



Figure S1. Principal component analysis.

AAM, amino acids mixture; WPH, whey protein hydrolysate

Table S1 Upregulated genes list

| Probe set ID | FDR(AAM < WPH) | Gene Title |
|--------------|----------------|--|
| 1377092_at | 0 | --- |
| 1371970_at | 0 | family with sequence similarity 111, member A |
| 1393389_at | 0 | nuclear receptor subfamily 4, group A, member 3 |
| 1369268_at | 0 | activating transcription factor 3 |
| 1368321_at | 0 | early growth response 1 |
| 1369067_at | 0 | nuclear receptor subfamily 4, group A, member 3 |
| 1367973_at | 0 | chemokine (C-C motif) ligand 2 |
| 1383796_at | 0.00025 | mitochondrial amidoxime reducing component 1 |
| 1368247_at | 0.000222222 | heat shock 70kD protein 1A /// heat shock 70kD protein 1B (mapped) |
| 1384254_at | 4.00E-04 | OTU domain containing 1 |
| 1368415_at | 0.000545455 | myosin, heavy polypeptide 1, skeletal muscle, adult /// myosin, heavy chain 2, skeletal muscle, adult /// myosin, heavy chain 3, skeletal muscle, embryonic /// myosin, heavy chain 4, skeletal muscle |
| 1368223_at | 0.000833333 | ADAM metalloproteinase with thrombospondin type 1 motif, 1 |
| 1376847_at | 0.000769231 | mitochondrial amidoxime reducing component 1 |
| 1367862_at | 0.000857143 | Ras-related associated with diabetes |
| 1387134_at | 0.000933333 | schlafen 3 |
| 1375043_at | 0.000875 | --- |
| 1384928_at | 0.000823529 | ankyrin repeat domain 2 (stretch responsive muscle) |
| 1398243_at | 0.000777778 | cysteine and glycine-rich protein 3 (cardiac LIM protein) |
| 1367664_at | 0.000947368 | ankyrin repeat domain 1 |
| 1394711_at | 9.00E-04 | protein kinase, AMP-activated, gamma 3 non-catalytic subunit |
| 1373866_at | 0.000857143 | coenzyme Q10 homolog B (S. cerevisiae) |
| 1390738_at | 0.000818182 | bone marrow stromal cell antigen 2 |
| 1368966_at | 0.001043478 | myosin binding protein H |
| 1376845_at | 0.001083333 | interferon, alpha-inducible protein 27 like 2B |
| 1367665_at | 0.00128 | ankyrin repeat domain 1 |
| 1376824_at | 0.001384615 | --- |
| 1368237_at | 0.001925926 | tenomodulin |
| 1389119_at | 0.002206897 | Xin actin-binding repeat containing 1 |
| 1379935_at | 0.002133333 | chemokine (C-C motif) ligand 7 |
| 1369217_at | 0.002193548 | nuclear receptor subfamily 4, group A, member 3 |
| 1395327_at | 0.0021875 | --- |
| 1398364_at | 0.002242424 | similar to chromosome 1 open reading frame 63 |
| 1388694_at | 0.002176471 | RT1 class I, locus T24, gene 3 |
| 1368650_at | 0.002285714 | Kruppel-like factor 10 |
| 1382314_at | 0.0025 | ISG15 ubiquitin-like modifier |
| 1381477_at | 0.002432432 | --- |
| 1368187_at | 0.002526316 | glycoprotein (transmembrane) nmb |
| 1387036_at | 0.002717949 | hairy and enhancer of split 1 (Drosophila) |
| 1367602_at | 0.0028 | Cbp/p300-interacting transactivator, with Glu/Asp-rich carboxy-terminal domain, 2 |
| 1379672_at | 0.003170732 | --- |
| 1372564_at | 0.003285714 | v-ets erythroblastosis virus E26 oncogene homolog 2 (avian) |
| 1381556_at | 0.004325581 | DEAD (Asp-Glu-Ala-Asp) box polypeptide 60 |
| 1370080_at | 0.004363636 | heme oxygenase (decycling) 1 |
| 1367601_at | 0.004533333 | Cbp/p300-interacting transactivator, with Glu/Asp-rich carboxy-terminal domain, 2 |
| 1374633_at | 0.007391304 | peptidase M20 domain containing 2 |
| 1383117_at | 0.007319149 | peroxisomal membrane protein 4 |
| 1371065_at | 0.007666667 | similar to RT1 class II histocompatibility antigen, B-1 beta chain precursor (RT1.B-beta(1)) /// RT1 class II, locus Bb |
| 1384180_at | 0.007510204 | interferon-induced protein with tetratricopeptide repeats 2 |
| 1382462_at | 0.0076 | L-2-hydroxyglutarate dehydrogenase |
| 1369953_a_at | 0.008039216 | CD24 molecule |
| 1377015_at | 0.008076923 | --- |
| 1376632_at | 0.008301887 | LIM and cysteine-rich domains 1 |
| 1369502_a_at | 0.008185185 | amylase, alpha 1A (salivary) /// amylase 2, pancreatic |
| 1388732_at | 0.009127273 | solute carrier family 35, member F5 |
| 1382454_at | 0.008964286 | chemokine (C-X-C motif) ligand 9 |
| 1370359_at | 0.009403509 | amylase, alpha 1A (salivary) |
| 1390529_at | 0.00962069 | CD83 molecule |
| 1373710_at | 0.009525424 | --- |
| 1373992_at | 0.009733333 | similar to interferon-inducible GTPase /// similar to MGC108823 protein |
| 1390391_at | 0.009803279 | --- |
| 1373759_at | 0.009774194 | FBJ osteosarcoma oncogene B |
| 1369415_at | 0.010793651 | basic helix-loop-helix family, member e40 |
| 1370912_at | 0.01065625 | heat shock 70kD protein 1A |
| 1379483_at | 0.010676923 | --- |
| 1389436_at | 0.01069697 | zinc finger, MYND-type containing 17 |
| 1397808_at | 0.010537313 | --- |
| 1397141_at | 0.010852941 | --- |
| 1398306_at | 0.011826087 | adenosine monophosphate deaminase 1 |
| 1370428_x_at | 0.0118 | RT1 class Ia, locus A2 /// RT1 class I, locus A3 /// RT1 class Ib, locus EC2 |
| 1372585_at | 0.011774648 | uncharacterized LOC100910973 |
| 1367749_at | 0.012444444 | lumican |
| 1387770_at | 0.013479452 | interferon, alpha-inducible protein 27 |
| 1370165_at | 0.013972973 | small muscle protein, X-linked |
| 1368127_at | 0.01384 | sialidase 2 (cytosolic sialidase) |
| 1374226_at | 0.014421053 | procollagen, type VII, alpha 1 |
| 1383981_at | 0.014285714 | tumor protein p53 binding protein, 2 |
| 1383610_at | 0.014410256 | Eyes absent homolog 2 (Drosophila) |
| 1387788_at | 0.014278481 | jun B proto-oncogene |
| 1379906_at | 0.01495 | ATPase, Na+/K+ transporting, beta 2 polypeptide |
| 1389142_at | 0.014864198 | sulfide quinone reductase-like (yeast) |
| 1390557_at | 0.014731707 | grancalcin |
| 1367700_at | 0.015445783 | fibromodulin |
| 1374696_at | 0.015904762 | --- |
| 1389734_x_at | 0.015835294 | RT1 class I histocompatibility antigen, AA alpha chain-like /// RT1 class I, locus T24, gene 4 |
| 1373544_at | 0.017465116 | chemokine (C-X-C motif) ligand 9 |
| 1386935_at | 0.017517241 | nuclear receptor subfamily 4, group A, member 1 |
| 1378252_at | 0.020159091 | chondrolectin |
| 1388578_at | 0.020089888 | similar to B0432.8 |
| 1375911_at | 0.0202 | glycerophosphocholine phosphodiesterase GDE1 homolog (S. cerevisiae) |
| 1388347_at | 0.020065934 | lymphocyte antigen 6 complex, locus E |
| 1368332_at | 0.020347826 | guanylate binding protein 2, interferon-inducible |
| 1370186_at | 0.020580645 | proteasome (prosome, macropain) subunit, beta type 9 (large multifunctional peptidase 2) |
| 1373535_at | 0.021085106 | enabled homolog (Drosophila) |
| 1389355_at | 0.020905263 | immediate early response 5 |
| 1385051_at | 0.020833333 | guanylate binding protein 4 |
| 1387870_at | 0.021154639 | zinc finger protein 36 |
| 1371412_a_at | 0.021244898 | neuronal regeneration related protein |
| 1389402_at | 0.021979798 | cysteine-serine-rich nuclear protein 1 |
| 1387127_at | 0.02214 | attractin |
| 1392637_at | 0.022336634 | --- |
| 1388541_at | 0.022368932 | --- |
| 1387946_at | 0.022461538 | lectin, galactoside-binding, soluble, 3 binding protein |
| 1391643_at | 0.022780952 | --- |
| 1388138_at | 0.023490566 | thrombospondin 4 |
| 1390687_at | 0.023813084 | pleckstrin |
| 1367577_at | 0.023833333 | heat shock protein 1 |
| 1390776_at | 0.025761468 | 2'-5' oligoadenylate synthetase 1A |
| 1371152_a_at | 0.025690909 | --- |
| 1373873_at | 0.025747748 | --- |
| 1388802_at | 0.026232143 | brain expressed, X-linked 1 /// protein BEX1-like |
| 1374425_at | 0.026371681 | transducin-like enhancer of split 1 (E(sp1) homolog, Drosophila) |
| 1374429_at | 0.026280702 | --- |
| 1387074_at | 0.02613913 | regulator of G-protein signaling 2 |
| 1395266_at | 0.027068966 | --- |
| 1381812_at | 0.026871795 | --- |
| 1368308_at | 0.02759322 | myelocytomatosis oncogene |
| 1382902_at | 0.027445378 | hect domain and RLD 6 |
| 1370047_at | 0.0276 | ectonucleotide pyrophosphatase/phosphodiesterase 1 |
| 1388194_at | 0.028016529 | --- |
| 1393880_at | 0.028803279 | --- |
| 1373032_at | 0.028699187 | musculoskeletal, embryonic nuclear protein 1 |
| 1374904_at | 0.029 | SIX homeobox 1 |
| 1374060_at | 0.03032 | --- |
| 1386420_at | 0.030301587 | --- |
| 1378032_at | 0.030440945 | nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, zeta |
| 1379285_at | 0.030578125 | receptor (chemosensory) transporter protein 4 |
| 1389573_at | 0.031658915 | ChaC, cation transport regulator homolog 1 (E. coli) |
| 1370856_at | 0.031553846 | smooth muscle alpha-actin /// actin, alpha, cardiac muscle 1 |
| 1379568_at | 0.031681818 | interferon-induced protein with tetratricopeptide repeats 2 |
| 1388496_at | 0.032345865 | filamin C, gamma |
| 1383516_at | 0.032373134 | fibrinogen-like 2 |
| 1382958_at | 0.032785185 | uncoupling protein 3 (mitochondrial, proton carrier) |
| 1391463_at | 0.032897059 | DEAD (Asp-Glu-Ala-Asp) box polypeptide 58 |
| 1368426_at | 0.033270073 | carnitine O-octanoyltransferase |
| 1384422_at | 0.035318841 | --- |
| 1388486_at | 0.035151079 | dipeptidylpeptidase 8 |
| 1386637_at | 0.035285714 | fibrinogen-like 2 |
| 1368280_at | 0.036978723 | cathepsin C |
| 1377744_at | 0.037830986 | --- |
| 1398365_at | 0.038307692 | tubulin polymerization-promoting protein family member 3 |
| 1371423_at | 0.039388889 | mitochondrial ribosomal protein L41 |
| 1368325_at | 0.039586207 | epidermal growth factor /// pro-epidermal growth factor-like |
| 1368519_at | 0.040616438 | serpin peptidase inhibitor, clade E (nexin, plasminogen activator inhibitor type 1), member 1 |
| 1374778_at | 0.040829932 | cathepsin C |
| 1373647_at | 0.041013514 | family with sequence similarity 134, member B /// zinc finger protein 622 |
| 1391524_at | 0.041181208 | similar to WD repeat domain 11 protein |
| 1390174_at | 0.040973333 | Echinoderm microtubule associated protein like 1 |
| 1397119_at | 0.041695364 | --- |
| 1380387_at | 0.042855263 | forkhead box P2 |
| 1378857_at | 0.043934641 | hypothetical protein LOC680282 |
| 1387316_at | 0.043831169 | chemokine (C-X-C motif) ligand 1 (melanoma growth stimulating activity, alpha) |
| 1368279_at | 0.044051613 | myeloid/lymphoid or mixed-lineage leukemia (trithorax homolog, Drosophila); translocated to, 3 |
| 1370913_at | 0.043974359 | radical S-adenosyl methionine domain containing 2 |
| 1388912_at | 0.043732484 | REX4, RNA exonuclease 4 homolog (S. cerevisiae) |
| 1378586_at | 0.043518987 | cytokine inducible SH2-containing protein |
| 1377950_at | 0.045069182 | similar to interferon-inducible GTPase |
| 1371785_at | 0.045275 | tumor necrosis factor receptor superfamily, member 12a |
| 1384841_at | 0.046397516 | --- |
| 1368144_at | 0.046197531 | regulator of G-protein signaling 2 |
| 1386960_at | 0.047190184 | solute carrier family 37 (glucose-6-phosphate transporter), member 4 |
| 1388689_at | 0.048256098 | acylphosphatase 2, muscle type |

Table S2 Downregulated genes list

| Probe set ID | FDR(AAM > WPH) | Gene Title |
|--------------|----------------|---|
| 1388071_x_at | 0 | RT1 class Ib, locus EC2 |
| 1367928_at | 0.001 | myosin, heavy chain 7, cardiac muscle, beta |
| 1387348_at | 0.001333333 | insulin-like growth factor binding protein 5 |
| 1388202_at | 0.0015 | RT1 class Ib, locus EC2 |
| 1398479_at | 0.001714286 | --- |
| 1369663_at | 0.002 | epoxide hydrolase 2, cytoplasmic |
| 1370806_at | 0.0024 | retinol saturase (all trans retinol 13,14 reductase) |
| 1381722_at | 0.0035 | perlipin 5 |
| 1393842_at | 0.003555556 | coiled-coil domain containing 77 |
| 1368092_at | 0.007375 | fumarylacetoacetate hydrolase |
| 1381997_at | 0.0076 | adiponectin, C1Q and collagen domain containing |
| 1395829_at | 0.007866667 | --- |
| 1398248_s_at | 0.008142857 | myosin, heavy chain 6, cardiac muscle, alpha /// myosin, heavy chain 7, cardiac muscle, beta |
| 1388203_x_at | 0.008363636 | RT1 class I, locus CE11-like /// RT1 class I, locus A3 /// RT1 class I, locus CE10 /// RT1 class I, locus CE2 /// RT1 class Ib, locus EC2 |
| 1388557_at | 0.008615385 | tubulin, beta 4B class IVb |
| 1370960_at | 0.008666667 | insulin-like growth factor binding protein 5 |
| 1389538_at | 0.009904762 | nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, alpha |
| 1383291_at | 0.010363636 | tubulin, beta 4B class IVb |
| 1389121_at | 0.0104 | --- |
| 1397905_at | 0.010434783 | --- |
| 1372213_at | 0.010842105 | similar to hypothetical protein MGC6835 |
| 1388884_at | 0.011333333 | enoyl-Coenzyme A delta isomerase 3 |
| 1393795_at | 0.01216 | zinc finger E-box binding homeobox 2 |
| 1376296_at | 0.013307692 | rCG32064-like |
| 1371015_at | 0.015354839 | myxovirus (influenza virus) resistance 1 |
| 1370463_x_at | 0.0155625 | RT1 class I, locus CE16 |
| 1382950_at | 0.015733333 | similar to guanylate binding protein family, member 6 |
| 1380948_at | 0.016074074 | --- |
| 1376029_at | 0.016206897 | --- |
| 1390414_at | 0.016785714 | similar to hypothetical protein |
| 1386128_at | 0.019333333 | tetranectin-like |
| 1378419_at | 0.019588235 | ribonuclease, RNase A family, 2 (liver, eosinophil-derived neurotoxin) |
| 1397164_at | 0.019657143 | --- |
| 1368025_at | 0.020487805 | DNA-damage-inducible transcript 4 |
| 1386993_at | 0.020717949 | myosin, heavy chain 7, cardiac muscle, beta |
| 1398390_at | 0.021027027 | chemokine (C-X-C motif) ligand 13 |
| 1375519_at | 0.021263158 | globin, alpha |
| 1385444_at | 0.021333333 | --- |
| 1371113_a_at | 0.025428571 | transferrin receptor |
| 1380407_at | 0.026697674 | similar to HTGN29 protein; keratinocytes associated transmembrane protein 2 |
| 1371354_at | 0.026708333 | troponin C type 1 (slow) |
| 1387391_at | 0.027130435 | cyclin-dependent kinase inhibitor 1A |
| 1396472_at | 0.027191489 | --- |
| 1377334_at | 0.02736 | RT1 class II, locus Ba |
| 1388792_at | 0.027466667 | growth arrest and DNA-damage-inducible, gamma |
| 1371400_at | 0.027591837 | thyroid hormone responsive |
| 1388750_at | 0.027686275 | transferrin receptor |
| 1388602_at | 0.030153846 | complement factor D (adipsin) |
| 1390284_at | 0.030962963 | coiled-coil domain containing 77 |
| 1367612_at | 0.031433962 | microsomal glutathione S-transferase 1 |
| 1370150_a_at | 0.032545455 | thyroid hormone responsive |
| 1371390_at | 0.033157895 | tubulin, beta 4A class IVa /// tubulin, beta 4B class IVb |
| 1370412_at | 0.033214286 | troponin T type 1 (skeletal, slow) |
| 1379238_at | 0.033310345 | CTD (carboxy-terminal domain, RNA polymerase II, polypeptide A) small phosphatase-like |
| 1383358_at | 0.03379661 | A kinase (PRKA) anchor protein 1 |
| 1386873_at | 0.036655738 | troponin I type 1 (skeletal, slow) |
| 1394803_at | 0.036677419 | vacuolar protein sorting 52 homolog (S. cerevisiae) |
| 1371136_at | 0.036866667 | protein phosphatase, Mg2+/Mn2+ dependent, 1B |
| 1372700_at | 0.036920635 | --- |
| 1374897_at | 0.040123077 | THO complex 4 |
| 1391822_at | 0.04053125 | --- |
| 1392583_at | 0.041850746 | --- |
| 1374391_at | 0.042121212 | sarcolipin |
| 1371735_at | 0.044231884 | --- |
| 1393990_at | 0.044764706 | zinc finger protein 503 |
| 1369986_at | 0.046457143 | hydroxyacyl glutathione hydrolase |
| 1368317_at | 0.047126761 | aquaporin 7 |
| 1383189_at | 0.047178082 | --- |
| 1389694_at | 0.047555556 | kyphoscoliosis peptidase |
| 1375445_at | 0.048405405 | kyphoscoliosis peptidase |