**Additional file 1 The top 50 upregulated and downregulated genes**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Gene | LogFC | P.Value | adj.P.Val | Type |
| OLFM4 | 175.5043 | 0.000438 | 0.006051 | Upregulation |
| SPINK1 | 37.60656 | 0.009454 | 0.046816 | Upregulation |
| NOS2 | 35.9895 | 1.03E-05 | 0.000522 | Upregulation |
| DMBT1 | 26.96683 | 0.010115 | 0.049279 | Upregulation |
| LCN2 | 24.66326 | 1.04E-05 | 0.000525 | Upregulation |
| S100A8 | 19.59803 | 0.005306 | 0.031343 | Upregulation |
| CXCL9 | 17.95895 | 0.00549 | 0.032074 | Upregulation |
| SPARCL1 | 16.27782 | 0.001779 | 0.015213 | Upregulation |
| UBD | 15.59469 | 0.002797 | 0.020568 | Upregulation |
| FOLH1B | 14.44046 | 0.00166 | 0.014578 | Upregulation |
| FOLH1 | 13.22671 | 0.000682 | 0.00807 | Upregulation |
| GBP5 | 12.28007 | 0.00028 | 0.004601 | Upregulation |
| CD163 | 11.76457 | 0.003482 | 0.023762 | Upregulation |
| REG1B | 11.01346 | 0.001226 | 0.01191 | Upregulation |
| FGL2 | 10.48775 | 0.000113 | 0.002498 | Upregulation |
| TMC5 | 10.27698 | 2.06E-05 | 0.000816 | Upregulation |
| FCGR3A | 10.06466 | 0.000384 | 0.005605 | Upregulation |
| HLA-DRB5 | 9.752147 | 0.002951 | 0.021359 | Upregulation |
| GPR128 | 8.684378 | 0.006363 | 0.035543 | Upregulation |
| HLA-DPA1 | 8.654305 | 0.001048 | 0.010705 | Upregulation |
| IGHA1 | 8.621331 | 0.000262 | 0.004388 | Upregulation |
| CYP2C18 | 8.314133 | 0.008825 | 0.044672 | Upregulation |
| CASP1 | 7.711185 | 1.52E-05 | 0.000674 | Upregulation |
| LOC100653245 | 7.708255 | 4.25E-05 | 0.001307 | Upregulation |
| REG4 | 7.562366 | 0.002556 | 0.019389 | Upregulation |
| CCL11 | 7.500031 | 3.55E-05 | 0.00116 | Upregulation |
| PLA2G2A | 7.456301 | 0.004099 | 0.026483 | Upregulation |
| DUOX2 | 6.933548 | 6.66E-06 | 0.000389 | Upregulation |
| HLA-DQB2 | 6.762026 | 0.00432 | 0.027405 | Upregulation |
| GZMB | 6.375012 | 0.002114 | 0.016963 | Upregulation |
| HKDC1 | 6.047958 | 0.000407 | 0.005769 | Upregulation |
| LOC100287723 | 5.961558 | 0.006862 | 0.037622 | Upregulation |
| SLAMF8 | 5.876836 | 0.001463 | 0.013387 | Upregulation |
| CLC | 5.705421 | 0.000353 | 0.005313 | Upregulation |
| LOC100131733 | 5.70376 | 1.46E-06 | 0.000144 | Upregulation |
| CPA3 | 5.692616 | 0.000479 | 0.0064 | Upregulation |
| MUC13 | 5.673209 | 0.009268 | 0.046278 | Upregulation |
| GIMAP4 | 5.629715 | 0.000554 | 0.007071 | Upregulation |
| MNDA | 5.513016 | 0.003898 | 0.025628 | Upregulation |
| CD74 | 5.337754 | 0.000675 | 0.008009 | Upregulation |
| IDO1 | 5.300404 | 0.001987 | 0.016325 | Upregulation |
| SLC40A1 | 5.260933 | 0.000573 | 0.007237 | Upregulation |
| CCR5 | 5.170512 | 0.000119 | 0.002611 | Upregulation |
| CCRL1 | 5.07584 | 5.56E-05 | 0.001581 | Upregulation |
| GBP3 | 4.91716 | 0.000407 | 0.005769 | Upregulation |
| APOBEC1 | 4.871658 | 0.009354 | 0.046534 | Upregulation |
| HDC | 4.725324 | 0.000728 | 0.008391 | Upregulation |
| LOC642838 | 4.69913 | 0.004382 | 0.027636 | Upregulation |
| VNN1 | 4.517397 | 0.001071 | 0.010832 | Upregulation |
| C2CD4B | 4.467809 | 0.000212 | 0.00383 | Upregulation |
| CHP2 | -68.0898 | 0.002142 | 0.0171 | Downregulation |
| FABP1 | -48.3205 | 0.001464 | 0.01339 | Downregulation |
| FAM55A | -21.5619 | 0.001775 | 0.015193 | Downregulation |
| ADH1C | -19.6256 | 0.003415 | 0.023427 | Downregulation |
| FAM55D | -15.3316 | 0.007328 | 0.039353 | Downregulation |
| HSD11B2 | -10.3221 | 0.00014 | 0.002884 | Downregulation |
| FXYD3 | -9.3917 | 0.001378 | 0.012857 | Downregulation |
| CLDN8 | -8.54747 | 1.13E-05 | 0.000556 | Downregulation |
| IL1R2 | -8.28846 | 6.01E-05 | 0.001661 | Downregulation |
| GPRIN2 | -8.24043 | 0.000156 | 0.003093 | Downregulation |
| PRR15 | -7.05293 | 0.000842 | 0.009226 | Downregulation |
| TMEM125 | -6.60834 | 4.07E-05 | 0.001266 | Downregulation |
| PRAC | -6.39187 | 0.000731 | 0.008417 | Downregulation |
| MT1JP | -6.32549 | 0.001059 | 0.010755 | Downregulation |
| PKIB | -6.27315 | 0.004892 | 0.029743 | Downregulation |
| FAM101A | -5.72162 | 7.78E-07 | 9.77E-05 | Downregulation |
| PDE6A | -5.6389 | 0.000177 | 0.00337 | Downregulation |
| SPON1 | -5.53906 | 0.006973 | 0.038066 | Downregulation |
| TNNC2 | -5.36033 | 2.85E-06 | 0.000218 | Downregulation |
| MT1M | -4.78076 | 0.003745 | 0.024977 | Downregulation |
| AHCYL2 | -4.73845 | 0.000147 | 0.002977 | Downregulation |
| GUCA2B | -4.54059 | 0.00177 | 0.01517 | Downregulation |
| LOC389023 | -4.33985 | 1.70E-06 | 0.000159 | Downregulation |
| PIGZ | -4.29756 | 0.000604 | 0.007475 | Downregulation |
| DIO3OS | -4.24142 | 4.57E-08 | 1.90E-05 | Downregulation |
| SLC16A9 | -4.17948 | 0.000384 | 0.005605 | Downregulation |
| ABLIM2 | -4.1478 | 5.03E-05 | 0.001466 | Downregulation |
| ADH1A | -4.0422 | 0.006301 | 0.035278 | Downregulation |
| TRPM6 | -3.74752 | 0.004885 | 0.029727 | Downregulation |
| LGALS3 | -3.72324 | 7.92E-06 | 0.000445 | Downregulation |
| KLK1 | -3.54941 | 5.67E-05 | 0.001603 | Downregulation |
| SELENBP1 | -3.38813 | 0.001669 | 0.014622 | Downregulation |
| HSPB3 | -3.27093 | 6.43E-05 | 0.00174 | Downregulation |
| VAV3 | -3.20851 | 1.21E-06 | 0.000126 | Downregulation |
| CNNM4 | -3.20048 | 0.0024 | 0.018568 | Downregulation |
| PCK1 | -3.16544 | 0.006355 | 0.035524 | Downregulation |
| TDP2 | -3.13381 | 0.002431 | 0.018738 | Downregulation |
| FOXD2 | -3.08332 | 0.000576 | 0.00725 | Downregulation |
| VDR | -3.03959 | 0.001133 | 0.011279 | Downregulation |
| WFDC2 | -2.88018 | 3.19E-05 | 0.001093 | Downregulation |
| PAG1 | -2.87037 | 9.16E-07 | 0.000107 | Downregulation |
| HES5 | -2.74609 | 0.001658 | 0.014575 | Downregulation |
| RHBDL2 | -2.71925 | 0.008228 | 0.042609 | Downregulation |
| PLCE1 | -2.7018 | 0.001804 | 0.015353 | Downregulation |
| XIST | -2.70061 | 0.009414 | 0.046705 | Downregulation |
| PAPSS2 | -2.62169 | 0.001855 | 0.01559 | Downregulation |
| HOXB13 | -2.48028 | 0.000699 | 0.008168 | Downregulation |
| NAAA | -2.38843 | 7.27E-05 | 0.00189 | Downregulation |
| FRZB | -2.3821 | 0.010129 | 0.049338 | Downregulation |
| TCEA3 | -2.33561 | 0.000933 | 0.009919 | Downregulation |