GSEA Analysis Summary for Acromegaly

Significance was set at an alpha of 0.25 for BH adjusted p-values as calculated by GSEA. For the example gene sets, the gene in brackets is where the beginning of the core genes (the ones which most strongly impact that phenotype).

# Gene Ontology (BP)

## Upregulated in Acromegaly

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| NAME | SIZE | ES | NES | NOM p-val | FDR q-val |
| **LIPID\_TRANSPORT** | **22** | **0.69145757** | **2.0683546** | **0** | **0.015134371** |
| PROTEIN\_UBIQUITINATION | 38 | 0.54428756 | 1.8357624 | 0.004273505 | 0.18464163 |
| PROTEIN\_MODIFICATION\_BY\_SMALL\_PROTEIN\_CONJUGATION | 41 | 0.5351662 | 1.8205911 | 0.002057613 | 0.14460698 |
| RESPONSE\_TO\_ORGANIC\_SUBSTANCE | 24 | 0.5780074 | 1.7728797 | 0.004366812 | 0.18254146 |
| **LIPID\_BIOSYNTHETIC\_PROCESS** | **82** | **0.45021206** | **1.74336** | **0** | **0.19333906** |

## Downregulated in Acromegaly

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| NAME | SIZE | ES | NES | NOM p-val | FDR q-val |
| IMMUNE\_SYSTEM\_PROCESS | 239 | -0.5101318 | -2.2867453 | 0 | 0 |
| IMMUNE\_RESPONSE | 163 | -0.5139651 | -2.1905134 | 0 | 5.15E-04 |
| HEMOPOIETIC\_OR\_LYMPHOID\_ORGAN\_DEVELOPMENT | 59 | -0.5668054 | -2.09433 | 0 | 0.002675007 |
| CELLULAR\_DEFENSE\_RESPONSE | 28 | -0.66427296 | -2.0835214 | 0 | 0.002507202 |
| DEFENSE\_RESPONSE | 160 | -0.49021924 | -2.0712006 | 0 | 0.002419254 |
| RESPONSE\_TO\_WOUNDING | 126 | -0.49494073 | -2.0458899 | 0 | 0.003201225 |
| IMMUNE\_SYSTEM\_DEVELOPMENT | 62 | -0.5511497 | -2.019322 | 0 | 0.004734365 |
| INFLAMMATORY\_RESPONSE | 86 | -0.51394254 | -2.0098877 | 0 | 0.004387561 |
| POSITIVE\_REGULATION\_OF\_CASPASE\_ACTIVITY | 23 | -0.6643803 | -1.9429492 | 0 | 0.009041091 |
| HEMOPOIESIS | 57 | -0.53560686 | -1.9204787 | 0 | 0.010746675 |
| CASPASE\_ACTIVATION | 21 | -0.6556995 | -1.88934 | 0 | 0.014690178 |
| HUMORAL\_IMMUNE\_RESPONSE | 19 | -0.67015386 | -1.8728569 | 0.001919386 | 0.01661878 |
| POSITIVE\_REGULATION\_OF\_TRANSLATION | 21 | -0.62783307 | -1.8433002 | 0.005565863 | 0.021769488 |
| COAGULATION | 25 | -0.61014515 | -1.8413676 | 0 | 0.020499045 |
| BLOOD\_COAGULATION | 25 | -0.61014515 | -1.838957 | 0.001901141 | 0.019465953 |
| RESPONSE\_TO\_EXTERNAL\_STIMULUS | 204 | -0.41909358 | -1.8384916 | 0 | 0.018436188 |
| REGULATION\_OF\_T\_CELL\_ACTIVATION | 22 | -0.6263445 | -1.8276677 | 0.001862197 | 0.019357868 |
| LOCOMOTORY\_BEHAVIOR | 59 | -0.5111096 | -1.8274534 | 0 | 0.018339686 |
| CELL\_ACTIVATION | 53 | -0.5037653 | -1.8005793 | 0.001763668 | 0.023983976 |
| LEUKOCYTE\_ACTIVATION | 49 | -0.5016583 | -1.7671262 | 0 | 0.031818435 |
| LYMPHOCYTE\_ACTIVATION | 44 | -0.5163118 | -1.7647686 | 0.003831418 | 0.030918345 |
| LEUKOCYTE\_DIFFERENTIATION | 28 | -0.57242143 | -1.7454717 | 0.004048583 | 0.035719775 |
| T\_CELL\_ACTIVATION | 32 | -0.53617996 | -1.7275575 | 0.003921569 | 0.04088602 |
| VIRAL\_GENOME\_REPLICATION | 18 | -0.60745853 | -1.7125044 | 0.013487476 | 0.045921255 |
| POSITIVE\_REGULATION\_OF\_PROTEIN\_METABOLIC\_PROCESS | 52 | -0.4750648 | -1.7086316 | 0 | 0.046037924 |
| POSITIVE\_REGULATION\_OF\_CELLULAR\_PROTEIN\_METABOLIC\_PROCESS | 50 | -0.4809029 | -1.6946317 | 0.001949318 | 0.050868537 |
| HEMOSTASIS | 29 | -0.5440477 | -1.6939797 | 0.009259259 | 0.04919894 |
| WOUND\_HEALING | 32 | -0.52656525 | -1.6749598 | 0.005747126 | 0.05762918 |
| CYTOKINE\_BIOSYNTHETIC\_PROCESS | 26 | -0.5452605 | -1.6706585 | 0.005617978 | 0.058003645 |
| CELLULAR\_CATION\_HOMEOSTASIS | 67 | -0.4431822 | -1.6357287 | 0.007054674 | 0.07724448 |
| CYTOKINE\_METABOLIC\_PROCESS | 27 | -0.53035533 | -1.6340159 | 0.012 | 0.07579504 |
| POSITIVE\_REGULATION\_OF\_HYDROLASE\_ACTIVITY | 41 | -0.488608 | -1.631846 | 0.011363637 | 0.074802354 |
| REGULATION\_OF\_LYMPHOCYTE\_ACTIVATION | 27 | -0.5318105 | -1.6300635 | 0.022058824 | 0.073870756 |
| CELL\_SURFACE\_RECEPTOR\_LINKED\_SIGNAL\_TRANSDUCTION\_GO\_0007166 | 420 | -0.34087965 | -1.6261914 | 0 | 0.07443243 |
| REGULATION\_OF\_BODY\_FLUID\_LEVELS | 34 | -0.5023551 | -1.6260781 | 0.009652509 | 0.072366126 |
| CATION\_HOMEOSTASIS | 69 | -0.43212655 | -1.6154486 | 0.001858736 | 0.07720776 |
| RESPONSE\_TO\_VIRUS | 35 | -0.48547634 | -1.6065459 | 0.013133208 | 0.08197848 |
| LYMPHOCYTE\_DIFFERENTIATION | 20 | -0.5556952 | -1.6010708 | 0.020599252 | 0.08430566 |
| REGULATION\_OF\_MULTICELLULAR\_ORGANISMAL\_PROCESS | 89 | -0.41207087 | -1.5963022 | 0.005415163 | 0.08554093 |
| REGULATION\_OF\_CYTOKINE\_BIOSYNTHETIC\_PROCESS | 24 | -0.5394906 | -1.5903836 | 0.01875 | 0.08759127 |
| BEHAVIOR | 80 | -0.41271743 | -1.5801259 | 0.006024096 | 0.09288754 |
| ANATOMICAL\_STRUCTURE\_MORPHOGENESIS | 270 | -0.3394667 | -1.540298 | 0 | 0.12423282 |
| REGULATION\_OF\_HYDROLASE\_ACTIVITY | 61 | -0.418136 | -1.5371617 | 0.016791046 | 0.124728665 |
| POSITIVE\_REGULATION\_OF\_MULTICELLULAR\_ORGANISMAL\_PROCESS | 43 | -0.44164994 | -1.5355777 | 0.013257576 | 0.123464346 |
| ION\_HOMEOSTASIS | 80 | -0.40184665 | -1.5354141 | 0.009451796 | 0.120830804 |
| REGULATION\_OF\_IMMUNE\_SYSTEM\_PROCESS | 43 | -0.44486716 | -1.527419 | 0.014842301 | 0.12642506 |
| CELLULAR\_HOMEOSTASIS | 90 | -0.3890957 | -1.5199052 | 0.007407407 | 0.13126056 |
| NEGATIVE\_REGULATION\_OF\_BINDING | 15 | -0.5641866 | -1.5144517 | 0.04606526 | 0.13370292 |
| RESPONSE\_TO\_BIOTIC\_STIMULUS | 78 | -0.39516354 | -1.5072862 | 0.015238095 | 0.13753149 |
| MULTI\_ORGANISM\_PROCESS | 92 | -0.38764018 | -1.506436 | 0.009107468 | 0.13573788 |
| RESPONSE\_TO\_OTHER\_ORGANISM | 48 | -0.43124482 | -1.5054715 | 0.02079395 | 0.13392454 |
| MYELOID\_CELL\_DIFFERENTIATION | 28 | -0.48411146 | -1.4974269 | 0.046875 | 0.1394595 |
| REGULATION\_OF\_DNA\_BINDING | 40 | -0.44878307 | -1.4970365 | 0.017307693 | 0.13716619 |
| POSITIVE\_REGULATION\_OF\_CYTOKINE\_BIOSYNTHETIC\_PROCESS | 16 | -0.5557578 | -1.4921325 | 0.049115915 | 0.14004304 |
| MESODERM\_DEVELOPMENT | 17 | -0.537718 | -1.4743853 | 0.06367041 | 0.15711115 |
| NEGATIVE\_REGULATION\_OF\_DEVELOPMENTAL\_PROCESS | 156 | -0.34595254 | -1.4733973 | 0.007326007 | 0.15536252 |
| EXCRETION | 16 | -0.5487468 | -1.4660438 | 0.04780115 | 0.16072276 |
| TISSUE\_DEVELOPMENT | 78 | -0.3815428 | -1.4659727 | 0.009310987 | 0.15807296 |
| POSITIVE\_REGULATION\_OF\_T\_CELL\_ACTIVATION | 17 | -0.531433 | -1.4552801 | 0.07184466 | 0.16738437 |
| B\_CELL\_ACTIVATION | 16 | -0.5375808 | -1.4481366 | 0.07706422 | 0.17341377 |
| G\_PROTEIN\_COUPLED\_RECEPTOR\_PROTEIN\_SIGNALING\_PATHWAY | 180 | -0.33282802 | -1.4365779 | 0.003690037 | 0.18572807 |
| REGULATION\_OF\_MITOTIC\_CELL\_CYCLE | 21 | -0.49228638 | -1.4308745 | 0.06378987 | 0.19036728 |
| REGULATION\_OF\_I\_KAPPAB\_KINASE\_NF\_KAPPAB\_CASCADE | 89 | -0.36387762 | -1.4153576 | 0.0234375 | 0.20794505 |
| PROTEIN\_HOMOOLIGOMERIZATION | 19 | -0.50090915 | -1.4119968 | 0.062015504 | 0.20934361 |
| REGULATION\_OF\_TRANSCRIPTION\_FACTOR\_ACTIVITY | 33 | -0.44256517 | -1.4026854 | 0.07321773 | 0.21936244 |
| POSITIVE\_REGULATION\_OF\_LYMPHOCYTE\_ACTIVATION | 19 | -0.49011862 | -1.3992324 | 0.084586464 | 0.2209147 |
| POSITIVE\_REGULATION\_OF\_I\_KAPPAB\_KINASE\_NF\_KAPPAB\_CASCADE | 83 | -0.3597328 | -1.3988702 | 0.048780486 | 0.21819691 |
| NEGATIVE\_REGULATION\_OF\_APOPTOSIS | 123 | -0.3370518 | -1.3961468 | 0.01764706 | 0.21915118 |
| CYTOKINE\_PRODUCTION | 49 | -0.39628214 | -1.3945543 | 0.06500956 | 0.2182209 |
| VIRAL\_REPRODUCTION | 33 | -0.42428425 | -1.3867853 | 0.07052441 | 0.22611777 |
| NEGATIVE\_REGULATION\_OF\_PROGRAMMED\_CELL\_DEATH | 124 | -0.33625033 | -1.3755435 | 0.026515152 | 0.23896676 |
| REGULATION\_OF\_CELL\_PROLIFERATION | 239 | -0.30915293 | -1.3722475 | 0.001824818 | 0.2415122 |
| CELL\_PROLIFERATION\_GO\_0008283 | 385 | -0.29279456 | -1.3703008 | 0.003571429 | 0.24105369 |

# Gene Ontology (MF)

## Upregulated in Acromegaly

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| NAME | SIZE | ES | NES | NOM p-val | FDR q-val |
| MONOVALENT\_INORGANIC\_CATION\_TRANSMEMBRANE\_TRANSPORTER\_ACTIVITY | 27 | 0.603501 | 1.858901 | 0 | 0.15516905 |
| HYDROGEN\_ION\_TRANSMEMBRANE\_TRANSPORTER\_ACTIVITY | 21 | 0.6073318 | 1.7785004 | 0.002096436 | 0.19781125 |

## Downregulated in Acromegaly

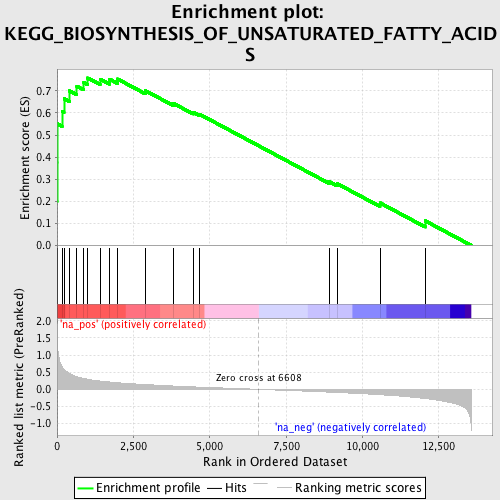
|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| NAME | SIZE | ES | NES | NOM p-val | FDR q-val |
| CYTOKINE\_BINDING | 40 | -0.6044962 | -2.05655 | 0 | 0.003783293 |
| CHEMOKINE\_RECEPTOR\_BINDING | 22 | -0.6797837 | -1.9560219 | 0 | 0.008485451 |
| CHEMOKINE\_ACTIVITY | 21 | -0.6662855 | -1.9507842 | 0.001996008 | 0.007147465 |
| G\_PROTEIN\_COUPLED\_RECEPTOR\_BINDING | 26 | -0.6353693 | -1.942435 | 0 | 0.005952133 |
| CALCIUM\_CHANNEL\_ACTIVITY | 16 | -0.701556 | -1.9282418 | 0 | 0.005682196 |
| INTERLEUKIN\_BINDING | 20 | -0.63058084 | -1.7839248 | 0.003831418 | 0.032835066 |
| INTERLEUKIN\_RECEPTOR\_ACTIVITY | 16 | -0.6495423 | -1.7680805 | 0.005444646 | 0.032074053 |
| INTEGRIN\_BINDING | 21 | -0.5833668 | -1.6775727 | 0.007662835 | 0.07506856 |
| CATION\_CHANNEL\_ACTIVITY | 60 | -0.4449525 | -1.6176107 | 0.005660377 | 0.117675394 |
| CYTOKINE\_ACTIVITY | 54 | -0.45067698 | -1.5971926 | 0.009310987 | 0.12711942 |
| HEMATOPOIETIN\_INTERFERON\_CLASSD200\_DOMAIN\_CYTOKINE\_RECEPTOR\_ACTIVITY | 27 | -0.50961035 | -1.5822436 | 0.026168223 | 0.13275845 |
| RECEPTOR\_ACTIVITY | 375 | -0.32954234 | -1.5650356 | 0 | 0.14114495 |
| SUBSTRATE\_SPECIFIC\_CHANNEL\_ACTIVITY | 75 | -0.41196457 | -1.5633391 | 0.005424955 | 0.13248953 |
| SH3\_DOMAIN\_BINDING | 15 | -0.5706794 | -1.5561738 | 0.031657357 | 0.12998445 |
| ION\_CHANNEL\_ACTIVITY | 72 | -0.40400377 | -1.5292102 | 0.007326007 | 0.15019299 |
| PROTEIN\_DOMAIN\_SPECIFIC\_BINDING | 64 | -0.40529588 | -1.4989443 | 0.014705882 | 0.17817998 |
| PEPTIDE\_RECEPTOR\_ACTIVITY | 18 | -0.53508276 | -1.495876 | 0.05357143 | 0.17066066 |
| GATED\_CHANNEL\_ACTIVITY | 60 | -0.40065873 | -1.485434 | 0.007677543 | 0.17397963 |
| LIGAND\_GATED\_CHANNEL\_ACTIVITY | 15 | -0.55143183 | -1.4602453 | 0.06273764 | 0.19819728 |
| METAL\_ION\_TRANSMEMBRANE\_TRANSPORTER\_ACTIVITY | 83 | -0.37528333 | -1.4477373 | 0.021778584 | 0.20620471 |
| CALMODULIN\_BINDING | 22 | -0.49282265 | -1.4419391 | 0.06129597 | 0.20527574 |

# KEGG

## Upregulated in Acromegaly

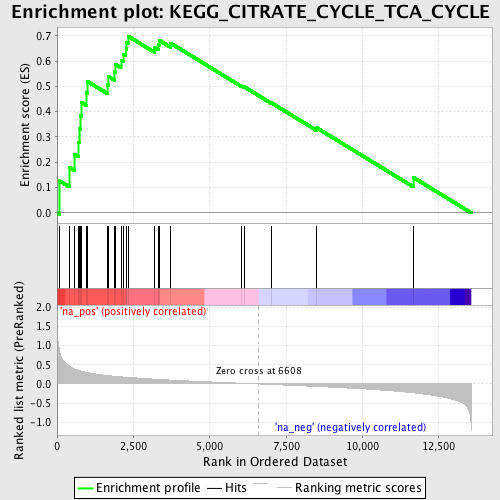
|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| NAME | SIZE | ES | NES | NOM p-val | FDR q-val |
| KEGG\_PROPANOATE\_METABOLISM | 32 | 0.7000086 | 2.2420206 | 0 | 9.47E-04 |
| **KEGG\_CITRATE\_CYCLE\_TCA\_CYCLE** | **28** | **0.7097099** | **2.2139885** | **0** | **4.74E-04** |
| **KEGG\_BIOSYNTHESIS\_OF\_UNSATURATED\_FATTY\_ACIDS** | **22** | **0.7506246** | **2.184683** | **0** | **3.16E-04** |
| KEGG\_VALINE\_LEUCINE\_AND\_ISOLEUCINE\_DEGRADATION | 43 | 0.65181917 | 2.1840427 | 0 | 2.37E-04 |
| **KEGG\_FATTY\_ACID\_METABOLISM** | **41** | **0.6352687** | **2.1772876** | **0** | **1.89E-04** |
| KEGG\_PEROXISOME | 75 | 0.5531298 | 2.1017656 | 0 | 1.58E-04 |
| **KEGG\_PPAR\_SIGNALING\_PATHWAY** | **66** | **0.52299935** | **1.9368638** | **0** | **0.003336925** |
| KEGG\_PYRUVATE\_METABOLISM | 37 | 0.576523 | 1.8938661 | 0 | 0.005082624 |
| KEGG\_BUTANOATE\_METABOLISM | 32 | 0.58304614 | 1.8245722 | 0 | 0.010281452 |
| KEGG\_ONE\_CARBON\_POOL\_BY\_FOLATE | 17 | 0.64505804 | 1.7985766 | 0.008474576 | 0.012165301 |
| KEGG\_PROXIMAL\_TUBULE\_BICARBONATE\_RECLAMATION | 22 | 0.5872493 | 1.7489115 | 0.008791209 | 0.018486518 |
| KEGG\_ALANINE\_ASPARTATE\_AND\_GLUTAMATE\_METABOLISM | 31 | 0.52708143 | 1.6935511 | 0.008474576 | 0.029804932 |
| KEGG\_P53\_SIGNALING\_PATHWAY | 68 | 0.4409254 | 1.6443201 | 0 | 0.042055126 |
| KEGG\_RETINOL\_METABOLISM | 50 | 0.45916307 | 1.5959947 | 0.026490066 | 0.05764058 |
| KEGG\_OXIDATIVE\_PHOSPHORYLATION | 111 | 0.385301 | 1.5674493 | 0.004424779 | 0.067832 |
| KEGG\_THYROID\_CANCER | 29 | 0.50180775 | 1.553517 | 0.022916667 | 0.0715128 |
| KEGG\_TERPENOID\_BACKBONE\_BIOSYNTHESIS | 15 | 0.58645135 | 1.5488582 | 0.033333335 | 0.06955526 |
| KEGG\_GLYOXYLATE\_AND\_DICARBOXYLATE\_METABOLISM | 15 | 0.5753874 | 1.5189034 | 0.06593407 | 0.08572423 |
| KEGG\_GLYCOLYSIS\_GLUCONEOGENESIS | 55 | 0.41220725 | 1.5074275 | 0.019955654 | 0.08902391 |
| KEGG\_GLYCEROLIPID\_METABOLISM | 45 | 0.42324552 | 1.4911253 | 0.019313306 | 0.096370034 |
| **KEGG\_INSULIN\_SIGNALING\_PATHWAY** | **128** | **0.3578787** | **1.4787031** | **0.009049774** | **0.10120547** |
| KEGG\_PROSTATE\_CANCER | 86 | 0.36918178 | 1.4621828 | 0.022624435 | 0.10846579 |
| KEGG\_PARKINSONS\_DISEASE | 109 | 0.350744 | 1.4315795 | 0.011337869 | 0.12843487 |
| KEGG\_NITROGEN\_METABOLISM | 23 | 0.4845279 | 1.42912 | 0.06451613 | 0.12507099 |
| KEGG\_MISMATCH\_REPAIR | 23 | 0.47827128 | 1.4249983 | 0.056842104 | 0.12426115 |
| KEGG\_STARCH\_AND\_SUCROSE\_METABOLISM | 35 | 0.43266067 | 1.4146144 | 0.07317073 | 0.12860082 |
| KEGG\_DRUG\_METABOLISM\_CYTOCHROME\_P450 | 56 | 0.38717702 | 1.4071469 | 0.03318584 | 0.13069917 |
| KEGG\_NEUROACTIVE\_LIGAND\_RECEPTOR\_INTERACTION | 229 | 0.3109759 | 1.3941184 | 0.008928572 | 0.1367528 |
| KEGG\_RENIN\_ANGIOTENSIN\_SYSTEM | 15 | 0.51922935 | 1.3912755 | 0.09465021 | 0.13449052 |
| KEGG\_HOMOLOGOUS\_RECOMBINATION | 28 | 0.43399033 | 1.3873447 | 0.07628866 | 0.13354684 |
| KEGG\_GLUTATHIONE\_METABOLISM | 46 | 0.4020751 | 1.3767341 | 0.062370062 | 0.13902907 |
| KEGG\_ARGININE\_AND\_PROLINE\_METABOLISM | 51 | 0.3842166 | 1.3710357 | 0.049217 | 0.13912077 |
| KEGG\_LYSINE\_DEGRADATION | 43 | 0.39755568 | 1.3703951 | 0.047169812 | 0.13561237 |
| KEGG\_AMYOTROPHIC\_LATERAL\_SCLEROSIS\_ALS | 51 | 0.38112348 | 1.3476844 | 0.06622516 | 0.15213986 |
| KEGG\_GLYCINE\_SERINE\_AND\_THREONINE\_METABOLISM | 30 | 0.41884536 | 1.3361284 | 0.08874459 | 0.1594929 |
| KEGG\_METABOLISM\_OF\_XENOBIOTICS\_BY\_CYTOCHROME\_P450 | 55 | 0.37080818 | 1.3304602 | 0.07568807 | 0.16059233 |
| KEGG\_BETA\_ALANINE\_METABOLISM | 21 | 0.45348915 | 1.323851 | 0.125 | 0.16312987 |
| KEGG\_ABC\_TRANSPORTERS | 43 | 0.38974965 | 1.3196557 | 0.095744684 | 0.16306588 |
| KEGG\_AMINOACYL\_TRNA\_BIOSYNTHESIS | 41 | 0.3930042 | 1.3167058 | 0.08869179 | 0.16213307 |
| KEGG\_MTOR\_SIGNALING\_PATHWAY | 50 | 0.37141553 | 1.2967912 | 0.10232558 | 0.17937164 |
| KEGG\_TRYPTOPHAN\_METABOLISM | 38 | 0.38126475 | 1.2719841 | 0.12719299 | 0.20315942 |
| KEGG\_PROGESTERONE\_MEDIATED\_OOCYTE\_MATURATION | 82 | 0.32382572 | 1.2545586 | 0.10300429 | 0.21897867 |
| KEGG\_DNA\_REPLICATION | 36 | 0.37733012 | 1.2502353 | 0.15824176 | 0.21895589 |

### Biosynthesis of unsaturated fatty acids (SCD, FADS2, FADS1 – all statistically significant)

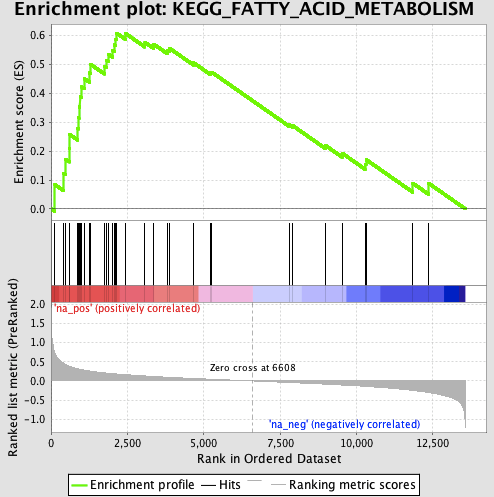


|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **PROBE** | **RANK IN GENE LIST** | **RANK METRIC SCORE** | **RUNNING ES** | **CORE ENRICHMENT** |
| 1 | [SCD](https://www.affymetrix.com/LinkServlet?probeset=SCD) | 0 | 1.906 | 0.1986 | Yes |
| 2 | [FADS2](https://www.affymetrix.com/LinkServlet?probeset=FADS2) | 2 | 1.714 | 0.3772 | Yes |
| 3 | [FADS1](https://www.affymetrix.com/LinkServlet?probeset=FADS1) | 3 | 1.669 | 0.5510 | Yes |
| 4 | [ELOVL6](https://www.affymetrix.com/LinkServlet?probeset=ELOVL6) | 165 | 0.662 | 0.6081 | Yes |
| 5 | [ELOVL5](https://www.affymetrix.com/LinkServlet?probeset=ELOVL5) | 227 | 0.590 | 0.6651 | Yes |
| 6 | [PECR](https://www.affymetrix.com/LinkServlet?probeset=PECR) | 407 | 0.463 | 0.7001 | Yes |
| 7 | [HSD17B12](https://www.affymetrix.com/LinkServlet?probeset=HSD17B12) | 645 | 0.368 | 0.7210 | Yes |
| 8 | [ACOX1](https://www.affymetrix.com/LinkServlet?probeset=ACOX1) | 872 | 0.318 | 0.7374 | Yes |
| 9 | [HADHA](https://www.affymetrix.com/LinkServlet?probeset=HADHA) | 1002 | 0.294 | 0.7585 | Yes |

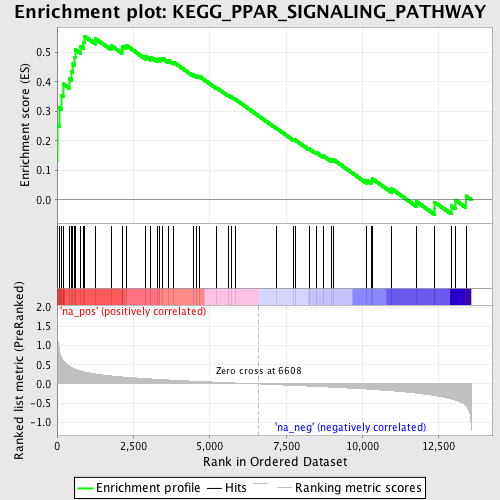
### Citrate Cycle (IDH2, ACO1 -significant)



### Fatty Acid Metabolism (ACSL4)

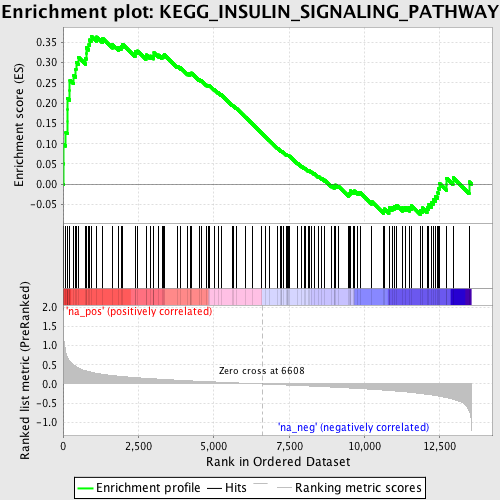


### PPAR Signaling (SCD, FADS2, LPL, ME1, SCP2 – all significant)



## Insulin Signaling Pathway (PYGM, FASN, -all statistically significant) SLC2A4 (p=0.0548)

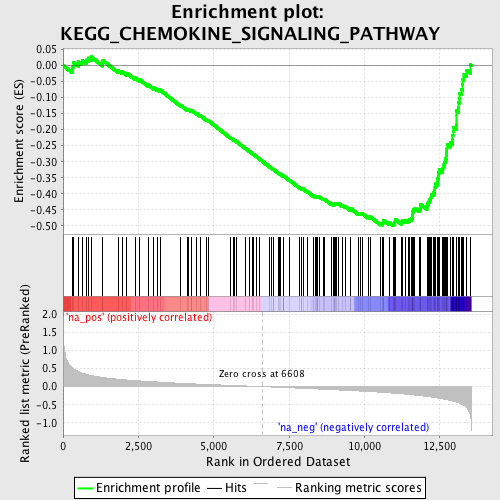
|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **ROBE** | **GENE SYMBOL** | **RANK METRIC SCORE** | **RUNNING ES** | **CORE ENRICHMENT** |  |
| 1 | [PYGM](https://www.affymetrix.com/LinkServlet?probeset=PYGM) | 17 | 1.214 | 0.0503 | Yes |
| 2 | [FASN](https://www.affymetrix.com/LinkServlet?probeset=FASN) | 23 | 1.158 | 0.0991 | Yes |
| 3 | [SLC2A4](https://www.affymetrix.com/LinkServlet?probeset=SLC2A4) | 91 | 0.794 | 0.1278 | Yes |



## Downregulated in Acromegaly

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| NAME | SIZE | ES | NES | NOM p-val | FDR q-val |
| **KEGG\_CHEMOKINE\_SIGNALING\_PATHWAY** | **184** | **-0.50135237** | **-2.155214** | **0** | **0** |
| KEGG\_CYTOKINE\_CYTOKINE\_RECEPTOR\_INTERACTION | 233 | -0.4698832 | -2.0715363 | 0 | 0 |
| KEGG\_ANTIGEN\_PROCESSING\_AND\_PRESENTATION | 64 | -0.5468016 | -1.9937881 | 0 | 0.001460145 |
| KEGG\_GRAFT\_VERSUS\_HOST\_DISEASE | 32 | -0.6177481 | -1.9557053 | 0 | 0.002187099 |
| KEGG\_HEMATOPOIETIC\_CELL\_LINEAGE | 81 | -0.5166902 | -1.9534085 | 0 | 0.001749679 |
| KEGG\_NATURAL\_KILLER\_CELL\_MEDIATED\_CYTOTOXICITY | 114 | -0.48551413 | -1.9454012 | 0 | 0.002151106 |
| KEGG\_TYPE\_I\_DIABETES\_MELLITUS | 37 | -0.5876857 | -1.9424222 | 0 | 0.001988049 |
| KEGG\_COMPLEMENT\_AND\_COAGULATION\_CASCADES | 61 | -0.5310538 | -1.9040794 | 0 | 0.00296664 |
| KEGG\_ALLOGRAFT\_REJECTION | 34 | -0.5841251 | -1.8803668 | 0 | 0.003836485 |
| KEGG\_VIRAL\_MYOCARDITIS | 68 | -0.5043162 | -1.8770337 | 0 | 0.003771403 |
| KEGG\_LYSOSOME | 115 | -0.46017236 | -1.8425162 | 0 | 0.005071564 |
| KEGG\_PATHOGENIC\_ESCHERICHIA\_COLI\_INFECTION | 52 | -0.5101828 | -1.8033702 | 0 | 0.007209372 |
| KEGG\_CYTOSOLIC\_DNA\_SENSING\_PATHWAY | 43 | -0.5332519 | -1.8013073 | 0 | 0.006724371 |
| KEGG\_PRIMARY\_IMMUNODEFICIENCY | 33 | -0.55199116 | -1.7998407 | 0 | 0.006641904 |
| KEGG\_INTESTINAL\_IMMUNE\_NETWORK\_FOR\_IGA\_PRODUCTION | 44 | -0.5162567 | -1.7455597 | 0 | 0.013853782 |
| KEGG\_ASTHMA | 27 | -0.57414824 | -1.7367074 | 0.005484461 | 0.014402338 |
| KEGG\_TASTE\_TRANSDUCTION | 36 | -0.529163 | -1.7070338 | 0.005681818 | 0.019714285 |
| KEGG\_TOLL\_LIKE\_RECEPTOR\_SIGNALING\_PATHWAY | 89 | -0.44136742 | -1.7054416 | 0 | 0.018974787 |
| KEGG\_T\_CELL\_RECEPTOR\_SIGNALING\_PATHWAY | 104 | -0.4295878 | -1.6833496 | 0 | 0.022334116 |
| KEGG\_LEISHMANIA\_INFECTION | 66 | -0.44250268 | -1.6373934 | 0.001872659 | 0.033368863 |
| KEGG\_DILATED\_CARDIOMYOPATHY | 83 | -0.4236619 | -1.6250422 | 0.003738318 | 0.03680005 |
| KEGG\_MAPK\_SIGNALING\_PATHWAY | 249 | -0.3634836 | -1.621893 | 0 | 0.036428705 |
| KEGG\_HEDGEHOG\_SIGNALING\_PATHWAY | 52 | -0.45186806 | -1.5830436 | 0.012962963 | 0.04840122 |
| KEGG\_NOD\_LIKE\_RECEPTOR\_SIGNALING\_PATHWAY | 62 | -0.4334583 | -1.5655746 | 0.003629764 | 0.054081824 |
| KEGG\_ARRHYTHMOGENIC\_RIGHT\_VENTRICULAR\_CARDIOMYOPATHY\_ARVC | 68 | -0.42149836 | -1.5591284 | 0.009633912 | 0.054822825 |
| KEGG\_HYPERTROPHIC\_CARDIOMYOPATHY\_HCM | 77 | -0.410881 | -1.5356188 | 0.003676471 | 0.06519276 |
| KEGG\_LEUKOCYTE\_TRANSENDOTHELIAL\_MIGRATION | 110 | -0.3788612 | -1.5355994 | 0.008912656 | 0.06277821 |
| KEGG\_FC\_GAMMA\_R\_MEDIATED\_PHAGOCYTOSIS | 92 | -0.39503932 | -1.5290102 | 0.010121457 | 0.064349845 |
| KEGG\_B\_CELL\_RECEPTOR\_SIGNALING\_PATHWAY | 72 | -0.41730833 | -1.5279688 | 0.016791046 | 0.0625524 |
| KEGG\_CELL\_ADHESION\_MOLECULES\_CAMS | 127 | -0.36909673 | -1.5215214 | 0.005263158 | 0.063416444 |
| KEGG\_REGULATION\_OF\_ACTIN\_CYTOSKELETON | 200 | -0.3490758 | -1.5196941 | 0.001748252 | 0.062285956 |
| KEGG\_PHENYLALANINE\_METABOLISM | 17 | -0.5604815 | -1.4943657 | 0.031021899 | 0.074813426 |
| KEGG\_NOTCH\_SIGNALING\_PATHWAY | 46 | -0.44078922 | -1.4838871 | 0.042357273 | 0.07796787 |
| KEGG\_AUTOIMMUNE\_THYROID\_DISEASE | 37 | -0.45126572 | -1.4802356 | 0.029906543 | 0.078038976 |
| KEGG\_AXON\_GUIDANCE | 124 | -0.36236277 | -1.4795153 | 0.005454545 | 0.07638043 |
| KEGG\_GLYCOSAMINOGLYCAN\_BIOSYNTHESIS\_CHONDROITIN\_SULFATE | 22 | -0.5039212 | -1.4781545 | 0.0627451 | 0.07538439 |
| KEGG\_ARACHIDONIC\_ACID\_METABOLISM | 53 | -0.40865618 | -1.4603487 | 0.034862384 | 0.08468999 |
| KEGG\_BASAL\_CELL\_CARCINOMA | 53 | -0.39971125 | -1.4234102 | 0.03448276 | 0.1100694 |
| KEGG\_SYSTEMIC\_LUPUS\_ERYTHEMATOSUS | 99 | -0.35777456 | -1.4043697 | 0.02877698 | 0.123693354 |
| KEGG\_FC\_EPSILON\_RI\_SIGNALING\_PATHWAY | 76 | -0.3681068 | -1.3975613 | 0.03710575 | 0.1263196 |
| KEGG\_PHOSPHATIDYLINOSITOL\_SIGNALING\_SYSTEM | 75 | -0.36478764 | -1.3896707 | 0.029411765 | 0.13038705 |
| KEGG\_FOCAL\_ADHESION | 195 | -0.31579238 | -1.3591352 | 0.00681431 | 0.15834849 |
| KEGG\_VASCULAR\_SMOOTH\_MUSCLE\_CONTRACTION | 109 | -0.34445292 | -1.3546611 | 0.04595588 | 0.15951666 |
| KEGG\_GLYCOSAMINOGLYCAN\_DEGRADATION | 20 | -0.4826702 | -1.3465569 | 0.09854015 | 0.16445221 |
| KEGG\_CALCIUM\_SIGNALING\_PATHWAY | 165 | -0.31151927 | -1.3272247 | 0.024561403 | 0.18301909 |
| KEGG\_ECM\_RECEPTOR\_INTERACTION | 81 | -0.3532981 | -1.325171 | 0.051660515 | 0.18155268 |
| KEGG\_GLYCOSPHINGOLIPID\_BIOSYNTHESIS\_GANGLIO\_SERIES | 15 | -0.48800611 | -1.2880085 | 0.16377649 | 0.22487535 |
| KEGG\_LONG\_TERM\_POTENTIATION | 67 | -0.34853083 | -1.2873415 | 0.088607594 | 0.22107816 |
| KEGG\_JAK\_STAT\_SIGNALING\_PATHWAY | 127 | -0.3116279 | -1.2853922 | 0.051693406 | 0.21901348 |
| KEGG\_GNRH\_SIGNALING\_PATHWAY | 94 | -0.32795233 | -1.2830544 | 0.07706422 | 0.21846735 |
| KEGG\_PATHWAYS\_IN\_CANCER | 317 | -0.27955782 | -1.279677 | 0.02881356 | 0.2186122 |
| KEGG\_GAP\_JUNCTION | 84 | -0.3382128 | -1.2767615 | 0.08108108 | 0.21857992 |
| KEGG\_PRION\_DISEASES | 32 | -0.4069967 | -1.2705677 | 0.1393298 | 0.22227426 |
| KEGG\_ENDOCYTOSIS | 178 | -0.29311123 | -1.2655259 | 0.038194444 | 0.22546583 |

### Chemokine (CCL8)



# Transcription Factors

## Upregulated in Acromegaly

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| NAME | SIZE | ES | NES | NOM p-val | FDR q-val |
| V$GATA1\_04 | 220 | 0.39590603 | 1.7856398 | 0 | 0.056265045 |
| CCAWNWWNNNGGC\_UNKNOWN | 76 | 0.4244903 | 1.6279591 | 0.002212389 | 0.18666224 |
| V$CDP\_02 | 92 | 0.41617727 | 1.6211027 | 0.002222222 | 0.1357117 |
| V$NKX25\_02 | 237 | 0.35732573 | 1.596933 | 0 | 0.13136214 |
| V$HOX13\_01 | 41 | 0.44281518 | 1.5212985 | 0.020920502 | 0.22196497 |
| V$CHX10\_01 | 199 | 0.33394876 | 1.4939984 | 0.002227172 | 0.24673593 |
| GGARNTKYCCA\_UNKNOWN | 69 | 0.40165412 | 1.4929844 | 0.013392857 | 0.2125975 |
| V$OCT1\_02 | 193 | 0.3417838 | 1.4905033 | 0.004750594 | 0.19057776 |
| V$FOXO4\_02 | 237 | 0.32509246 | 1.4805169 | 0.002277904 | 0.18708025 |
| YTCCCRNNAGGY\_UNKNOWN | 70 | 0.39896038 | 1.4763846 | 0.015521064 | 0.17547864 |
| CAGNYGKNAAA\_UNKNOWN | 69 | 0.39250052 | 1.4749328 | 0.014184397 | 0.1629143 |
| V$GATA3\_01 | 217 | 0.32757238 | 1.4681481 | 0.002178649 | 0.16024387 |
| TGATTTRY\_V$GFI1\_01 | 257 | 0.3210743 | 1.4680257 | 0 | 0.14791742 |
| V$AP3\_Q6 | 220 | 0.32674608 | 1.4617952 | 0.005089059 | 0.14683758 |
| V$TATA\_C | 248 | 0.31901303 | 1.4408119 | 0 | 0.16985999 |
| V$EVI1\_04 | 216 | 0.32540032 | 1.43953 | 0.00456621 | 0.16135417 |
| V$OCT1\_Q6 | 232 | 0.31670043 | 1.438875 | 0.002309469 | 0.15281346 |
| V$HP1SITEFACTOR\_Q6 | 211 | 0.3235894 | 1.4374726 | 0 | 0.14633034 |
| V$CART1\_01 | 193 | 0.32735616 | 1.4302096 | 0.004385965 | 0.1487231 |
| V$FXR\_Q3 | 94 | 0.36068743 | 1.4299464 | 0.020576132 | 0.14172149 |
| V$PR\_Q2 | 233 | 0.31778058 | 1.4209572 | 0.004576659 | 0.14814222 |
| V$LMO2COM\_02 | 223 | 0.31534538 | 1.4183108 | 0.00877193 | 0.14570029 |
| V$FAC1\_01 | 196 | 0.32358158 | 1.4111081 | 0.004640371 | 0.14836429 |
| V$RSRFC4\_Q2 | 198 | 0.31658193 | 1.3977996 | 0.002227172 | 0.16454242 |
| V$GNCF\_01 | 69 | 0.37619552 | 1.3933747 | 0.03125 | 0.16519047 |
| V$COMP1\_01 | 102 | 0.34286657 | 1.3863451 | 0.015317286 | 0.1716287 |
| RAAGNYNNCTTY\_UNKNOWN | 133 | 0.33063185 | 1.3846269 | 0.024229076 | 0.16852838 |
| V$NFAT\_Q6 | 223 | 0.30640918 | 1.3823923 | 0.009803922 | 0.16677023 |
| V$OCT1\_07 | 140 | 0.3272472 | 1.3754815 | 0.015695067 | 0.1727967 |
| YGACNNYACAR\_UNKNOWN | 81 | 0.35112345 | 1.372786 | 0.04366812 | 0.17188412 |
| V$OCT1\_01 | 227 | 0.30785593 | 1.3688534 | 0.021052632 | 0.17331989 |
| V$NKX22\_01 | 171 | 0.31481293 | 1.3666503 | 0.01686747 | 0.17106526 |
| V$TGIF\_01 | 235 | 0.3027507 | 1.3640807 | 0.004694836 | 0.17017235 |
| RTTTNNNYTGGM\_UNKNOWN | 143 | 0.32228822 | 1.3614984 | 0.033039648 | 0.1694839 |
| V$PAX4\_02 | 212 | 0.3053714 | 1.3561016 | 0.010593221 | 0.17368482 |
| V$HLF\_01 | 233 | 0.29924047 | 1.3477443 | 0.020930232 | 0.182734 |
| V$CEBPB\_02 | 240 | 0.29747674 | 1.3433299 | 0.011520738 | 0.18565758 |
| V$GATA\_C | 240 | 0.29780307 | 1.3424782 | 0.020179372 | 0.1824247 |
| GATAAGR\_V$GATA\_C | 263 | 0.29347387 | 1.3388839 | 0.009195402 | 0.18512489 |
| V$POU3F2\_01 | 86 | 0.34380388 | 1.3386015 | 0.042600896 | 0.18095776 |
| V$TCF4\_Q5 | 209 | 0.30395412 | 1.3349485 | 0.025821596 | 0.18333252 |
| V$PAX4\_04 | 196 | 0.3025105 | 1.33101 | 0.023504274 | 0.18579698 |
| V$HNF6\_Q6 | 209 | 0.30296594 | 1.3295748 | 0.019851116 | 0.18427373 |
| WWTAAGGC\_UNKNOWN | 128 | 0.32237917 | 1.3269377 | 0.03265306 | 0.18452922 |
| V$CREB\_Q3 | 238 | 0.29162127 | 1.3255669 | 0.01746725 | 0.18291739 |
| V$E4BP4\_01 | 210 | 0.29904884 | 1.3210636 | 0.026894866 | 0.18667564 |
| V$OCT1\_03 | 199 | 0.2970532 | 1.3188635 | 0.01091703 | 0.18608779 |
| V$PAX8\_01 | 34 | 0.41196427 | 1.3121034 | 0.1197479 | 0.19498077 |
| ARGGGTTAA\_UNKNOWN | 115 | 0.31646883 | 1.3110024 | 0.045351475 | 0.1926805 |
| V$OCT1\_04 | 200 | 0.2987282 | 1.3108224 | 0.035634745 | 0.18915223 |
| V$MMEF2\_Q6 | 244 | 0.28646398 | 1.2987504 | 0.02 | 0.20983306 |
| TMTCGCGANR\_UNKNOWN | 149 | 0.3090474 | 1.2915187 | 0.034632035 | 0.22143312 |
| TTAYRTAA\_V$E4BP4\_01 | 241 | 0.28417158 | 1.288702 | 0.030588236 | 0.223707 |
| V$TST1\_01 | 228 | 0.28530744 | 1.284949 | 0.02097902 | 0.22801809 |
| V$FREAC2\_01 | 235 | 0.2858195 | 1.2816875 | 0.029680366 | 0.23161843 |
| V$LXR\_Q3 | 69 | 0.3381332 | 1.2804395 | 0.08456659 | 0.22994979 |
| V$LEF1\_Q6 | 227 | 0.2840192 | 1.2787044 | 0.032894738 | 0.2300962 |
| V$LXR\_DR4\_Q3 | 87 | 0.33131823 | 1.2783209 | 0.091880344 | 0.22713843 |
| V$E2F\_Q4 | 225 | 0.282486 | 1.2721068 | 0.04090909 | 0.23743175 |
| YGCANTGCR\_UNKNOWN | 118 | 0.3078397 | 1.2718966 | 0.058558557 | 0.23404156 |
| V$CDX2\_Q5 | 221 | 0.28638354 | 1.2716895 | 0.043879908 | 0.23061843 |
| V$MAF\_Q6 | 236 | 0.28276426 | 1.2687488 | 0.052884616 | 0.23352876 |
| V$GATA\_Q6 | 173 | 0.29456058 | 1.2686262 | 0.03818616 | 0.23015562 |
| V$POU3F2\_02 | 226 | 0.28175 | 1.2681563 | 0.04090909 | 0.22758 |
| V$ER\_Q6\_01 | 242 | 0.28189495 | 1.2675616 | 0.032941177 | 0.22543025 |
| V$CEBP\_Q3 | 228 | 0.28085425 | 1.2648547 | 0.041666668 | 0.22765473 |
| V$MEIS1BHOXA9\_01 | 124 | 0.3036629 | 1.2632864 | 0.06818182 | 0.22805086 |
| V$GFI1\_01 | 244 | 0.27649358 | 1.2606509 | 0.043778803 | 0.23072477 |
| ACCTGTTG\_UNKNOWN | 141 | 0.29649162 | 1.2604052 | 0.07188161 | 0.22800948 |
| V$PAX6\_01 | 90 | 0.319169 | 1.2596021 | 0.09690721 | 0.22652265 |
| V$LHX3\_01 | 195 | 0.29046434 | 1.2593706 | 0.05399061 | 0.22384824 |
| V$CDC5\_01 | 220 | 0.28098828 | 1.2528445 | 0.072463766 | 0.23500216 |
| V$E2F\_Q6 | 223 | 0.27760297 | 1.249461 | 0.05299539 | 0.23889466 |
| V$OCT1\_Q5\_01 | 228 | 0.27879313 | 1.2432778 | 0.033492822 | 0.24940333 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| NAME | SIZE | ES | NES | NOM p-val | FDR q-val |
| V$GATA1\_04 | 151 | 0.42432356 | 1.8096222 | 0 | 0.07808685 |
| V$EVI1\_04 | 170 | 0.32831615 | 1.4370896 | 0.008752735 | 0.19440939 |
| V$PR\_Q2 | 182 | 0.33499846 | 1.4779168 | 0 | 0.20195773 |
| V$LXR\_DR4\_Q3 | 69 | 0.37348917 | 1.4383554 | 0.006864989 | 0.20219474 |
| AGCYRWTTC\_UNKNOWN | 92 | 0.35363254 | 1.3989207 | 0.02991453 | 0.20263532 |
| V$E4BP4\_01 | 174 | 0.32651794 | 1.4058735 | 0 | 0.20317127 |
| V$LMO2COM\_02 | 170 | 0.3298316 | 1.4442672 | 0.006564552 | 0.20333329 |
| V$OCT\_C | 169 | 0.32215834 | 1.4176745 | 0.006535948 | 0.20455697 |
| V$HP1SITEFACTOR\_Q6 | 173 | 0.3293862 | 1.448265 | 0.004395605 | 0.20697184 |
| V$MAF\_Q6 | 204 | 0.32164994 | 1.4209166 | 0.013215859 | 0.20720477 |
| V$NKX25\_02 | 185 | 0.32404155 | 1.4077098 | 0.012526096 | 0.20742232 |
| V$OCT1\_03 | 167 | 0.32735533 | 1.4112995 | 0.004494382 | 0.20842882 |
| V$CEBPB\_02 | 198 | 0.31437135 | 1.3995054 | 0.006396588 | 0.20896553 |
| V$OCT1\_01 | 178 | 0.34039932 | 1.5004508 | 0.004587156 | 0.20900314 |
| V$CDP\_02 | 73 | 0.3829574 | 1.4668384 | 0.017021276 | 0.21017848 |
| V$GATA3\_01 | 168 | 0.33210036 | 1.4529235 | 0.011441648 | 0.21027918 |
| V$AP3\_Q6 | 174 | 0.3539125 | 1.5340278 | 0.002188184 | 0.21028358 |
| V$RSRFC4\_Q2 | 147 | 0.33542278 | 1.4222816 | 0.006741573 | 0.21458633 |
| V$FOXO4\_02 | 207 | 0.3317955 | 1.4797804 | 0 | 0.21494843 |
| V$PAX6\_01 | 74 | 0.3930924 | 1.5198684 | 0.010548524 | 0.21577117 |
| V$OCT1\_02 | 145 | 0.34260973 | 1.4558543 | 0.002257336 | 0.21725169 |
| V$OCT1\_Q5\_01 | 172 | 0.317704 | 1.3736753 | 0.0186722 | 0.21867505 |
| V$FREAC2\_01 | 196 | 0.31307256 | 1.3832523 | 0.004264392 | 0.21982874 |
| GGARNTKYCCA\_UNKNOWN | 53 | 0.41081485 | 1.5057292 | 0.029850746 | 0.2207993 |
| V$HLF\_01 | 185 | 0.31697184 | 1.3861812 | 0.0155902 | 0.22086743 |
| V$CART1\_01 | 163 | 0.34481108 | 1.4852039 | 0.004494382 | 0.22215827 |
| RAAGNYNNCTTY\_UNKNOWN | 112 | 0.34015813 | 1.3747481 | 0.028634362 | 0.22310549 |
| CCAWNWWNNNGGC\_UNKNOWN | 69 | 0.4350029 | 1.6504169 | 0.002114165 | 0.22373328 |
| V$POU3F2\_01 | 65 | 0.36537758 | 1.3751987 | 0.045548655 | 0.22925504 |
| V$TATA\_C | 192 | 0.35258207 | 1.5410903 | 0.002183406 | 0.22993945 |
| V$FAC1\_01 | 169 | 0.3115798 | 1.3536355 | 0.01978022 | 0.23559082 |
| V$MMEF2\_Q6 | 193 | 0.30360606 | 1.357928 | 0.015452539 | 0.23900211 |
| V$TGIF\_01 | 182 | 0.3063316 | 1.3543441 | 0.017738359 | 0.24048123 |
| GATAAGR\_V$GATA\_C | 191 | 0.30706695 | 1.3598074 | 0.010964912 | 0.2414405 |
| RTTTNNNYTGGM\_UNKNOWN | 115 | 0.3273385 | 1.3444015 | 0.028634362 | 0.24522907 |
| YATGNWAAT\_V$OCT\_C | 243 | 0.2967303 | 1.3465203 | 0.0155902 | 0.24603929 |

## Downregulated in Acromegaly

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| NAME | SIZE | ES | NES | NOM p-val | FDR q-val |
| V$SRF\_01 | 46 | -0.5341862 | -1.8302153 | 0 | 0.020470822 |
| CCAWWNAAGG\_V$SRF\_Q4 | 81 | -0.4679709 | -1.781003 | 0 | 0.017723551 |
| V$AP1\_Q4\_01 | 246 | -0.37990758 | -1.6982303 | 0 | 0.04607986 |
| V$BACH1\_01 | 241 | -0.38208652 | -1.6951003 | 0 | 0.034994975 |
| V$SRF\_Q4 | 209 | -0.38455147 | -1.671176 | 0 | 0.03719448 |
| V$SRF\_Q5\_01 | 207 | -0.37747586 | -1.6505371 | 0 | 0.037696466 |
| V$MYOGNF1\_01 | 42 | -0.47959837 | -1.611394 | 0.005649718 | 0.052577894 |
| V$AREB6\_03 | 239 | -0.36369526 | -1.6091665 | 0 | 0.04753335 |
| V$NRF2\_Q4 | 234 | -0.35773137 | -1.5789129 | 0 | 0.060212635 |
| V$NFKAPPAB65\_01 | 222 | -0.36010063 | -1.5775537 | 0 | 0.05521038 |
| V$SRF\_C | 197 | -0.36113364 | -1.569584 | 0 | 0.05555304 |
| V$HEN1\_01 | 176 | -0.3647832 | -1.5694187 | 0 | 0.05107593 |
| V$AP1FJ\_Q2 | 241 | -0.35116705 | -1.5655105 | 0 | 0.049635366 |
| V$E47\_01 | 234 | -0.35372147 | -1.5654756 | 0.001669449 | 0.04608998 |
| V$SRF\_Q6 | 226 | -0.355014 | -1.5588387 | 0 | 0.046389665 |
| V$AP1\_C | 251 | -0.35064983 | -1.5537307 | 0 | 0.046072334 |
| V$AP1\_Q6\_01 | 243 | -0.34750378 | -1.5418178 | 0 | 0.049315788 |
| V$HNF4\_Q6 | 236 | -0.34284014 | -1.506579 | 0 | 0.0687299 |
| V$TEF1\_Q6 | 202 | -0.34476522 | -1.5051937 | 0.001785714 | 0.06612074 |
| V$ELF1\_Q6 | 228 | -0.3391668 | -1.4995579 | 0 | 0.06731091 |
| V$AML\_Q6 | 243 | -0.336224 | -1.498127 | 0.001709402 | 0.065252 |
| V$ETS1\_B | 239 | -0.33576453 | -1.4920423 | 0.001715266 | 0.067503214 |
| V$AP1\_01 | 239 | -0.33645767 | -1.4909004 | 0 | 0.065492176 |
| V$STAT6\_02 | 238 | -0.3395051 | -1.4887141 | 0 | 0.06414136 |
| V$NFKAPPAB\_01 | 236 | -0.3361326 | -1.4711396 | 0 | 0.07469962 |
| RGAGGAARY\_V$PU1\_Q6 | 468 | -0.3106317 | -1.4701067 | 0 | 0.07250077 |
| GGGNNTTTCC\_V$NFKB\_Q6\_01 | 128 | -0.3580667 | -1.4601171 | 0.012750455 | 0.07754035 |
| TGASTMAGC\_V$NFE2\_01 | 174 | -0.34307185 | -1.4574956 | 0 | 0.07682665 |
| V$ETS\_Q4 | 236 | -0.3301513 | -1.4528558 | 0.003623189 | 0.07784153 |
| V$CREL\_01 | 242 | -0.3251652 | -1.4304419 | 0.005172414 | 0.096368864 |
| V$NFKB\_Q6 | 244 | -0.3201 | -1.4277458 | 0.008756568 | 0.09570807 |
| V$LBP1\_Q6 | 198 | -0.3297613 | -1.4244834 | 0.005154639 | 0.096281074 |
| V$ETS2\_B | 258 | -0.31146437 | -1.4037411 | 0.005235602 | 0.117757194 |
| V$ALX4\_01 | 15 | -0.5323582 | -1.3979197 | 0.09981851 | 0.1211311 |
| V$AP1\_Q2\_01 | 250 | -0.30726236 | -1.3840443 | 0.007017544 | 0.13663465 |
| V$AP1\_Q2 | 238 | -0.31367356 | -1.3838663 | 0.005444646 | 0.13312127 |
| V$TEL2\_Q6 | 225 | -0.3095989 | -1.3728884 | 0.013468013 | 0.1463816 |
| V$BACH2\_01 | 253 | -0.305495 | -1.368402 | 0.010169491 | 0.14991692 |
| V$IRF7\_01 | 228 | -0.31045297 | -1.368287 | 0.006872852 | 0.14633802 |
| V$NFE2\_01 | 247 | -0.30804956 | -1.3665413 | 0.012280702 | 0.14527877 |
| V$NERF\_Q2 | 235 | -0.3087056 | -1.364228 | 0.012589928 | 0.14544833 |
| TTANWNANTGGM\_UNKNOWN | 55 | -0.38941398 | -1.3613117 | 0.063432835 | 0.14618902 |
| V$NFKB\_C | 250 | -0.3014851 | -1.360196 | 0.008460237 | 0.14441848 |
| V$PPARA\_02 | 119 | -0.33406588 | -1.3517497 | 0.035650622 | 0.15468362 |
| V$AP1\_Q6 | 236 | -0.30629733 | -1.3485457 | 0.005555556 | 0.1563929 |
| V$AML1\_01 | 252 | -0.30176017 | -1.3397948 | 0.016363636 | 0.16768318 |
| V$AP4\_Q6\_01 | 231 | -0.30385178 | -1.3395789 | 0.018900344 | 0.16432858 |
| V$AML1\_Q6 | 252 | -0.30176017 | -1.3373407 | 0.016722407 | 0.16492844 |
| V$NFKB\_Q6\_01 | 219 | -0.30188143 | -1.3344551 | 0.016853932 | 0.16658027 |
| V$PU1\_Q6 | 218 | -0.3026476 | -1.3285859 | 0.014336918 | 0.173242 |
| V$MAZ\_Q6 | 181 | -0.30819914 | -1.3272872 | 0.02169982 | 0.17188913 |
| V$HMX1\_01 | 38 | -0.3938716 | -1.3248519 | 0.103896104 | 0.17306606 |
| V$PEA3\_Q6 | 247 | -0.29769972 | -1.3205557 | 0.02300885 | 0.17717369 |
| V$AP1\_Q4 | 248 | -0.30060244 | -1.3177392 | 0.015652174 | 0.17854601 |
| V$E12\_Q6 | 244 | -0.29295015 | -1.2987481 | 0.027687296 | 0.21314839 |
| V$PIT1\_Q6 | 207 | -0.29800618 | -1.2967781 | 0.027350428 | 0.21369258 |
| V$AREB6\_02 | 237 | -0.29069483 | -1.2960633 | 0.03046595 | 0.2116954 |
| WGGAATGY\_V$TEF1\_Q6 | 344 | -0.2812275 | -1.2932265 | 0.01675042 | 0.21443108 |
| CATRRAGC\_UNKNOWN | 121 | -0.31741834 | -1.2812314 | 0.07427536 | 0.23726006 |
| V$CP2\_01 | 243 | -0.28823808 | -1.2809701 | 0.027538726 | 0.23396382 |
| V$COREBINDINGFACTOR\_Q6 | 253 | -0.28612646 | -1.2777202 | 0.02640845 | 0.2378777 |
| V$LFA1\_Q6 | 225 | -0.28960982 | -1.2726858 | 0.033450704 | 0.24655357 |

### PPARa

