

Table S4. Biological processes upregulated by equol treatment.

| Term | Count | % | P Value | Genes | List Total | Pop Hits | Pop Total | Fold Enrichment | Bonferroni | Benjamini | FDR |
|--|-------|-------|----------|--|------------|----------|-----------|-----------------|------------|-----------|----------|
| GO:0045944~positive regulation of transcription from RNA polymerase II promoter | 18 | 26.47 | 1.73E-07 | CSRNP1, EGR2, EGR3, HELT, CEBPD, BSX, KLF2, NFKBIA, NR4A1, ZNF729, NR4A3, MYF6, F2RL1, FOSB, SPX, LMX1B, HAMP, ATOH1 | 64 | 1198 | 19349 | 4.54249 | 1.23E-04 | 1.23E-04 | 1.22E-04 |
| GO:0046330~positive regulation of JNK cascade | 5 | 7.35 | 2.60E-04 | CDC42, GADD45B, GADD45A, F2RL1, MYD88 | 64 | 95 | 19349 | 15.91201 | 0.16915 | 0.06847 | 0.06827 |
| GO:0061469~regulation of type B pancreatic cell proliferation | 3 | 4.41 | 2.88E-04 | NR4A1, ERRFI1, NR4A3 | 64 | 8 | 19349 | 113.37305 | 0.18570 | 0.06847 | 0.06827 |
| GO:0035914~skeletal muscle cell differentiation | 4 | 5.88 | 4.23E-04 | NR4A1, EGR2, BTG2, MYF6 | 64 | 45 | 19349 | 26.87361 | 0.26031 | 0.07537 | 0.07515 |
| GO:0006357~regulation of transcription from RNA polymerase II promoter | 15 | 22.06 | 0.00102 | CSRNP1, EGR2, EGR3, HELT, CEBPD, BSX, KLF2, FOSL1, NR4A1, ZNF729, NR4A3, MYF6, FOSB, LMX1B, ATOH1 | 64 | 1713 | 19349 | 2.64736 | 0.51701 | 0.14548 | 0.14507 |
| GO:0045444~fat cell differentiation | 4 | 5.88 | 0.00161 | NR4A1, EGR2, NR4A3, CEBPD | 64 | 71 | 19349 | 17.03257 | 0.68155 | 0.19056 | 0.19002 |
| GO:0006915~apoptotic process | 8 | 11.76 | 0.00282 | NFKBIA, CSRNP1, NR4A1, BCL2L11, GADD45B, GADD45A, SGK1, MYD88 | 64 | 584 | 19349 | 4.14148 | 0.86611 | 0.28685 | 0.28604 |
| GO:0042059~negative regulation of epidermal growth factor receptor signaling pathway | 3 | 4.41 | 0.00646 | CDC42, ERRFI1, EPGN | 64 | 37 | 19349 | 24.51309 | 0.99007 | 0.57470 | 0.57309 |
| GO:0043065~positive regulation of apoptotic process | 6 | 8.82 | 0.00771 | FOSL1, NR4A1, BCL2L11, GADD45B, DUSP1, GADD45A | 64 | 378 | 19349 | 4.79886 | 0.99596 | 0.60989 | 0.60818 |
| GO:2000341~regulation of chemokine (C-X-C motif) ligand 2 production | 2 | 2.94 | 0.00974 | F2RL1, MYD88 | 64 | 3 | 19349 | 201.55208 | 0.99906 | 0.66441 | 0.66254 |
| GO:0051591~response to cAMP | 3 | 4.41 | 0.01026 | FOSL1, DUSP1, FOSB | 64 | 47 | 19349 | 19.29754 | 0.99935 | 0.66441 | 0.66254 |
| GO:0071376~cellular response to corticotropin-releasing hormone stimulus | 2 | 2.94 | 0.01618 | NR4A1, NR4A3 | 64 | 5 | 19349 | 120.93125 | 0.99999 | 0.88516 | 0.88267 |
| GO:0008285~negative regulation of cell proliferation | 6 | 8.82 | 0.01647 | FOSL1, BTG3, BTG2, DUSP1, ADAMTS1, ENPP7 | 64 | 457 | 19349 | 3.96930 | 0.99999 | 0.88516 | 0.88267 |
| GO:0009612~response to mechanical stimulus | 3 | 4.41 | 0.01740 | FOSL1, BTG2, FOSB | 64 | 62 | 19349 | 14.62878 | 1.00000 | 0.88516 | 0.88267 |
| GO:0035767~endothelial cell chemotaxis | 2 | 2.94 | 0.02893 | NR4A1, EGR3 | 64 | 9 | 19349 | 67.18403 | 1.00000 | 1.00000 | 0.99859 |
| GO:0001701~in utero embryonic development | 4 | 5.88 | 0.03110 | FOSL1, BCL2L11, LMX1B, KLF2 | 64 | 210 | 19349 | 5.75863 | 1.00000 | 1.00000 | 0.99859 |
| GO:0002262~myeloid cell homeostasis | 2 | 2.94 | 0.03209 | BCL2L11, HAMP | 64 | 10 | 19349 | 60.46562 | 1.00000 | 1.00000 | 0.99859 |
| GO:0000185~activation of MAPKKK activity | 2 | 2.94 | 0.03209 | GADD45B, GADD45A | 64 | 10 | 19349 | 60.46562 | 1.00000 | 1.00000 | 0.99859 |
| GO:0031274~positive regulation of pseudopodium assembly | 2 | 2.94 | 0.04152 | CDC42, F2RL1 | 64 | 13 | 19349 | 46.51202 | 1.00000 | 1.00000 | 0.99859 |
| GO:0001706~endoderm formation | 2 | 2.94 | 0.04152 | DUSP5, DUSP1 | 64 | 13 | 19349 | 46.51202 | 1.00000 | 1.00000 | 0.99859 |
| GO:0007512~adult heart development | 2 | 2.94 | 0.04465 | APLNR, TCAP | 64 | 14 | 19349 | 43.18973 | 1.00000 | 1.00000 | 0.99859 |