent conferring tensile strength	3,882	2,65E-03	7,19E-02	Up-Regulated
CTSE	Cathepsin E	Antigen processing and presentation of exogenous peptide antigen via MHC class II	2,614	7,10E-04	3,84E-02	Up-Regulated
CXCL13	Chemokine (C-X-C motif) ligand 13	Negative regulation of endothelial cell chemotaxis to fibroblast growth factor	2,257	2,84E-04	2,64E-02	Up-Regulated
CXCL8	Chemokine (C-X-C motif) ligand 8	Regulation of single stranded viral RNA replication via double stranded DNA intermediate	4,781	1,32E-05	8,84E-03	Up-Regulated
CXCL8	Chemokine (C-X-C motif) ligand 8	Regulation of single stranded viral RNA replication via double stranded DNA intermediate	3,11	2,45E-04	2,48E-02	Up-Regulated
CXCR4	Chemokine (C-X-C motif) receptor 4	Positive regulation of cytosolic calcium ion concentration	2,16	1,53E-03	5,58E-02	Up-Regulated
DAPL1	Death associated protein-like 1	Cellular response to amino acid starvation	-3,752	6,45E-13	6,48E-09	Down-Regulated
DLGAP5	Discs, large (Drosophila) homolog-associated protein 5	Positive regulation of mitotic metaphase/anaphase transition	2,864	2,02E-04	2,30E-02	Up-Regulated

DLL4	Delta-like 4 (Drosophila)	Negative regulation of blood vessel endothelial cell proliferation involved in sprouting angiogenesis	2,073	5,57E-05	1,20E-02	Up-Regulated
DNASE2B	Deoxyribonuclease II beta	Deoxyribonuclease II activity	2,515	2,77E-03	7,36E-02	Up-Regulated
DRD1	Dopamine receptor D1	Positive regulation of cytosolic calcium ion concentration involved in phospholipase C-activating G-protein coupled signaling pathway	2,061	2,97E-03	7,56E-02	Up-Regulated
DUSP5	Dual specificity phosphatase 5	MAP kinase tyrosine/serine/threonine phosphatase activity	2,072	1,64E-04	2,13E-02	Up-Regulated
E2F1	E2F transcription factor 1	Positive regulation of protein insertion into mitochondrial membrane involved in apoptotic signaling pathway	2,319	9,77E-04	4,49E-02	Up-Regulated
E2F8	E2F transcription factor 8	RNA polymerase II core promoter proximal region sequence-specific DNA binding transcription factor activity involved in negative regulation of transcription	2,583	2,51E-03	7,03E-02	Up-Regulated
EGLN3	Egl-9 family hypoxia-inducible factor 3	Oxidoreductase activity, acting on paired donors, with incorporation or reduction of molecular oxygen, 2-oxoglutarate as one donor, and incorporation of one atom each of oxygen into both donors	3,25	3,50E-05	1,13E-02	Up-Regulated
ENO2	Enolase 2 (gamma, neuronal)	Phosphopyruvate hydratase activity	2,914	4,91E-06	4,11E-03	Up-Regulated
ERO1L	ERO1-like (S. Cerevisiae)	Oxidoreductase activity, acting on a sulfur group of donors, disulfide as acceptor	2,039	4,96E-05	1,18E-02	Up-Regulated
ETV4	Ets variant 4	RNA polymerase II core promoter proximal region sequence-specific DNA binding transcription factor activity involved in positive regulation of transcription	3,485	8,91E-05	1,46E-02	Up-Regulated
EXO1	Exonuclease 1	Humoral immune response mediated by circulating immunoglobulin	2,971	5,88E-04	3,71E-02	Up-Regulated
EXOC3L1	Exocyst complex component 3-like 1	Peptide hormone secretion	2,521	2,78E-05	1,03E-02	Up-Regulated
EZH2	Enhancer of zeste 2 polycomb repressive complex 2 subunit	Skeletal muscle satellite cell maintenance involved in skeletal muscle regeneration	2,197	3,91E-04	2,97E-02	Up-Regulated
FABP5	Fatty acid binding protein 5 (psoriasis-associated)	Phosphatidylcholine biosynthetic process	2,436	7,69E-05	1,42E-02	Up-Regulated
FAM150A	Family with sequence similarity 150, member A	Extracellular region	-2,555	1,97E-05	9,21E-03	Down-Regulated
FAM179A	Family with sequence similarity 179, member A	Unknown	2,649	2,22E-03	6,79E-02	Up-Regulated

FAM64A	Family with sequence similarity 64, member A	Mitotic nuclear division	3,601	5,17E-05	1,18E-02	Up-Regulated
FGB	Fibrinogen beta chain	Negative regulation of extrinsic apoptotic signaling pathway via death domain receptors	2,824	1,35E-03	5,18E-02	Up-Regulated
FGF23	Fibroblast growth factor 23	Positive regulation of MAPKKK cascade by fibroblast growth factor receptor signaling pathway	5,662	3,01E-06	3,05E-03	Up-Regulated
FGFBP1	Fibroblast growth factor binding protein 1	Activation of mitophagy in response to mitochondrial depolarization	-2,183	3,00E-05	1,04E-02	Down-Regulated
FOXM1	Forkhead box M1	DNA damage response, signal transduction by p53 class mediator resulting in transcription of p21 class mediator	3,239	2,11E-04	2,33E-02	Up-Regulated
FTL	Ferritin, light polypeptide	Post-Golgi vesicle-mediated transport	2,047	1,46E-03	5,39E-02	Up-Regulated
GDF6	Growth differentiation factor 6	Positive regulation of pathway-restricted SMAD protein phosphorylation	2,114	4,38E-03	9,42E-02	Up-Regulated
GPR158	G protein-coupled receptor 158	Regulation of G-protein coupled receptor protein signaling pathway	4,747	5,18E-05	1,18E-02	Up-Regulated
GSG2	Germ cell associated 2 (haspin)	Histone H3-T3 phosphorylation involved in chromosome passenger complex localization to kinetochore	2,725	7,60E-04	3,95E-02	Up-Regulated
HAS2	Hyaluronan synthase 2	Positive regulation of substrate adhesion-dependent cell spreading	2,285	3,71E-05	1,16E-02	Up-Regulated
HBB	Hemoglobin, beta	Positive regulation of nitric oxide biosynthetic process	2,46	1,27E-03	5,03E-02	Up-Regulated
HMGA2	High mobility group AT-hook 2	RNA polymerase II core promoter proximal region sequence-specific DNA binding transcription factor activity involved in negative regulation of transcription	4,412	6,98E-07	1,75E-03	Up-Regulated
HMMR	Hyaluronan-mediated motility receptor (RHAMM)	Glycosaminoglycan metabolic process	3,534	5,77E-05	1,20E-02	Up-Regulated
HMOX1	Heme oxygenase 1	Regulation of transcription from RNA polymerase II promoter in response to oxidative stress	3,643	2,77E-04	2,62E-02	Up-Regulated
HP	Haptoglobin	Activation of cysteine-type endopeptidase activity involved in apoptotic process	2,553	4,27E-05	1,18E-02	Up-Regulated
IBSP	Integrin-binding sialoprotein	Cellular response to growth factor stimulus	2,789	1,73E-03	5,85E-02	Up-Regulated
ICAM2	Intercellular adhesion molecule 2	Stimulatory C-type lectin receptor signaling pathway	2,222	2,98E-04	2,69E-02	Up-Regulated
IGF2BP3	Insulin-like growth factor 2 mrna binding protein 3	Regulation of cytokine biosynthetic process	2,095	1,61E-03	5,68E-02	Up-Regulated
IL12RB2	Interleukin 12 receptor,	Positive regulation of interferon-gamma production	2,027	1,60E-03	5,68E-02	Up-

	beta 2					Regulated
IL23A	Interleukin 23, alpha subunit p19	Positive regulation of granulocyte macrophage colony-stimulating factor production	2,748	6,82E-04	3,81E-02	Up-Regulated
IL6	Interleukin 6	Negative regulation of cysteine-type endopeptidase activity involved in apoptotic process	4,375	2,86E-05	1,03E-02	Up-Regulated
INHBB	Inhibin, beta B	Positive regulation of pathway-restricted SMAD protein phosphorylation	2,545	3,85E-04	2,97E-02	Up-Regulated
IQGAP3	IQ motif containing gtpase activating protein 3	Positive regulation of mammary gland epithelial cell proliferation	2,343	4,39E-04	3,17E-02	Up-Regulated
IRG1	Immunoresponsive 1 homolog (mouse)	Positive regulation of reactive oxygen species metabolic process	2,668	1,16E-03	4,85E-02	Up-Regulated
IYD	Iodotyrosine deiodinase	Cellular nitrogen compound metabolic process	2,745	7,77E-05	1,42E-02	Up-Regulated
KIAA0101	Kiaa0101	Cellular response to DNA damage stimulus	3,426	8,88E-05	1,46E-02	Up-Regulated
KIF11	Kinesin family member 11	Antigen processing and presentation of exogenous peptide antigen via MHC class II	2,42	1,62E-03	5,68E-02	Up-Regulated
KIF14	Kinesin family member 14	SCF-dependent proteasomal ubiquitin-dependent protein catabolic process	2,574	2,67E-04	2,55E-02	Up-Regulated
KIF18B	Kinesin family member 18B	ATP-dependent microtubule motor activity, plus-end-directed	4,077	1,64E-05	9,21E-03	Up-Regulated
KIF20A	Kinesin family member 20A	Cell separation after cytokinesis	2,645	1,25E-04	1,88E-02	Up-Regulated
KIF21A	Kinesin family member 21A	Microtubule-based movement	2,216	2,35E-03	6,84E-02	Up-Regulated
KIF2A	Kinesin heavy chain member 2A	Antigen processing and presentation of exogenous peptide antigen via MHC class II	2,807	1,18E-03	4,90E-02	Up-Regulated
KIFC1	Kinesin family member C1	ATP-dependent microtubule motor activity, minus-end-directed	2,816	5,70E-05	1,20E-02	Up-Regulated
KIT	V-kit Hardy-Zuckerman 4 feline sarcoma viral oncogene homolog	Positive regulation of sequence-specific DNA binding transcription factor activity	2,278	1,80E-04	2,18E-02	Up-Regulated
KLHL3	Kelch-like family member 3	Protein ubiquitination involved in ubiquitin-dependent protein catabolic process	2,011	4,94E-05	1,18E-02	Up-Regulated
KRT32	Keratin 32, type I	Structural molecule activity	2,815	1,23E-03	4,96E-02	Up-Regulated
KRT8	Keratin 8, type II	Cell differentiation involved in embryonic placenta development	6,233	1,21E-06	2,03E-03	Up-Regulated

LCTL	Lactase-like	Hydrolase activity, hydrolyzing O-glycosyl compounds	2,614	1,02E-03	4,51E-02	Up-Regulated
LECT1	Leukocyte cell derived chemotaxin 1	Negative regulation of vascular endothelial growth factor receptor signaling pathway	-2,373	4,32E-04	3,17E-02	Down-Regulated
MAGEL2	Melanoma antigen family L2	Negative regulation of transcription, DNA-templated	2,199	2,21E-03	6,78E-02	Up-Regulated
MAPK13	Mitogen-activated protein kinase 13	Vascular endothelial growth factor receptor signaling pathway	2,134	1,59E-03	5,68E-02	Up-Regulated
MARCO	Macrophage receptor with collagenous structure	Signaling pattern recognition receptor activity	-2,396	2,94E-04	2,69E-02	Down-Regulated
MCM8	Minichromosome maintenance complex component 8	Double-strand break repair via homologous recombination	2,348	1,83E-03	6,02E-02	Up-Regulated
MELK	Maternal embryonic leucine zipper kinase	Intrinsic apoptotic signaling pathway in response to oxidative stress	3,352	7,12E-04	3,84E-02	Up-Regulated
MFSD5	Major facilitator superfamily domain containing 5	Substrate-specific transmembrane transporter activity	3,465	3,53E-06	3,23E-03	Up-Regulated
MMP1	Matrix metallopeptidase 1	Positive regulation of protein oligomerization	4,467	5,20E-04	3,50E-02	Up-Regulated
MOGAT1	Monoacylglycerol O-acyltransferase 1	2-acylglycerol O-acyltransferase activity	2,672	4,51E-04	3,21E-02	Up-Regulated
MRPL32	Mitochondrial ribosomal protein L32	Mitochondrial translational termination	2,448	2,07E-05	9,21E-03	Up-Regulated
MSH5	Muts homolog 5	Homologous chromosome segregation	2,293	1,90E-03	6,13E-02	Up-Regulated
MTFP1	Mitochondrial fission process 1	Integral component of membrane	2,889	3,11E-04	2,69E-02	Up-Regulated
MYH7B	Myosin, heavy chain 7B, cardiac muscle, beta	Metabolic process	-2,107	4,66E-04	3,27E-02	Down-Regulated
NCAPG	Non-SMC condensin I complex, subunit G	Mitotic chromosome condensation	2,472	1,55E-03	5,61E-02	Up-Regulated
NEK2	NIMA-related kinase 2	Anaphase-promoting complex-dependent proteasomal ubiquitin-dependent protein catabolic process	3,311	5,83E-05	1,20E-02	Up-Regulated
NKAIN1	Na+/K+ transporting atpase interacting 1	Regulation of sodium ion transport	3,127	1,27E-04	1,88E-02	Up-Regulated
NUF2	NUF2, NDC80 kinetochore complex component	Small gtpase mediated signal transduction	2,809	4,32E-04	3,17E-02	Up-Regulated

PBK	PDZ binding kinase	Negative regulation of proteasomal ubiquitin-dependent protein catabolic process	2,589	2,36E-03	6,84E-02	Up-Regulated
PDE4B	Phosphodiesterase 4B, camp-specific	Regulation of high voltage-gated calcium channel activity	2,371	2,92E-03	7,52E-02	Up-Regulated
PDGFB	Platelet-derived growth factor beta polypeptide	Positive regulation of metanephric mesenchymal cell migration by platelet-derived growth factor receptor-beta signaling pathway	2,094	2,09E-04	2,33E-02	Up-Regulated
PIGR	Polymeric immunoglobulin receptor	Immunoglobulin transcytosis in epithelial cells mediated by polymeric immunoglobulin receptor	2,808	2,84E-03	7,44E-02	Up-Regulated
PLA2G4F	Phospholipase A2, group IVF	Phosphatidylethanolamine acyl-chain remodeling	2,094	2,56E-03	7,10E-02	Up-Regulated
PLK1	Polo-like kinase 1	Positive regulation of ubiquitin-protein ligase activity involved in regulation of mitotic cell cycle transition	2,09	1,07E-04	1,65E-02	Up-Regulated
POU2AF1	POU class 2 associating factor 1	Transcription from RNA polymerase II promoter	2,267	2,78E-03	7,36E-02	Up-Regulated
PRND	Prion protein 2 (dublet)	Anchored component of membrane	8,719	2,78E-06	3,05E-03	Up-Regulated
PRR11	Proline rich 11	Regulation of cell cycle	3,068	7,26E-04	3,88E-02	Up-Regulated
PTGS2	Prostaglandin-endoperoxide synthase 2 (prostaglandin G/H synthase and cyclooxygenase)	Positive regulation of cell migration involved in sprouting angiogenesis	3,434	3,07E-08	1,54E-04	Up-Regulated
PTX3	Pentraxin 3, long	RNA polymerase II core promoter proximal region sequence-specific DNA binding transcription factor activity involved in positive regulation of transcription	2,42	1,95E-04	2,25E-02	Up-Regulated
PVRL2	Poliovirus receptor-related 2 (herpesvirus entry mediator B)	Positive regulation of natural killer cell mediated cytotoxicity directed against tumor cell target	2,069	4,62E-03	9,68E-02	Up-Regulated
RACGAP1	Rac gtpase activating protein 1	Antigen processing and presentation of exogenous peptide antigen via MHC class II	2,331	4,38E-04	3,17E-02	Up-Regulated
RAD51AP1	RAD51 associated protein 1	Regulation of double-strand break repair via homologous recombination	2,328	1,76E-03	5,90E-02	Up-Regulated
RELT	RELT tumor necrosis factor receptor	Integral component of membrane	2,375	3,14E-04	2,69E-02	Up-Regulated
RMI2	Recq mediated genome instability 2	DNA replication	2,847	7,08E-04	3,84E-02	Up-Regulated

RPS6KL1	Ribosomal protein S6 kinase-like 1	Intracellular membrane-bounded organelle	2,792	3,61E-04	2,85E-02	Up-Regulated
RTN4RL2	Reticulon 4 receptor-like 2	Anchored component of plasma membrane	2,414	1,27E-04	1,88E-02	Up-Regulated
S100A8	S100 calcium binding protein A8	Activation of cysteine-type endopeptidase activity involved in apoptotic process	2,915	9,91E-04	4,49E-02	Up-Regulated
S1PR3	Sphingosine-1-phosphate receptor 3	Adenylate cyclase-inhibiting G-protein coupled receptor signaling pathway	2,149	4,05E-03	9,11E-02	Up-Regulated
SCG2	Secretogranin II	Negative regulation of sequence-specific DNA binding transcription factor activity	3,446	6,64E-04	3,81E-02	Up-Regulated
SCIMP	SLP adaptor and CSK interacting membrane protein	Positive regulation of ERK1 and ERK2 cascade	2,813	3,97E-03	9,05E-02	Up-Regulated
SCIN	Scinderin	Positive regulation of megakaryocyte differentiation	-2,287	1,20E-05	8,63E-03	Down-Regulated
SCN4A	Sodium channel, voltage gated, type IV alpha subunit	Membrane depolarization during action potential	3,215	6,10E-04	3,81E-02	Up-Regulated
SELE	Selectin E	Heterophilic cell-cell adhesion via plasma membrane cell adhesion molecules	2,299	1,69E-04	2,13E-02	Up-Regulated
SERPINF2	Serpin peptidase inhibitor, clade F (alpha-2 antiplasmin, pigment epithelium derived factor), member 2	Positive regulation of transcription from RNA polymerase II promoter	2,666	3,25E-04	2,69E-02	Up-Regulated
SIRPB1	Signal-regulatory protein beta 1	Cell surface receptor signaling pathway	2,393	2,90E-03	7,51E-02	Up-Regulated
SIRPB1	Signal-regulatory protein beta 1	Cell surface receptor signaling pathway	3,979	3,31E-04	2,73E-02	Up-Regulated
SIRPB1	Signal-regulatory protein beta 1	Cell surface receptor signaling pathway	5,463	9,20E-05	1,47E-02	Up-Regulated
SLC11A1	Solute carrier family 11 (proton-coupled divalent metal ion transporter), member 1	Positive regulation of dendritic cell antigen processing and presentation	3,851	4,68E-05	1,18E-02	Up-Regulated
SLC16A6	Solute carrier family 16, member 6	Monocarboxylic acid transmembrane transporter activity	2,335	6,66E-04	3,81E-02	Up-Regulated
SLC45A1	Solute carrier family 45,	Glucose transmembrane transporter activity	2,059	1,38E-03	5,26E-02	Up-

	member 1					Regulated
SLC4A2	Solute carrier family 4 (anion exchanger), member 2	Anion transmembrane transporter activity	2,497	8,88E-05	1,46E-02	Up-Regulated
SMCO2	Single-pass membrane protein with coiled-coil domains 2	Integral component of membrane	2,498	1,35E-03	5,18E-02	Up-Regulated
SNORA7B	Small nucleolar RNA, H/ACA box 7B	Unknown	2,601	5,27E-04	3,53E-02	Up-Regulated
SNORD10	Small nucleolar RNA, C/D box 10	Unknown	2,58	2,57E-05	1,03E-02	Up-Regulated
SPAG5	Sperm associated antigen 5	Regulation of attachment of spindle microtubules to kinetochore	3,315	3,73E-04	2,90E-02	Up-Regulated
SRCIN1	SRC kinase signaling inhibitor 1	Negative regulation of protein tyrosine kinase activity	-3,295	1,98E-05	9,21E-03	Down-Regulated
STIL	SCL/TAL1 interrupting locus	Positive regulation of cyclin-dependent protein serine/threonine kinase activity	3,04	8,47E-04	4,21E-02	Up-Regulated
STMN1	Stathmin 1	Positive regulation of cellular component movement	2,375	2,46E-03	6,98E-02	Up-Regulated
TCF19	Transcription factor 19	Regulation of transcription from RNA polymerase II promoter	2,509	5,69E-04	3,61E-02	Up-Regulated
TDRD5	Tudor domain containing 5	DNA methylation involved in gamete generation	2,201	4,27E-05	1,18E-02	Up-Regulated
TIMP1	TIMP metallopeptidase inhibitor 1	Negative regulation of membrane protein ectodomain proteolysis	2,104	6,23E-04	3,81E-02	Up-Regulated
TM4SF18	Transmembrane 4 L six family member 18	Integral component of membrane	2,77	8,79E-05	1,46E-02	Up-Regulated
TMEM151B	Transmembrane protein 151B	Integral component of membrane	3,543	3,14E-04	2,69E-02	Up-Regulated
TREML2	Triggering receptor expressed on myeloid cells-like 2	Integral component of membrane	2,352	4,73E-03	9,82E-02	Up-Regulated
TRIML2	Tripartite motif family-like 2	Response to retinoic acid	3,336	1,35E-03	5,18E-02	Up-Regulated
TROAP	Trophinin associated protein	Protein binding	3,307	3,13E-04	2,69E-02	Up-Regulated
TTC7A	Tetratricopeptide repeat domain 7A	Cellular iron ion homeostasis	2,378	4,50E-05	1,18E-02	Up-Regulated

TUBA4A	Tubulin, alpha 4a	'De novo' posttranslational protein folding	3,447	2,11E-05	9,21E-03	Up-Regulated
TVP23A	Trans-golgi network vesicle protein 23 homolog A (S. Cerevisiae)	Integral component of Golgi membrane	2,283	2,84E-03	7,44E-02	Up-Regulated
UBE2T	Ubiquitin-conjugating enzyme E2T	Cellular response to DNA damage stimulus	2,696	5,67E-04	3,61E-02	Up-Regulated
UGGT2	UDP-glucose glycoprotein glucosyltransferase 2	UDP-glucose:glycoprotein glucosyltransferase activity	2,213	2,19E-03	6,78E-02	Up-Regulated
VEGFA	Vascular endothelial growth factor A	Positive regulation of endothelial cell chemotaxis by VEGF-activated vascular endothelial growth factor receptor signaling pathway	2,741	1,63E-06	2,33E-03	Up-Regulated
WSCD1	WSC domain containing 1	Integral component of membrane	2,752	3,83E-05	1,16E-02	Up-Regulated
ZMYND15	Zinc finger, MYND-type containing 15	Negative regulation of transcription, DNA-templated	2,43	1,69E-03	5,80E-02	Up-Regulated
ZWILCH	Zwilch kinetochore protein	Small gtpase mediated signal transduction	3,099	3,48E-05	1,13E-02	Up-Regulated

Note: Genes were determined to be differentially expressed if the P value was <0.05, the false discovery rate was <0.01, and the fold change was > 2 (up-regulated) or < - 2 (down-regulated). Genes variation were determined by IPA software. Genes main functions were determined using gene ontology (http://geneontology.org/).

Online table 4: Most involved canonical pathways, flow diverter versus control, determined by IPA.

Canonical Biological Pathway	No. of Genes Up-Regulated	Genes	No. of Genes Down-Regulated	Gene(s)
Atherosclerosis Signaling	**9**	*CCL2, CXCL8, CXCR4, IL6, MMP1, PDGFB, PLA2G4F, S100A8, SELE*	**0**	NA
Mitotic Roles of Polo-Like Kinase	**7**	*CCNB1, CCNB2,CDC20, CDC25A, CDK1, KIF11, PLK1*	**0**	NA
Hepatic Fibrosis / Hepatic Stellate Cell Activation	**8**	*CCL2, COL9A1, CXCL8, IL6, MMP1, PDGFB, TIMP1, VEGFA*	**1**	*MYH7B*
Agranulocyte Adhesion and Diapedesis	**8**	*CCL2, CDH5, CXCL8, CXCL13, CXCR4, ICAM2, MMP1, SELE*	**1**	*MYH7B*
Interleukin-17 Signaling	**6**	*CCL2, CXCL8, IL6, MAPK13, PTGS2, TIMP1*	**0**	NA

Note: NA indicates not applicable

Online table 5: Results of RT-PCR and RNA-seq for selected molecules in coiled and flow-diverted aneurysms.

Molecule	Coils versus untreated aneurysm		Flow diverter versus untreated aneurysm	
	RT-PCR	RNA-Seq	RT-PCR	RNA-Seq
PRND	5.8	3.6	8.7	4.3
FGF-23	7.4	6.5	5.7	3.7
MMP1	8.1	8.0	4.5	3.9
SRCIN1	- 4.2	- 3.3	- 3.3	- 2.4
DAPL1	- 3.9	- 4.2	- 3.8	- 4.2
HHIP	- 3.5	- 4.1	x	x

Values are expressed as log fold changes.

PRND: Prion protein 2, FGF-23: Fibroblast growth factor 23, MMP1: Matrix metallopeptidase 1, SRCIN1: SRC kinase signaling inhibitor 1, DAPL1: Death associated protein-like 1, HHIP: Hedgehog interacting protein.