Supplementary Table 2. The top 10 genes in pathways associated with atopic dermatitis (AD) identified by Kyoto Encyclopedia of Genes and Genomes (KEGG) analysis

KEGG pathway name	Gene name	Gene symbol	Gene ID	Fold-change	p-value
Cytokine-cytokine receptor interaction					2.70005E-36
	Chemokine (C-X-C motif) ligand 13	*Cxcl13*	55985	9.5213	0
	Interleukin 2 receptor, gamma chain	*Il2rg*	16186	6.8833	1.91259E-13
	CD4 antigen	*Cd4*	12504	7.5465	2.13117E-12
	Interleukin 7 receptor	*Il7r*	16197	7.9501	3.06014E-12
	Chemokine (C-C motif) ligand 5	*Ccl5*	20304	3.7844	4.82844E-07
	Lymphotoxin B	*Ltb*	16994	3.3526	3.66469E-05
	Chemokine (C-C motif) ligand 22	*Ccl22*	20299	3.3510	0.000217941
	Leptin	*Lep*	16846	–2.6211	0.0010592
	CD27 antigen	*Cd27*	21940	3.2759	0.001810382
	Chemokine (C-C motif) receptor 7	*Ccr7*	12775	2.8732	0.002340615
Metabolic					7.50528E-28
	UDP-glucose ceramide glucosyltransferase	*Ugcg*	22234	3.4298	2.20686E-05
	Phosphoenolpyruvate carboxykinase 1, cytosolic	*Pck1*	18534	–2.8493	0.000149194
	ADP-ribosyltransferase 2b	*Art2b*	11872	4.1334	0.000436275
	Mannosidase 1, alpha	*Man1a*	17155	2.6758	0.00092214
	Amine oxidase, copper containing 3	*Aoc3*	11754	–2.6102	0.000982147
	Phospholipase A2, group VII (platelet-activating factor acetylhydrolase, plasma)	*Pla2g7*	27226	–2.6038	0.001028025
	Heparanase	*Hpse*	15442	2.7003	0.002399199
	Phospholipase C, gamma 2	*Plcg2*	234779	2.7840	0.002576994
	Inositol polyphosphate-4-phosphatase, type II	*Inpp4b*	234515	2.6277	0.003007459
	Fatty acid synthase	*Fasn*	14104	–2.2376	0.004242857
NF-kappa B signaling					4.82182E-24
	Protein kinase C, beta	*Prkcb*	18751	4.7940	8.43315E-08
	Lymphotoxin B	*Ltb*	16994	3.3526	3.66469E-05
	Phospholipase C, gamma 2	*Plcg2*	234779	2.7840	0.002576994
	Spleen tyrosine kinase	*Syk*	20963	2.3513	0.026443134
	Chemokine (C-X-C motif) ligand 12	*Cxcl12*	20315	2.1346	0.02892272
	Vascular cell adhesion molecule 1	*Vcam1*	22329	2.2056	0.034362706
	B cell linker	*Blnk*	17060	2.2740	0.07015631
	MALT1 paracaspase	*Malt1*	240354	1.9904	0.098788511
	Baculoviral IAP repeat-containing 3	*Birc3*	11796	1.9096	0.14727599
	DEAD (Asp-Glu-Ala-Asp) box polypeptide 58	*Ddx58*	230073	1.9400	0.158848743

Chemokine signaling					1.81802E-23
	Chemokine (C-X-C motif) ligand 13	*Cxcl13*	55985	9.5213	0
	Protein kinase C, beta	*Prkcb*	18751	4.7940	8.43315E-08
	Chemokine (C-C motif) ligand 5	*Ccl5*	20304	3.7844	4.82844E-07
	Dedicator of cyto-kinesis 2	*Dock2*	94176	3.6986	4.06357E-06
	Chemokine (C-C motif) ligand 22	*Ccl22*	20299	3.3510	0.000217941
	RAS-related C3 botulinum substrate 2	*Rac2*	19354	2.5858	0.002214744
	Chemokine (C-C motif) receptor 7	*Ccr7*	12775	2.8732	0.002340615
	PTK2 protein tyrosine kinase 2 beta	*Ptk2b*	19229	2.7416	0.002350974
	Vav 1 oncogene	*Vav1*	22324	2.8148	0.002719009
	Chemokine (C-X-C motif) receptor 5	*Cxcr5*	12145	2.7427	0.006354229
Leukocyte transendothelial migration					6.03478E-23
	Protein kinase C, beta	*Prkcb*	18751	4.7940	8.43315E-08
	Cytochrome b-245, beta polypeptide	*Cybb*	13058	3.8606	8.36122E-07
	Integrin beta 2	*Itgb2*	16414	3.2753	3.75636E-05
	Integrin alpha L	*Itgal*	16408	3.0770	0.000441262
	RAS-related C3 botulinum substrate 2	*Rac2*	19354	2.5858	0.002214744
	PTK2 protein tyrosine kinase 2 beta	*Ptk2b*	19229	2.7416	0.002350974
	Phospholipase C, gamma 2	*Plcg2*	234779	2.7840	0.002576994
	Vav 1 oncogene	*Vav1*	22324	2.8148	0.002719009
	Integrin alpha 4	*Itga4*	16401	2.5574	0.003365085
	Rho-associated coiled-coil containing protein kinase 1	*Rock1*	19877	2.3129	0.0088963
Hematopoietic cell lineage					8.0555E-23
	Complement receptor 2	*Cr2*	12902	9.2697	0
	Membrane-spanning 4-domains, subfamily A, member 1	*Ms4a1*	12482	8.6954	0
	CD3 antigen, gamma polypeptide	*Cd3g*	12502	12.8406	0
	CD4 antigen	*Cd4*	12504	7.5465	2.13117E-12
	Interleukin 7 receptor	*Il7r*	16197	7.9501	3.06014E-12
	Histocompatibility 2, class II antigen E alpha, pseudogene	*H2-Ea-ps*	100504404	4.9824	2.5564E-11
	CD22 antigen	*Cd22*	12483	4.3565	3.20735E-06
	Histocompatibility 2, class II, locus Mb2	*H2-DMb2*	15000	3.1559	0.000690586
	Fc receptor, ige, low affinity II, alpha polypeptide	*Fcer2a*	14128	3.3496	0.002259893
	Integrin alpha 4	*Itga4*	16401	2.5574	0.003365085
B cell receptor signaling					4.0307E-22
	Complement receptor 2	*Cr2*	12902	9.2697	0
	Protein kinase C, beta	*Prkcb*	18751	4.7940	8.43315E-08
	CD22 antigen	*Cd22*	12483	4.3565	3.20735E-06

	CD79A antigen (immunoglobulin-associated alpha)	*Cd79a*	12518	3.8307	6.00136E-06
	Protein tyrosine phosphatase, non-receptor type 6	*Ptpn6*	15170	3.2050	5.88237E-05
	CD79B antigen	*Cd79b*	15985	3.3977	0.000261267
	RAS-related C3 botulinum substrate 2	*Rac2*	19354	2.5858	0.002214744
	Phospholipase C, gamma 2	*Plcg2*	234779	2.7840	0.002576994
	Vav 1 oncogene	*Vav1*	22324	2.8148	0.002719009
	Inositol polyphosphate-5-phosphatase D	*Inpp5d*	16331	2.5073	0.018856792
Cell adhesion molecules					1.4218E-20
	Protein tyrosine phosphatase, receptor type, C	*Ptprc*	19264	14.9040	0
	Glycosylation dependent cell adhesion molecule 1	*Glycam1*	14663	35.4278	0
	Selectin, lymphocyte	*Sell*	20343	8.1342	1.91259E-13
	CD4 antigen	*Cd4*	12504	7.5465	2.13117E-12
	Histocompatibility 2, class II antigen E alpha, pseudogene	*H2-Ea-ps*	100504404	4.9824	2.5564E-11
	Selectin, platelet (p-selectin) ligand	*Selplg*	20345	4.8606	4.06416E-08
	CD22 antigen	*Cd22*	12483	4.3565	3.20735E-06
	Histocompatibility 2, M region locus 2	*H2-M2*	14990	4.3295	1.07827E-05
	Integrin beta 2	*Itgb2*	16414	3.2753	3.75636E-05
	Integrin alpha L	*Itgal*	16408	3.0770	0.000441262
T cell receptor signaling					4.43925E-20
	Protein tyrosine phosphatase, receptor type, C	*Ptprc*	19264	14.9040	0
	CD3 antigen, gamma polypeptide	*Cd3g*	12502	12.8406	0
	CD4 antigen	*Cd4*	12504	7.5465	2.13117E-12
	Protein tyrosine phosphatase, non-receptor type 6	*Ptpn6*	15170	3.2050	5.88237E-05
	Lymphocyte cytosolic protein 2	*Lcp2*	16822	3.0751	0.000100617
	Vav 1 oncogene	*Vav1*	22324	2.8148	0.002719009
	CD3 antigen, epsilon polypeptide	*Cd3e*	12501	2.5559	0.00337812
	CD8 antigen, beta chain 1	*Cd8b1*	12526	2.6983	0.021186091
	GRB2-related adaptor protein 2	*Grap2*	17444	2.4550	0.031159485
	IL2 inducible T cell kinase	*Itk*	16428	2.5154	0.044394491
Phagosome					8.9857E-20
	Cathepsin S	*Ctss*	13040	6.2632	3.60017E-13
	Histocompatibility 2, class II antigen E alpha, pseudogene	*H2-Ea-ps*	100504404	4.9824	2.5564E-11
	CD209b antigen	*Cd209b*	69165	5.0347	7.14709E-10
	Cytochrome b-245, beta polypeptide	*Cybb*	13058	3.8606	8.36122E-07
	Histocompatibility 2, M region locus 2	*H2-M2*	14990	4.3295	1.07827E-05
	Integrin beta 2	*Itgb2*	16414	3.2753	3.75636E-05
	Histocompatibility 2, class II, locus Mb2	*H2-DMb2*	15000	3.1559	0.000690586

	Macrophage receptor with collagenous structure	*Marco*	17167	2.2690	0.02989193
	Neutrophil cytosolic factor 1	*Ncf1*	17969	2.1895	0.050281506
	Complement component 3	*C3*	12266	2.0112	0.051314556
Regulation of actin cytoskeleton					1.42596E-18
	Integrin beta 2	*Itgb2*	16414	3.2753	3.75636E-05
	Phosphatidylinositol-5-phosphate 4-kinase, type II, alpha	*Pip4k2a*	18718	3.2470	4.87833E-05
	NCK associated protein 1 like	*Nckap1l*	105855	3.3190	5.04094E-05
	Integrin alpha L	*Itgal*	16408	3.0770	0.000441262
	Enabled homolog (Drosophila)	*Enah*	13800	2.6470	0.00111811
	RAS-related C3 botulinum substrate 2	*Rac2*	19354	2.5858	0.002214744
	Vav 1 oncogene	*Vav1*	22324	2.8148	0.002719009
	Integrin alpha 4	*Itga4*	16401	2.5574	0.003365085
	Cytoplasmic FMR1 interacting protein 2	*Cyfip2*	76884	2.5550	0.005254131
	Rho-associated coiled-coil containing protein kinase 1	*Rock1*	19877	2.3129	0.0088963
Th17 cell differentiation					6.31027E-18
	CD3 antigen, gamma polypeptide	*Cd3g*	12502	12.8406	0
	Interleukin 2 receptor, gamma chain	*Il2rg*	16186	6.8833	1.91259E-13
	CD4 antigen	*Cd4*	12504	7.5465	2.13117E-12
	Histocompatibility 2, class II antigen E alpha, pseudogene	*H2-Ea-ps*	100504404	4.9824	2.5564E-11
	Histocompatibility 2, class II, locus Mb2	*H2-DMb2*	15000	3.1559	0.000690586
	CD3 antigen, epsilon polypeptide	*Cd3e*	12501	2.5559	0.00337812
	Signal transducer and activator of transcription 1	*Stat1*	20846	2.2604	0.012104993
	Interleukin 6 receptor, alpha	*Il6ra*	16194	1.9453	0.127652915
	Transforming growth factor, beta 1	*Tgfb1*	21803	1.8611	0.200327384
	Linker for activation of T cells	*Lat*	16797	1.9337	0.216306508
PI3K-Akt signaling pathway					6.96949E-17
	Interleukin 2 receptor, gamma chain	*Il2rg*	16186	6.8833	1.91259E-13
	Interleukin 7 receptor	*Il7r*	16197	7.9501	3.06014E-12
	Phosphoenolpyruvate carboxykinase 1, cytosolic	*Pck1*	18534	–2.8493	0.000149194
	Integrin alpha 4	*Itga4*	16401	2.5574	0.003365085
	Tenascin C	*Tnc*	21923	2.5361	0.014119702
	Glycogen synthase 2	*Gys2*	232493	–2.5275	0.015019358
	Coagulation factor II (thrombin) receptor	*F2r*	14062	2.2565	0.020547361
	Phosphoinositide-3-kinase adaptor protein 1	*Pik3ap1*	83490	2.2934	0.02256013
	Spleen tyrosine kinase	*Syk*	20963	2.3513	0.026443134
	Prolactin receptor	*Prlr*	19116	–2.4817	0.075280525
NOD-like receptor signaling pathway					4.27592E-16

	Chemokine (C-C motif) ligand 5	*Ccl5*	20304	3.7844	4.82844E-07
	Cytochrome b-245, beta polypeptide	*Cybb*	13058	3.8606	8.36122E-07
	Signal transducer and activator of transcription 1	*Stat1*	20846	2.2604	0.012104993
	Absent in melanoma 2	*Aim2*	383619	2.8435	0.030732924
	Transmembrane protein 173	*Tmem173*	72512	2.1258	0.112315813
	Baculoviral IAP repeat-containing 3	*Birc3*	11796	1.9096	0.14727599
	B cell leukemia/lymphoma 2	*Bcl2*	12043	1.8058	0.277335879
	NLR family, apoptosis inhibitory protein 6	*Naip6*	17952	2.1419	0.374297539
	Baculoviral IAP repeat-containing 2	*Birc2*	11797	1.6539	0.47899828
	Caspase 4, apoptosis-related cysteine peptidase	*Casp4*	12363	1.8859	0.495906206
Jak-STAT signaling pathway					2.14323E-15
	Interleukin 2 receptor, gamma chain	*Il2rg*	16186	6.8833	1.91259E-13
	Interleukin 7 receptor	*Il7r*	16197	7.9501	3.06014E-12
	Protein tyrosine phosphatase, non-receptor type 6	*Ptpn6*	15170	3.2050	5.88237E-05
	Signal transducer and activator of transcription 4	*Stat4*	20849	3.5331	0.000984191
	Leptin	*Lep*	16846	–2.6211	0.0010592
	Four and a half LIM domains 1	*Fhl1*	14199	2.5515	0.002097917
	Signal transducer and activator of transcription 1	*Stat1*	20846	2.2604	0.012104993
	Leptin receptor	*Lepr*	16847	2.7953	0.026147544
	Interleukin 22 receptor, alpha 2	*Il22ra2*	237310	2.7092	0.066101671
	Prolactin receptor	*Prlr*	19116	–2.4817	0.075280525
Primary immunodeficiency					2.85309E-15
	Protein tyrosine phosphatase, receptor type, C	*Ptprc*	19264	14.9040	0
	Interleukin 2 receptor, gamma chain	*Il2rg*	16186	6.8833	1.91259E-13
	CD4 antigen	*Cd4*	12504	7.5465	2.13117E-12
	Interleukin 7 receptor	*Il7r*	16197	7.9501	3.06014E-12
	CD79A antigen (immunoglobulin-associated alpha)	*Cd79a*	12518	3.8307	6.00136E-06
	CD3 antigen, epsilon polypeptide	*Cd3e*	12501	2.5559	0.00337812
	CD8 antigen, beta chain 1	*Cd8b1*	12526	2.6983	0.021186091
	Class II transactivator	*Ciita*	12265	2.2617	0.03868402
	Inducible T cell co-stimulator	*Icos*	54167	2.4137	0.05992872
	B cell linker	*Blnk*	17060	2.2740	0.07015631
Osteoclast differentiation					5.45511E-15
	Leukocyte immunoglobulin-like receptor, subfamily B, member 4A	*Lilrb4a*	14728	4.0490	3.20735E-06
	Lymphocyte cytosolic protein 2	*Lcp2*	16822	3.0751	0.000100617
	Phospholipase C, gamma 2	*Plcg2*	234779	2.7840	0.002576994
	Signal transducer and activator of transcription 1	*Stat1*	20846	2.2604	0.012104993

	Spleen tyrosine kinase	*Syk*	20963	2.3513	0.026443134
	Neutrophil cytosolic factor 1	*Ncf1*	17969	2.1895	0.050281506
	B cell linker	*Blnk*	17060	2.2740	0.07015631
	Fyn proto-oncogene	*Fyn*	14360	1.9686	0.150106114
	Colony stimulating factor 1 receptor	*Csf1r*	12978	1.8421	0.200175322
	Transforming growth factor, beta 1	*Tgfb1*	21803	1.8611	0.200327384
Antigen processing and presentation					7.8513E-15
	Cathepsin S	*Ctss*	13040	6.2632	3.60017E-13
	CD4 antigen	*Cd4*	12504	7.5465	2.13117E-12
	Histocompatibility 2, class II antigen E alpha, pseudogene	*H2-Ea-ps*	100504404	4.9824	2.5564E-11
	Histocompatibility 2, M region locus 2	*H2-M2*	14990	4.3295	1.07827E-05
	CD74 antigen (invariant polypeptide of major histocompatibility complex, class II antigen-associated)	*Cd74*	16149	2.8270	0.000130769
	Histocompatibility 2, class II, locus Mb2	*H2-DMb2*	15000	3.1559	0.000690586
	Interferon gamma inducible protein 30	*Ifi30*	65972	2.2296	0.017229862
	CD8 antigen, beta chain 1	*Cd8b1*	12526	2.6983	0.021186091
	Class II transactivator	*Ciita*	12265	2.2617	0.03868402
	CD8 antigen, alpha chain	*Cd8a*	12525	2.3514	0.112888245
Th1 and Th2 cell differentiation					3.51751E-13
	CD3 antigen, gamma polypeptide	*Cd3g*	12502	12.8406	0
	Interleukin 2 receptor, gamma chain	*Il2rg*	16186	6.8833	1.91259E-13
	CD4 antigen	*Cd4*	12504	7.5465	2.13117E-12
	Histocompatibility 2, class II antigen E alpha, pseudogene	*H2-Ea-ps*	100504404	4.9824	2.5564E-11
	Histocompatibility 2, class II, locus Mb2	*H2-DMb2*	15000	3.1559	0.000690586
	Signal transducer and activator of transcription 4	*Stat4*	20849	3.5331	0.000984191
	CD3 antigen, epsilon polypeptide	*Cd3e*	12501	2.5559	0.00337812
	Signal transducer and activator of transcription 1	*Stat1*	20846	2.2604	0.012104993
	Linker for activation of T cells	*Lat*	16797	1.9337	0.216306508
	Lymphocyte protein tyrosine kinase	*Lck*	16818	2.1659	0.21930709
Intestinal immune network for IgA production					3.6881E-13
	Histocompatibility 2, class II antigen E alpha, pseudogene	*H2-Ea-ps*	100504404	4.9824	2.5564E-11
	Histocompatibility 2, class II, locus Mb2	*H2-DMb2*	15000	3.1559	0.000690586
	Integrin alpha 4	*Itga4*	16401	2.5574	0.003365085
	Chemokine (C-X-C motif) receptor 4	*Cxcr4*	12767	2.4200	0.010165808
	Chemokine (C-X-C motif) ligand 12	*Cxcl12*	20315	2.1346	0.02892272
	Icos ligand	*Icosl*	50723	2.1691	0.052602737
	Inducible T cell co-stimulator	*Icos*	54167	2.4137	0.05992872

	Transforming growth factor, beta 1	*Tgfb1*	21803	1.8611	0.200327384
	Tumor necrosis factor (ligand) superfamily, member 13b	*Tnfsf13b*	24099	1.8448	0.419152817
	Integrin beta 7	*Itgb7*	16421	1.9667	0.432113252
Endocytosis					3.19463E-12
	Interleukin 2 receptor, gamma chain	*Il2rg*	16186	6.8833	1.91259E-13
	Histocompatibility 2, M region locus 2	*H2-M2*	14990	4.3295	1.07827E-05
	Cytohesin 4	*Cyth4*	72318	2.4522	0.004929348
	Chemokine (C-X-C motif) receptor 4	*Cxcr4*	12767	2.4200	0.010165808
	Promyelocytic leukemia	*Pml*	18854	2.0533	0.092163371
	Capping protein (actin filament) muscle Z-line, alpha 1	*Capza1*	12340	1.8703	0.175747236
	Histocompatibility 2, Q region locus 8	*H2-Q8*	15019	1.8444	0.193624046
	Interleukin 2 receptor, beta chain	*Il2rb*	16185	2.0470	0.28469515
	Heat shock protein 1-like	*Hspa1l*	15482	1.8149	0.338946578
	Pleckstrin and Sec7 domain containing 4	*Psd4*	215632	2.1234	0.346751731
Natural killer cell mediated cytotoxicity					5.20152E-12
	Protein kinase C, beta	*Prkcb*	18751	4.7940	8.43315E-08
	Integrin beta 2	*Itgb2*	16414	3.2753	3.75636E-05
	Protein tyrosine phosphatase, non-receptor type 6	*Ptpn6*	15170	3.2050	5.88237E-05
	Lymphocyte cytosolic protein 2	*Lcp2*	16822	3.0751	0.000100617
	Integrin alpha L	*Itgal*	16408	3.0770	0.000441262
	RAS-related C3 botulinum substrate 2	*Rac2*	19354	2.5858	0.002214744
	PTK2 protein tyrosine kinase 2 beta	*Ptk2b*	19229	2.7416	0.002350974
	Phospholipase C, gamma 2	*Plcg2*	234779	2.7840	0.002576994
	Vav 1 oncogene	*Vav1*	22324	2.8148	0.002719009
	Spleen tyrosine kinase	*Syk*	20963	2.3513	0.026443134
MAPK signaling pathway					2.13015E-11
	Protein kinase C, beta	*Prkcb*	18751	4.7940	8.43315E-08
	RAS-related C3 botulinum substrate 2	*Rac2*	19354	2.5858	0.002214744
	Calcium channel, voltage-dependent, gamma subunit 1	*Cacng1*	12299	–2.2426	0.011240559
	RAS related protein 1b	*Rap1b*	215449	2.1587	0.021951174
	TAO kinase 3	*Taok3*	330177	2.0617	0.091109254
	Nuclear receptor subfamily 4, group A, member 1	*Nr4a1*	15370	–1.8287	0.122795267
	RAS-related protein-1a	*Rap1a*	109905	1.8729	0.13788196
	Colony stimulating factor 1 receptor	*Csf1r*	12978	1.8421	0.200175322
	Transforming growth factor, beta 1	*Tgfb1*	21803	1.8611	0.200327384
	Fibroblast growth factor 1	*Fgf1*	14164	1.8555	0.206473803
Toll-like receptor signaling pathway					2.15417E-11
	Chemokine (C-C motif) ligand 5	*Ccl5*	20304	3.7844	4.82844E-07

	Signal transducer and activator of transcription 1	*Stat1*	20846	2.2604	0.012104993
	Toll-like receptor 1	*Tlr1*	21897	2.3613	0.135077993
	Toll-like receptor 7	*Tlr7*	170743	2.2462	0.24098673
	Thymoma viral proto-oncogene 3	*Akt3*	23797	1.7957	0.257333103
	FBJ osteosarcoma oncogene	*Fos*	14281	–1.7423	0.345977149
	Chemokine (C-X-C motif) ligand 9	*Cxcl9*	17329	1.6956	0.468421758
	Lymphocyte antigen 96	*Ly96*	17087	1.8624	0.532812844
	Caspase 8	*Casp8*	12370	1.6464	0.55520391
	Mitogen-activated protein kinase kinase 2	*Map2k2*	26396	–1.5503	0.696438063
Cardiac muscle contraction					5.07804E-10
	Troponin C, cardiac/slow skeletal	*Tnnc1*	21924	11.2839	0
	Myosin, heavy polypeptide 7, cardiac muscle, beta	*Myh7*	140781	25.3377	0
	Atpase, Ca++ transporting, cardiac muscle, slow twitch 2	*Atp2a2*	11938	8.3273	0
	Myosin, light polypeptide 3	*Myl3*	17897	5.7018	4.96498E-10
	Tropomyosin 3, gamma	*Tpm3*	59069	4.0864	8.07949E-08
	Actin, alpha, cardiac muscle 1	*Actc1*	11464	–2.7027	7.15757E-06
	Atpase, Na+/K+ transporting, beta 1 polypeptide	*Atp1b1*	11931	3.0179	1.01881E-05
	Calcium channel, voltage-dependent, gamma subunit 1	*Cacng1*	12299	–2.2426	0.011240559
	Tropomyosin 2, beta	*Tpm2*	22004	1.8086	0.067947903
	Atpase, Na+/K+ transporting, beta 2 polypeptide	*Atp1b2*	11932	–1.7850	0.123829945
Adrenergic signaling in cardiomyocytes					1.10527E-09
	Troponin C, cardiac/slow skeletal	*Tnnc1*	21924	11.2839	0
	Myosin, heavy polypeptide 7, cardiac muscle, beta	*Myh7*	140781	25.3377	0
	Atpase, Ca++ transporting, cardiac muscle, slow twitch 2	*Atp2a2*	11938	8.3273	0
	Myosin, light polypeptide 3	*Myl3*	17897	5.7018	4.96498E-10
	Tropomyosin 3, gamma	*Tpm3*	59069	4.0864	8.07949E-08
	Actin, alpha, cardiac muscle 1	*Actc1*	11464	–2.7027	7.15757E-06
	Atpase, Na+/K+ transporting, beta 1 polypeptide	*Atp1b1*	11931	3.0179	1.01881E-05
	Calcium channel, voltage-dependent, gamma subunit 1	*Cacng1*	12299	–2.2426	0.011240559
	Tropomyosin 2, beta	*Tpm2*	22004	1.8086	0.067947903
	Phosphoinositide-3-kinase, catalytic, gamma polypeptide	*Pik3cg*	30955	2.2336	0.07771979
Hypertrophic cardiomyopathy (HCM)					1.25338E-09
	Troponin C, cardiac/slow skeletal	*Tnnc1*	21924	11.2839	0
	Myosin, heavy polypeptide 7, cardiac muscle, beta	*Myh7*	140781	25.3377	0
	Atpase, Ca++ transporting, cardiac muscle, slow twitch 2	*Atp2a2*	11938	8.3273	0

	Myosin, light polypeptide 3	*Myl3*	17897	5.7018	4.96498E-10
	Tropomyosin 3, gamma	*Tpm3*	59069	4.0864	8.07949E-08
	Actin, alpha, cardiac muscle 1	*Actc1*	11464	–2.7027	7.15757E-06
	Integrin alpha 4	*Itga4*	16401	2.5574	0.003365085
	Protein kinase, AMP-activated, gamma 3 non-catatlytic subunit	*Prkag3*	241113	–2.3624	0.005895163
	Calcium channel, voltage-dependent, gamma subunit 1	*Cacng1*	12299	–2.2426	0.011240559
	Tropomyosin 2, beta	*Tpm2*	22004	1.8086	0.067947903
cAMP signaling pathway					3.53222E-09
	ATPase, Ca++ transporting, cardiac muscle, slow twitch 2	*Atp2a2*	11938	8.3273	0
	ATPase, Na+/K+ transporting, beta 1 polypeptide	*Atp1b1*	11931	3.0179	1.01881E-05
	RAS-related C3 botulinum substrate 2	*Rac2*	19354	2.5858	0.002214744
	Vav 1 oncogene	*Vav1*	22324	2.8148	0.002719009
	Rho-associated coiled-coil containing protein kinase 1	*Rock1*	19877	2.3129	0.0088963
	Coagulation factor II (thrombin) receptor	*F2r*	14062	2.2565	0.020547361
	RAS related protein 1b	*Rap1b*	215449	2.1587	0.021951174
	Thyroid stimulating hormone receptor	*Tshr*	22095	–2.2073	0.038586986
	ATPase, Na+/K+ transporting, beta 2 polypeptide	*Atp1b2*	11932	–1.7850	0.123829945
	RAS-related protein-1a	*Rap1a*	109905	1.8729	0.13788196
TNF signaling pathway					3.27002E-08
	Chemokine (C-C motif) ligand 5	*Ccl5*	20304	3.7844	4.82844E-07
	Vascular cell adhesion molecule 1	*Vcam1*	22329	2.2056	0.034362706
	Baculoviral IAP repeat-containing 3	*Birc3*	11796	1.9096	0.14727599
	TNF receptor-associated factor 1	*Traf1*	22029	2.0830	0.20412442
	Thymoma viral proto-oncogene 3	*Akt3*	23797	1.7957	0.257333103
	FBJ osteosarcoma oncogene	*Fos*	14281	–1.7423	0.345977149
	Tumor necrosis factor receptor superfamily, member 1b	*Tnfrsf1b*	21938	1.7873	0.439799373
	Interleukin 18 receptor 1	*Il18r1*	16182	2.0032	0.454499375
	Caspase 3	*Casp3*	12367	1.8752	0.467106772
	Baculoviral IAP repeat-containing 2	*Birc2*	11797	1.6539	0.47899828
Calcium signaling pathway					0.00059103
	Troponin C, cardiac/slow skeletal	*Tnnc1*	21924	11.2839	0
	Atpase, Ca++ transporting, cardiac muscle, slow twitch 2	*Atp2a2*	11938	8.3273	0
	Protein kinase C, beta	*Prkcb*	18751	4.7940	8.43315E-08
	PTK2 protein tyrosine kinase 2 beta	*Ptk2b*	19229	2.7416	0.002350974
	Phospholipase C, gamma 2	*Plcg2*	234779	2.7840	0.002576994
	Coagulation factor II (thrombin) receptor	*F2r*	14062	2.2565	0.020547361
	Adrenergic receptor, beta 3	*Adrb3*	11556	–2.0731	0.136087707

Phospholipase C, delta 4	*Plcd4*	18802	–1.8712	0.149640841
Phosphorylase kinase gamma 1	*Phkg1*	18682	–1.5328	0.544630124
Cysteinyl leukotriene receptor 1	*Cysltr1*	58861	1.6576	0.904170421

NF, nuclear factor; PI3K, phosphoinositide-3-kinase; NOD, nucleotide-binding oligomerization domain; Jak-STAT, Janus kinase-signal transducers and activators of transcription; IgA, immunoglobulin A; MAPK, mitogen-activated protein kinase; TNF, tumor necrosis factor.