Supplementary Information for:

# Gene expression studies of a human monocyte cell line identify dissimilarities between differently manufactured glatiramoids

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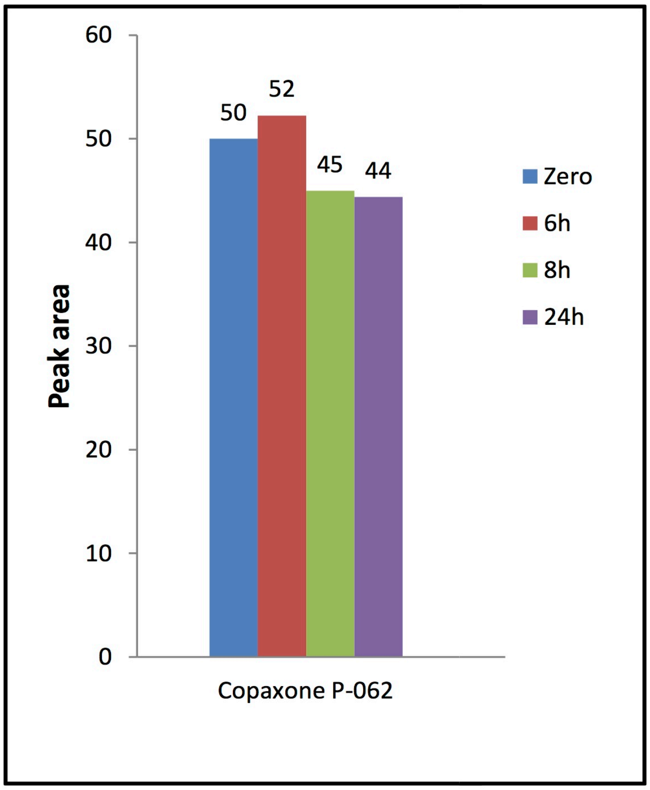
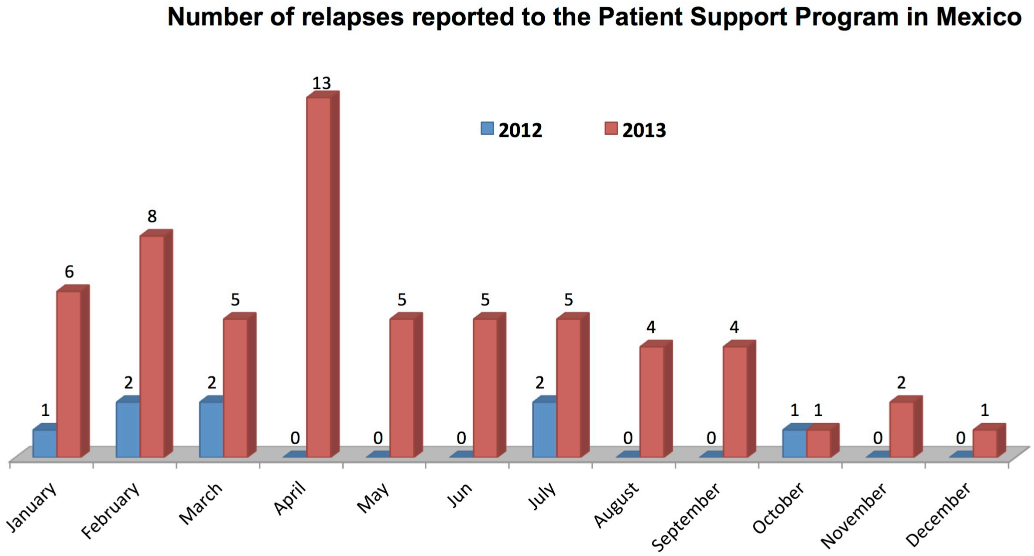
## SUPPLEMENTARY FIGURE 1

Levels of Copaxone measured over time in cell culture medium:

Copaxone concentration in medium over time remains steady in the range of 44-52 µg/mL over 24 hours.



## SUPPLEMENTARY FIGURE 2



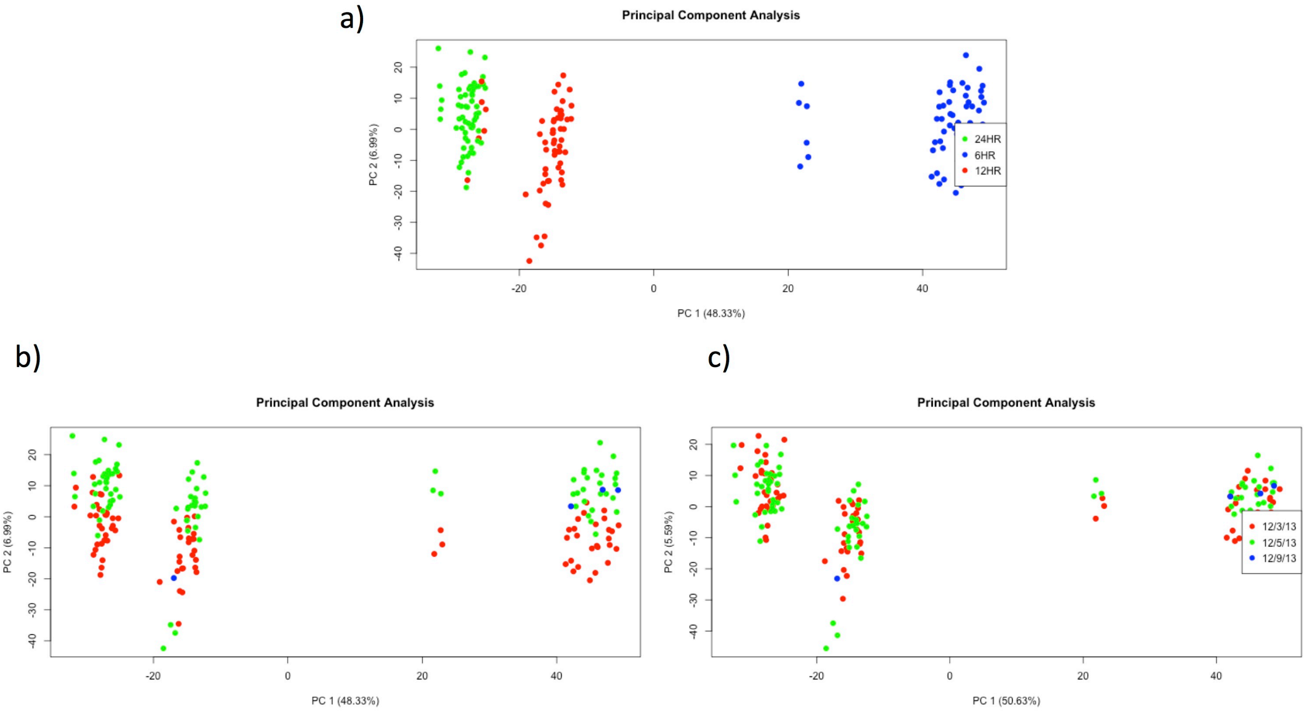
Number of relapses reported to the Patient Support Program in Mexico

## SUPPLEMENTARY FIGURE 3

a) First Principal Component accounts for experimental factor (Treatment Time (6,12, 24 hours))

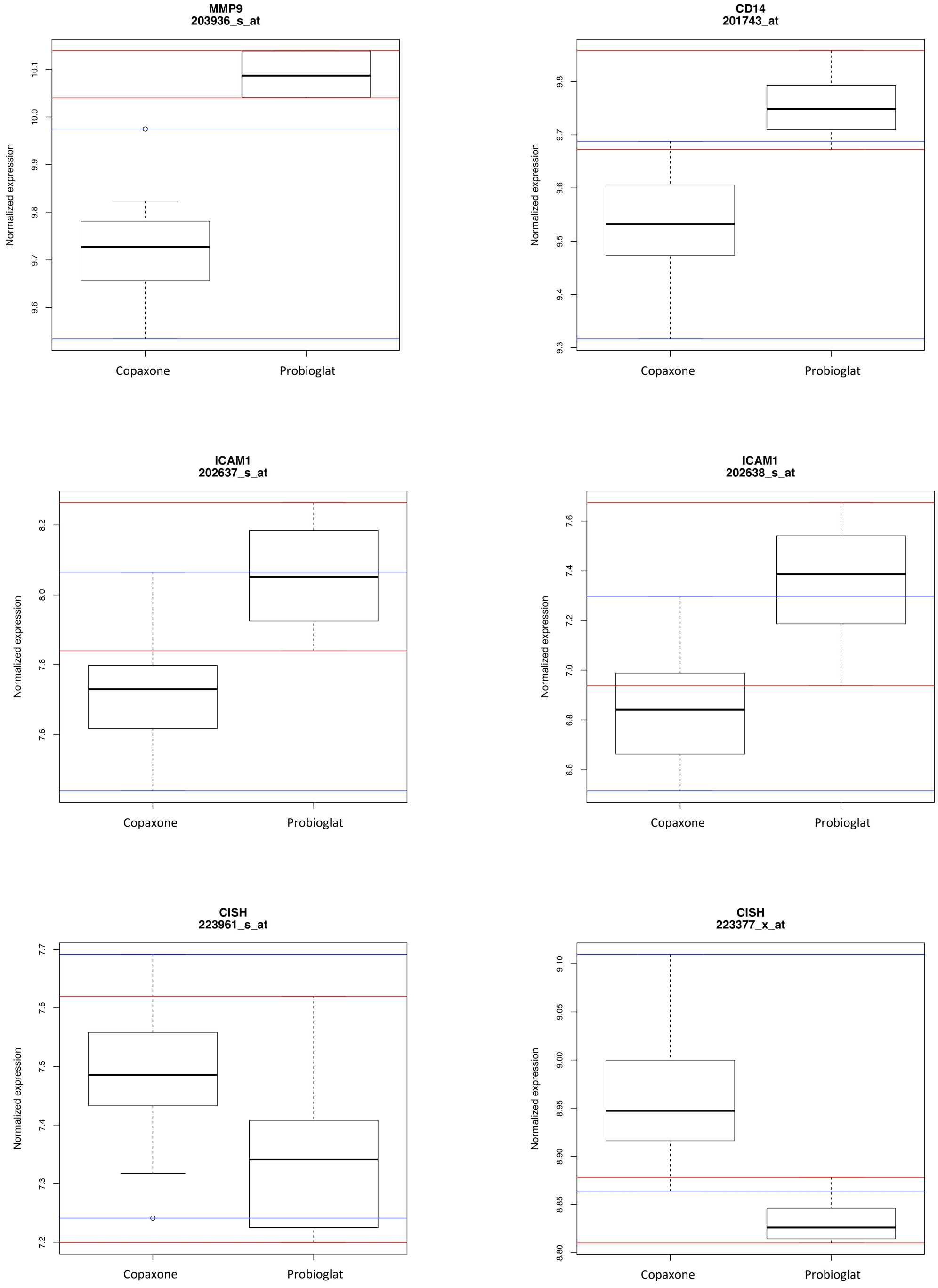
b) PCA demonstrates batch effect correction required for scan date; legend as in (c)

c) After batch correction, PCA shows more uniform distribution of scan dates



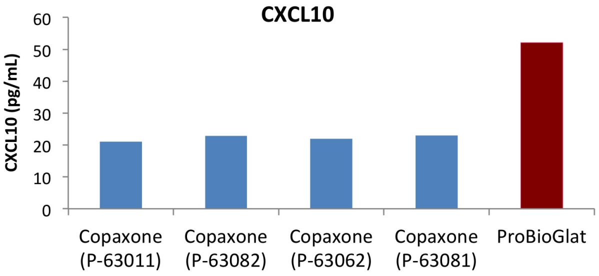
# SUPPLEMENTARY FIGURE 4

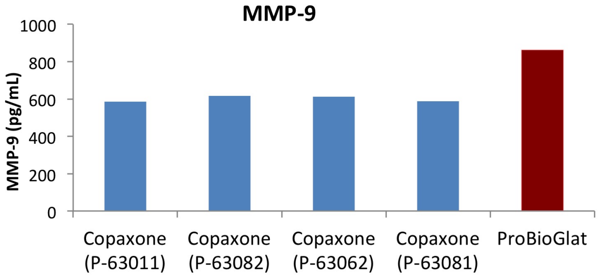
Boxplots showing maximum and minimum expression values for Probioglat (red lines) and Copaxone (blue lines)

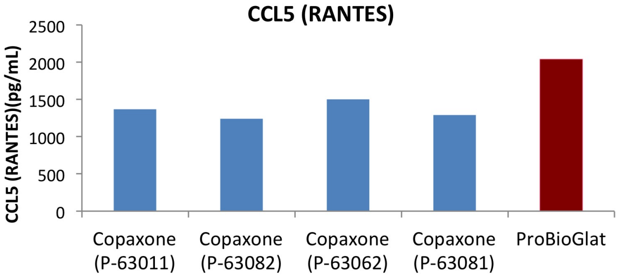


# SUPPLEMENTARY FIGURE 5

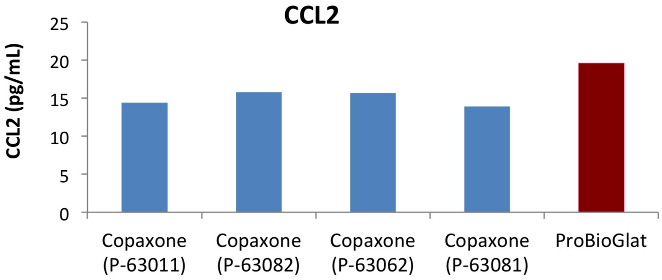
CCL5, CXCL10 and MMP-9 protein levels are higher with Probioglat vs Copaxone at 24 hr, consistent with mRNA level observations by RT-PCR and microarray in THP-1 cells.

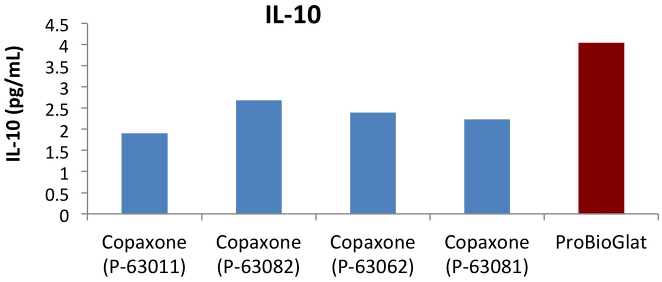






CCL2 and IL-10 protein levels are higher with Probioglat vs Copaxone at 24 hr, consistent with mRNA level observations by microarray (not tested by RT-PCR in THP-1 cells).





## SUPPLEMENTARY TABLE 1

Probesets significantly modulated by GA relative to mannitol control at 6 hours:
(probesets subject to cutoffs of |FC|>1.5 and p-value<1e-5 are shown)

Upregulated:

| ID | Gene | raw.FC | AveExpr | P.Value | adj.P.Val |
|---|---|---|---|---|---|
| 201005_at | CD9 | 3.77232321 | 10.8126963 | 1.14E-34 | 6.23E-30 |
| 206835_at | STATH | 7.52573433 | 10.4825707 | 1.00E-33 | 2.74E-29 |
| 1553982_a_at | RAB7B | 2.26468475 | 11.7452289 | 1.26E-31 | 2.30E-27 |
| 242871_at | PAQR5 | 3.9374814 | 9.90015385 | 7.51E-31 | 1.01E-26 |
| 1555759_a_at | CCL5 | 2.21501539 | 13.5769189 | 9.21E-31 | 1.01E-26 |
| 228766_at | --- | 2.3291844 | 10.5559717 | 3.35E-30 | 3.06E-26 |
| 209555_s_at | CD36 | 2.44281389 | 9.32514677 | 7.64E-29 | 5.66E-25 |
| 203939_at | NT5E | 5.3338766 | 8.32269063 | 8.29E-29 | 5.66E-25 |
| 208789_at | PTRF | 2.82016222 | 9.15275301 | 1.88E-28 | 1.14E-24 |
| 230266_at | RAB7B | 2.23824891 | 11.7520076 | 2.34E-28 | 1.28E-24 |
| 206488_s_at | CD36 | 2.15872949 | 10.8868374 | 3.67E-28 | 1.83E-24 |
| 208121_s_at | PTPRO | 2.14699192 | 9.81795145 | 4.30E-28 | 1.96E-24 |
| 203037_s_at | MTSS1 | 3.1858517 | 11.4020576 | 7.89E-28 | 3.32E-24 |
| 1405_i_at | CCL5 | 2.29122708 | 13.3028093 | 2.79E-27 | 1.06E-23 |
| 204655_at | CCL5 | 2.25036905 | 13.1626051 | 2.90E-27 | 1.06E-23 |
| 206171_at | ADORA3 | 2.10036549 | 10.0753041 | 3.42E-27 | 1.17E-23 |
| 219386_s_at | SLAMF8 | 2.98872777 | 10.0302719 | 3.80E-27 | 1.22E-23 |
| 226218_at | --- | 3.50148157 | 7.21345525 | 1.83E-26 | 5.55E-23 |
| 218559_s_at | MAFB | 2.64025573 | 12.4234341 | 3.40E-26 | 9.78E-23 |
| 223125_s_at | C1ORF21 | 2.21866076 | 11.0023707 | 4.15E-26 | 1.13E-22 |
| 203887_s_at | THBD | 1.79337816 | 12.8191102 | 4.45E-26 | 1.15E-22 |
| 227265_at | KIAA1505 | 2.50321069 | 9.85031558 | 4.61E-26 | 1.15E-22 |
| 205495_s_at | GNLY | 2.40116081 | 7.73128126 | 5.34E-26 | 1.27E-22 |
| 216250_s_at | LPXN | 2.1444933 | 11.2374219 | 1.42E-25 | 3.23E-22 |
| 237252_at | THBD | 2.06547107 | 9.51011605 | 2.22E-25 | 4.86E-22 |
| 235457_at | MAML2 | 2.62488399 | 8.91497905 | 5.79E-25 | 1.22E-21 |
| 225171_at | ARHGAP18 | 1.83225951 | 10.7080346 | 6.66E-25 | 1.35E-21 |
| 204684_at | NPTX1 | 2.87807656 | 10.9346668 | 1.40E-24 | 2.74E-21 |
| 230925_at | APBB1IP | 1.94283823 | 12.7655513 | 2.02E-24 | 3.81E-21 |
| 201590_x_at | ANXA2 | 1.68959054 | 13.1436175 | 3.46E-24 | 6.31E-21 |
| 206157_at | PTX3 | 1.98670615 | 11.2102165 | 3.62E-24 | 6.38E-21 |
| 216080_s_at | FADS3 | 2.27239911 | 9.71739825 | 3.75E-24 | 6.39E-21 |
| 221463_at | CCL24 | 3.58807723 | 8.40481021 | 3.93E-24 | 6.39E-21 |
| 210427_x_at | ANXA2 | 1.67415609 | 13.1118777 | 3.98E-24 | 6.39E-21 |

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|---|---|---|---|---|---|
| 213503_x_at | ANXA2 | 1.72399354 | 13.1135447 | 4.18E-24 | 6.51E-21 |
| 238681_at | GDPD1 | 2.92185146 | 7.19901556 | 4.29E-24 | 6.51E-21 |
| 202458_at | PRSS23 | 2.98100135 | 7.79000143 | 5.03E-24 | 7.43E-21 |
| 203761_at | SLA | 1.78030673 | 11.2608124 | 6.52E-24 | 9.38E-21 |
| 1558397_at | --- | 2.20691751 | 9.17869031 | 8.35E-24 | 1.17E-20 |
| 214054_at | DOK2 | 1.67191836 | 12.2431311 | 8.80E-24 | 1.20E-20 |
| 228937_at | C13ORF31 | 2.42816683 | 9.90878354 | 9.66E-24 | 1.29E-20 |
| 211676_s_at | IFNGR1 | 1.64276331 | 12.0995889 | 1.08E-23 | 1.41E-20 |
| 230966_at | IL4I1 | 3.68319718 | 10.6065738 | 1.18E-23 | 1.50E-20 |
| 208816_x_at | ANXA2P2 | 1.61606927 | 11.6007732 | 1.33E-23 | 1.66E-20 |
| 204912_at | IL10RA | 1.88097974 | 10.4596073 | 1.53E-23 | 1.83E-20 |
| 220014_at | LOC51334 | 3.95258058 | 6.49298277 | 1.54E-23 | 1.83E-20 |
| 218856_at | TNFRSF21 | 1.97277863 | 11.9973199 | 2.06E-23 | 2.40E-20 |
| 34210_at | CD52 | 1.74841624 | 11.3194919 | 2.57E-23 | 2.92E-20 |
| 211564_s_at | PDLIM4 | 2.13518707 | 9.68326105 | 2.72E-23 | 3.03E-20 |
| 223502_s_at | TNFSF13B | 1.73530598 | 10.5512407 | 2.94E-23 | 3.21E-20 |
| 202727_s_at | IFNGR1 | 1.5463282 | 12.4669611 | 3.25E-23 | 3.48E-20 |
| 201243_s_at | ATP1B1 | 2.26738679 | 11.039008 | 4.33E-23 | 4.56E-20 |
| 209606_at | PSCDBP | 2.53767762 | 8.05776375 | 4.93E-23 | 5.08E-20 |
| 222670_s_at | MAFB | 2.65652588 | 11.7521547 | 6.27E-23 | 6.35E-20 |
| 223394_at | SERTAD1 | 1.65031524 | 9.76915308 | 6.91E-23 | 6.87E-20 |
| 214175_x_at | PDLIM4 | 1.85137891 | 9.80931564 | 8.66E-23 | 8.45E-20 |
| 223660_at | ADORA3 | 1.89720977 | 9.3830598 | 9.01E-23 | 8.64E-20 |
| 203217_s_at | ST3GAL5 | 1.78903169 | 9.10901818 | 1.17E-22 | 1.11E-19 |
| 204257_at | FADS3 | 1.78672893 | 9.74459459 | 1.23E-22 | 1.14E-19 |
| 223398_at | C9ORF89 | 1.54418891 | 11.0771528 | 1.25E-22 | 1.14E-19 |
| 211986_at | AHNAK | 1.64967948 | 12.0209047 | 1.63E-22 | 1.45E-19 |
| 201278_at | DAB2 | 1.56823308 | 9.36397364 | 1.64E-22 | 1.45E-19 |
| 229797_at | MCOLN3 | 2.09980647 | 10.05118 | 2.01E-22 | 1.75E-19 |
| 202284_s_at | CDKN1A | 1.789083 | 11.1500265 | 2.69E-22 | 2.22E-19 |
| 228579_at | --- | 1.73158064 | 8.85026747 | 3.40E-22 | 2.78E-19 |
| 204653_at | TFAP2A | 1.98518712 | 8.32878609 | 5.70E-22 | 4.39E-19 |
| 201952_at | ALCAM | 1.52577304 | 12.9059918 | 6.14E-22 | 4.66E-19 |
| 202087_s_at | CTSL | 1.91284953 | 11.1924209 | 6.47E-22 | 4.84E-19 |
| 208978_at | CRIP2 | 1.99640335 | 10.1060568 | 6.82E-22 | 5.04E-19 |
| 219434_at | TREM1 | 1.77683606 | 11.1148543 | 6.95E-22 | 5.07E-19 |
| 235911_at | MFI2 | 1.81455526 | 10.1578351 | 7.75E-22 | 5.57E-19 |
| 225173_at | ARHGAP18 | 1.85956949 | 10.0159515 | 7.95E-22 | 5.65E-19 |
| 204661_at | CD52 | 1.6752998 | 11.8608631 | 9.08E-22 | 6.28E-19 |
| 202756_s_at | GPC1 | 1.88792383 | 8.93231998 | 9.08E-22 | 6.28E-19 |
| 227240_at | NGEF | 1.97393626 | 9.35225393 | 9.96E-22 | 6.66E-19 |
| 220484_at | MCOLN3 | 2.10889009 | 9.93061659 | 9.98E-22 | 6.66E-19 |

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|---|---|---|---|---|---|
| 214297_at | CSPG4 | 1.98668454 | 8.74794884 | 9.99E-22 | 6.66E-19 |
| 203355_s_at | PSD3 | 1.68707305 | 9.97354098 | 1.13E-21 | 7.47E-19 |
| 212386_at | --- | 1.80977269 | 8.4443852 | 1.22E-21 | 7.91E-19 |
| 201242_s_at | ATP1B1 | 2.36020561 | 10.833866 | 1.62E-21 | 1.03E-18 |
| 203760_s_at | SLA | 1.76467647 | 10.2984296 | 1.71E-21 | 1.07E-18 |
| 204475_at | MMP1 | 4.89045646 | 6.14908101 | 1.97E-21 | 1.21E-18 |
| 228964_at | PRDM1 | 2.42316104 | 9.16116313 | 2.05E-21 | 1.24E-18 |
| 205566_at | ABHD2 | 1.61609464 | 9.56280738 | 2.12E-21 | 1.27E-18 |
| 224990_at | LOC201895 | 1.75486717 | 9.56572435 | 2.15E-21 | 1.28E-18 |
| 214830_at | SLC38A6 | 1.70065597 | 9.60777602 | 2.38E-21 | 1.38E-18 |
| 222876_s_at | CENTA2 | 1.62337809 | 9.52111995 | 3.45E-21 | 1.92E-18 |
| 218501_at | ARHGEF3 | 1.72054917 | 9.02047119 | 3.66E-21 | 2.02E-18 |
| 206134_at | ADAMDEC1 | 1.90734854 | 8.46538539 | 3.83E-21 | 2.10E-18 |
| 219385_at | SLAMF8 | 2.3601546 | 8.87175449 | 4.64E-21 | 2.49E-18 |
| 212298_at | NRP1 | 2.26706147 | 9.0154209 | 5.27E-21 | 2.77E-18 |
| 1556314_a_at | --- | 1.94563197 | 9.96244884 | 5.97E-21 | 3.05E-18 |
| 204834_at | FGL2 | 2.41220628 | 9.04212862 | 7.43E-21 | 3.63E-18 |
| 227052_at | --- | 1.7292497 | 9.65138189 | 8.49E-21 | 4.11E-18 |
| 223501_at | --- | 1.77755998 | 10.4775991 | 9.58E-21 | 4.59E-18 |
| 238669_at | PTGS1 | 1.79526928 | 9.00713066 | 1.52E-20 | 7.11E-18 |
| 203936_s_at | MMP9 | 1.83742157 | 9.54268719 | 2.01E-20 | 9.33E-18 |
| 205128_x_at | PTGS1 | 1.50682893 | 10.8982825 | 2.46E-20 | 1.12E-17 |
| 223019_at | C9ORF88 | 1.71440506 | 9.42451447 | 2.48E-20 | 1.12E-17 |
| 218223_s_at | PLEKHO1 | 1.76062083 | 9.13759715 | 2.55E-20 | 1.14E-17 |
| 226545_at | CD109 | 2.22747108 | 10.1210564 | 2.62E-20 | 1.17E-17 |
| 37145_at | GNLY | 2.52474166 | 7.62618078 | 2.77E-20 | 1.21E-17 |
| 211661_x_at | PTAFR | 1.65459655 | 9.40348625 | 3.20E-20 | 1.39E-17 |
| 223434_at | GBP3 | 1.79281477 | 8.94069901 | 5.65E-20 | 2.39E-17 |
| 221011_s_at | LBH /// LOC653 | 2.14546482 | 7.91354368 | 6.67E-20 | 2.79E-17 |
| 227478_at | LOC284262 | 2.55523487 | 8.16720299 | 7.57E-20 | 3.09E-17 |
| 205933_at | SETBP1 | 2.06852059 | 8.31470678 | 9.65E-20 | 3.88E-17 |
| 223126_s_at | C1ORF21 | 2.0098249 | 9.34926366 | 1.00E-19 | 3.99E-17 |
| 214255_at | ATP10A | 1.87404352 | 8.48741153 | 1.17E-19 | 4.64E-17 |
| 203888_at | THBD | 1.74251135 | 12.1003768 | 1.32E-19 | 5.18E-17 |
| 239761_at | GCNT1 | 1.60737016 | 9.89061934 | 1.78E-19 | 6.90E-17 |
| 205505_at | GCNT1 | 1.68341734 | 9.51667582 | 1.80E-19 | 6.93E-17 |
| 203665_at | HMOX1 | 2.77855009 | 12.0276078 | 1.83E-19 | 7.00E-17 |
| 228490_at | ABHD2 | 1.7612845 | 9.44137483 | 1.92E-19 | 7.27E-17 |
| 213428_s_at | COL6A1 | 1.6365876 | 9.11385826 | 2.21E-19 | 8.27E-17 |
| 202748_at | GBP2 | 2.05214857 | 8.5030424 | 2.71E-19 | 1.01E-16 |
| 63825_at | ABHD2 | 1.60237791 | 9.12592031 | 3.53E-19 | 1.28E-16 |
| 205542_at | STEAP1 | 1.7513289 | 7.91561507 | 4.15E-19 | 1.49E-16 |

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|---|---|---|---|---|---|
| 215813_s_at | PTGS1 | 1.51668643 | 10.9189252 | 4.31E-19 | 1.53E-16 |
| 205891_at | ADORA2B | 1.56662939 | 10.2505629 | 4.70E-19 | 1.66E-16 |
| 218613_at | LOC653754 | 1.55398123 | 9.29556045 | 4.95E-19 | 1.73E-16 |
| 205076_s_at | MTMR11 | 1.59326395 | 11.2341764 | 5.05E-19 | 1.76E-16 |
| 212086_x_at | LMNA | 1.50357006 | 12.1481348 | 5.14E-19 | 1.78E-16 |
| 203104_at | CSF1R | 1.64383545 | 11.9446038 | 5.33E-19 | 1.83E-16 |
| 228368_at | ARHGAP20 | 2.23117651 | 8.70947261 | 5.37E-19 | 1.84E-16 |
| 227889_at | AYTL1 | 1.59282395 | 10.8879284 | 5.43E-19 | 1.84E-16 |
| 203797_at | VSNL1 | 1.7623632 | 9.20419419 | 5.45E-19 | 1.84E-16 |
| 210145_at | PLA2G4A | 1.69920287 | 9.86166848 | 5.50E-19 | 1.84E-16 |
| 220307_at | CD244 | 1.51030196 | 11.2887381 | 6.64E-19 | 2.20E-16 |
| 201280_s_at | DAB2 | 1.6207775 | 8.250618 | 7.03E-19 | 2.30E-16 |
| 205898_at | CX3CR1 | 1.5834422 | 12.3392251 | 7.53E-19 | 2.45E-16 |
| 212171_x_at | VEGF | 1.67886192 | 11.082533 | 8.08E-19 | 2.61E-16 |
| 205419_at | EBI2 | 1.87963971 | 10.3117587 | 8.24E-19 | 2.64E-16 |
| 242794_at | MAML3 | 1.71070972 | 8.2000023 | 8.71E-19 | 2.76E-16 |
| 1553141_at | C13ORF31 | 2.23957531 | 8.21534882 | 9.28E-19 | 2.90E-16 |
| 1556034_s_at | MTMR11 | 1.54656669 | 10.734173 | 9.32E-19 | 2.90E-16 |
| 202436_s_at | CYP1B1 | 2.02651623 | 11.7446834 | 1.35E-18 | 4.08E-16 |
| 205718_at | ITGB7 | 1.61859456 | 10.0388412 | 1.64E-18 | 4.92E-16 |
| 222062_at | IL27RA | 1.84145262 | 8.80213383 | 1.77E-18 | 5.26E-16 |
| 1565752_at | FGD2 | 2.03973925 | 8.7032554 | 1.80E-18 | 5.32E-16 |
| 203140_at | BCL6 | 1.6321005 | 9.84693758 | 1.88E-18 | 5.54E-16 |
| 209568_s_at | RGL1 | 1.79068455 | 9.03375054 | 2.04E-18 | 5.92E-16 |
| 212977_at | CXCR7 | 1.95857569 | 9.06724806 | 2.73E-18 | 7.74E-16 |
| 225809_at | DKFZP564O082 | 2.61498482 | 6.81686881 | 3.21E-18 | 8.90E-16 |
| 223723_at | MFI2 | 1.83918768 | 7.73004392 | 3.45E-18 | 9.49E-16 |
| 204141_at | TUBB2A | 1.92837874 | 7.9645182 | 3.55E-18 | 9.72E-16 |
| 219358_s_at | CENTA2 | 1.61743685 | 10.3689956 | 3.67E-18 | 9.97E-16 |
| 218280_x_at | HIST2H2AA /// | 1.92645343 | 11.1017962 | 3.91E-18 | 1.05E-15 |
| 200884_at | CKB | 1.62119168 | 10.3585418 | 3.91E-18 | 1.05E-15 |
| 213265_at | PGA5 /// LOC6 | 1.54256466 | 9.03735387 | 4.18E-18 | 1.12E-15 |
| 228499_at | PFKFB4 | 1.54265427 | 8.78361163 | 4.58E-18 | 1.22E-15 |
| 214581_x_at | TNFRSF21 | 1.96726151 | 10.3862452 | 5.13E-18 | 1.35E-15 |
| 219256_s_at | SH3TC1 | 1.81211933 | 8.14371592 | 5.59E-18 | 1.46E-15 |
| 227134_at | SYTL1 | 1.63431503 | 10.2085878 | 5.74E-18 | 1.50E-15 |
| 210512_s_at | VEGF | 1.61269337 | 12.1528461 | 5.88E-18 | 1.52E-15 |
| 220066_at | CARD15 | 1.63208119 | 8.81134661 | 6.12E-18 | 1.58E-15 |
| 207610_s_at | EMR2 | 1.96904599 | 7.45239164 | 6.31E-18 | 1.62E-15 |
| 225337_at | ABHD2 | 1.52226303 | 10.585684 | 6.47E-18 | 1.65E-15 |
| 1553906_s_at | FGD2 | 1.56817402 | 11.6738144 | 8.15E-18 | 2.05E-15 |
| 210757_x_at | DAB2 | 1.51596174 | 9.71603785 | 8.84E-18 | 2.22E-15 |

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|---|---|---|---|---|---|
| 205306_x_at | KMO | 1.52538689 | 9.01246744 | 1.07E-17 | 2.64E-15 |
| 203980_at | FABP4 | 2.44504844 | 7.91709543 | 1.14E-17 | 2.81E-15 |
| 205798_at | IL7R | 2.15224639 | 6.90018766 | 1.20E-17 | 2.94E-15 |
| 235299_at | --- | 2.92455443 | 6.38887226 | 1.23E-17 | 2.99E-15 |
| 201422_at | IFI30 | 1.53617841 | 12.1952 | 1.33E-17 | 3.23E-15 |
| 201951_at | ALCAM | 1.56151412 | 11.2835886 | 1.36E-17 | 3.29E-15 |
| 219412_at | RAB38 | 1.69022517 | 7.7984244 | 1.40E-17 | 3.36E-15 |
| 214290_s_at | HIST2H2AA /// | 1.8793137 | 12.5116024 | 1.77E-17 | 4.19E-15 |
| 223092_at | ANKH | 1.74621066 | 9.31182429 | 1.93E-17 | 4.53E-15 |
| 1552553_a_at | CARD12 | 1.8300836 | 8.04038883 | 1.98E-17 | 4.61E-15 |
| 1565754_x_at | FGD2 | 2.05302245 | 8.76658914 | 1.98E-17 | 4.61E-15 |
| 1562475_at | DKFZP686O132 | 1.84932663 | 8.38987825 | 2.25E-17 | 5.18E-15 |
| 202435_s_at | CYP1B1 | 1.96043252 | 11.8853309 | 2.26E-17 | 5.18E-15 |
| 222877_at | NRP2 | 2.43002847 | 6.1162318 | 2.37E-17 | 5.41E-15 |
| 201125_s_at | ITGB5 | 1.55447321 | 9.61610321 | 2.48E-17 | 5.62E-15 |
| 204222_s_at | GLIPR1 | 1.64989211 | 10.4691144 | 3.30E-17 | 7.31E-15 |
| 1553142_at | C13ORF31 | 2.72312753 | 7.05894587 | 3.42E-17 | 7.51E-15 |
| 201279_s_at | DAB2 | 1.51128632 | 9.36621678 | 3.53E-17 | 7.64E-15 |
| 203234_at | UPP1 | 1.74387737 | 9.56780561 | 3.97E-17 | 8.52E-15 |
| 226136_at | --- | 1.5023264 | 9.021618 | 4.37E-17 | 9.27E-15 |
| 206206_at | CD180 | 1.61188665 | 9.82309399 | 6.95E-17 | 1.43E-14 |
| 212387_at | --- | 1.62401877 | 7.80816226 | 1.05E-16 | 2.07E-14 |
| 204268_at | S100A2 | 1.79310512 | 8.64238178 | 1.22E-16 | 2.38E-14 |
| 209122_at | ADFP | 1.61478632 | 13.4092966 | 1.23E-16 | 2.41E-14 |
| 219994_at | APBB1IP | 1.87740546 | 9.6208094 | 1.42E-16 | 2.74E-14 |
| 210095_s_at | IGFBP3 | 2.98798358 | 8.63072598 | 1.43E-16 | 2.74E-14 |
| 227948_at | FGD4 | 1.62553487 | 7.73111329 | 1.54E-16 | 2.92E-14 |
| 243483_at | TRPM8 | 2.13837999 | 7.16652124 | 1.62E-16 | 3.04E-14 |
| 212062_at | ATP9A | 2.12888023 | 7.50745486 | 1.77E-16 | 3.29E-14 |
| 218502_s_at | TRPS1 | 1.61387671 | 8.89822927 | 1.95E-16 | 3.60E-14 |
| 213891_s_at | --- | 1.67207935 | 8.30917084 | 2.03E-16 | 3.68E-14 |
| 200878_at | EPAS1 | 1.51714595 | 9.20362299 | 2.04E-16 | 3.69E-14 |
| 201565_s_at | ID2 | 1.52829092 | 12.7810873 | 2.26E-16 | 4.06E-14 |
| 212190_at | SERPINE2 | 1.92452066 | 9.90116936 | 2.57E-16 | 4.60E-14 |
| 224480_s_at | LPAAT-THETA | 1.96245654 | 8.74709429 | 2.64E-16 | 4.67E-14 |
| 220333_at | PAQR5 | 3.58344803 | 7.84174393 | 2.70E-16 | 4.76E-14 |
| 218589_at | P2RY5 | 1.65149795 | 9.3651465 | 3.00E-16 | 5.23E-14 |
| 225166_at | ARHGAP18 | 1.75622288 | 7.33398136 | 3.29E-16 | 5.64E-14 |
| 226066_at | MITF | 1.750697 | 7.87439597 | 3.35E-16 | 5.73E-14 |
| 221211_s_at | C21ORF7 | 2.08949444 | 5.978895 | 3.41E-16 | 5.80E-14 |
| 225842_at | PHLDA1 | 2.51724542 | 8.55236084 | 3.48E-16 | 5.89E-14 |
| 1554992_at | RASGRF1 | 1.56735654 | 6.94135257 | 3.77E-16 | 6.35E-14 |

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| 225097_at | HIPK2 | 1.50753986 | 10.7130384 | 3.84E-16 | 6.45E-14 |
| 212464_s_at | FN1 | 1.70809888 | 9.26484812 | 4.53E-16 | 7.53E-14 |
| 240076_at | --- | 1.5987436 | 8.40204375 | 4.66E-16 | 7.73E-14 |
| 203798_s_at | VSNL1 | 1.91644457 | 7.87623269 | 4.84E-16 | 7.92E-14 |
| 204575_s_at | MMP19 /// LO | 1.83367508 | 7.70439226 | 4.88E-16 | 7.96E-14 |
| 204465_s_at | INA | 1.60147629 | 8.20221976 | 5.17E-16 | 8.36E-14 |
| 201566_x_at | ID2 /// ID2B | 1.57371123 | 10.7833858 | 5.52E-16 | 8.87E-14 |
| 230360_at | GLDN | 1.98086959 | 6.74193069 | 6.80E-16 | 1.07E-13 |
| 222146_s_at | TCF4 | 1.54556332 | 7.51472351 | 8.25E-16 | 1.28E-13 |
| 224341_x_at | TLR4 | 1.7396424 | 8.97197657 | 8.61E-16 | 1.32E-13 |
| 219637_at | ARMC9 | 1.80286893 | 7.06720581 | 8.87E-16 | 1.35E-13 |
| 211138_s_at | KMO | 1.54711526 | 8.79132849 | 9.12E-16 | 1.38E-13 |
| 202437_s_at | CYP1B1 | 1.80921395 | 12.1893518 | 9.54E-16 | 1.43E-13 |
| 235458_at | HAVCR2 | 2.48536941 | 7.7122454 | 9.75E-16 | 1.46E-13 |
| 203922_s_at | CYBB | 1.58449815 | 10.3814577 | 1.07E-15 | 1.58E-13 |
| 212143_s_at | IGFBP3 | 2.76854721 | 7.92968375 | 1.26E-15 | 1.82E-13 |
| 227716_at | UBXD5 | 1.51942114 | 9.002862 | 1.28E-15 | 1.83E-13 |
| 214211_at | FTH1 | 1.55999567 | 12.4970466 | 1.33E-15 | 1.90E-13 |
| 229004_at | --- | 1.51039984 | 9.12368109 | 1.55E-15 | 2.18E-13 |
| 202609_at | EPS8 | 1.5924097 | 8.52061192 | 1.82E-15 | 2.52E-13 |
| 217757_at | A2M | 1.67532065 | 8.4520092 | 1.98E-15 | 2.73E-13 |
| 1552798_a_at | TLR4 | 1.62695353 | 9.04302518 | 2.09E-15 | 2.88E-13 |
| 57715_at | FAM26B | 1.79873285 | 7.75582627 | 2.40E-15 | 3.27E-13 |
| 226282_at | --- | 1.60485814 | 9.41013847 | 2.84E-15 | 3.80E-13 |
| 222838_at | SLAMF7 | 1.86121844 | 7.05728625 | 3.11E-15 | 4.13E-13 |
| 216442_x_at | FN1 | 1.69780521 | 10.1409361 | 3.73E-15 | 4.87E-13 |
| 201324_at | EMP1 | 2.82050293 | 6.11305975 | 3.81E-15 | 4.94E-13 |
| 210264_at | GPR35 | 1.59109619 | 9.60072153 | 3.91E-15 | 5.05E-13 |
| 222858_s_at | DAPP1 | 1.6313133 | 10.6750257 | 4.54E-15 | 5.78E-13 |
| 209684_at | RIN2 | 2.16288563 | 7.25953396 | 5.48E-15 | 6.84E-13 |
| 201069_at | MMP2 | 1.51386957 | 8.69855532 | 6.09E-15 | 7.55E-13 |
| 204998_s_at | ATF5 | 1.63500149 | 10.6267979 | 6.14E-15 | 7.60E-13 |
| 202434_s_at | CYP1B1 | 2.2027314 | 9.83119314 | 6.94E-15 | 8.52E-13 |
| 205099_s_at | CCR1 | 1.57264838 | 9.76018397 | 7.25E-15 | 8.85E-13 |
| 207233_s_at | MITF | 1.66865012 | 8.30250431 | 8.03E-15 | 9.72E-13 |
| 205552_s_at | OAS1 | 1.79452532 | 7.29881386 | 8.53E-15 | 1.02E-12 |
| 226550_at | --- | 1.79237731 | 7.77105086 | 9.20E-15 | 1.09E-12 |
| 212096_s_at | MTUS1 | 1.62315248 | 8.50418445 | 9.61E-15 | 1.13E-12 |
| 222651_s_at | TRPS1 | 1.5940306 | 10.0878238 | 9.64E-15 | 1.13E-12 |
| 211719_x_at | FN1 | 1.74293625 | 10.1007312 | 9.80E-15 | 1.15E-12 |
| 227609_at | EPSTI1 | 1.73531372 | 7.62913716 | 1.06E-14 | 1.24E-12 |
| 1558105_a_at | --- | 1.89855059 | 6.81046182 | 1.07E-14 | 1.25E-12 |

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| 225207_at | PDK4 | 2.24881528 | 8.76581849 | 1.08E-14 | 1.25E-12 |
| 237160_at | CCDC83 | 2.26816884 | 5.8347316 | 1.15E-14 | 1.33E-12 |
| 211026_s_at | MGLL | 1.80987658 | 8.99536888 | 1.33E-14 | 1.53E-12 |
| 229450_at | --- | 2.07979683 | 6.90012377 | 1.42E-14 | 1.62E-12 |
| 215602_at | FGD2 | 2.01984347 | 7.85983935 | 1.54E-14 | 1.74E-12 |
| 228708_at | RAB27B | 1.75996236 | 8.57078526 | 1.63E-14 | 1.83E-12 |
| 210258_at | RGS13 | 2.4181722 | 5.06675503 | 1.77E-14 | 1.97E-12 |
| 210895_s_at | CD86 | 1.74036933 | 7.80363779 | 1.88E-14 | 2.07E-12 |
| 223672_at | SGIP1 | 1.58033388 | 8.69396513 | 1.96E-14 | 2.14E-12 |
| 210513_s_at | VEGF | 1.62960752 | 9.66705476 | 2.08E-14 | 2.25E-12 |
| 212614_at | ARID5B | 1.64330835 | 6.34592171 | 2.09E-14 | 2.26E-12 |
| 1553995_a_at | NT5E | 2.06345466 | 6.49987213 | 2.17E-14 | 2.32E-12 |
| 233540_s_at | CDK5RAP2 | 1.77928193 | 10.6899414 | 2.34E-14 | 2.48E-12 |
| 204059_s_at | ME1 | 1.78078662 | 11.5066468 | 2.46E-14 | 2.58E-12 |
| 211527_x_at | VEGF | 1.68079685 | 9.90807927 | 2.48E-14 | 2.60E-12 |
| 214724_at | DIXDC1 | 1.55892061 | 7.67060007 | 2.63E-14 | 2.74E-12 |
| 227556_at | NME7 | 2.07486651 | 9.31851129 | 2.92E-14 | 3.02E-12 |
| 237442_at | APBB1IP | 1.97657406 | 7.17373032 | 3.09E-14 | 3.18E-12 |
| 224218_s_at | TRPS1 | 1.52587932 | 8.16882094 | 3.38E-14 | 3.46E-12 |
| 225188_at | RAPH1 | 1.90298066 | 6.31647018 | 3.68E-14 | 3.73E-12 |
| 244414_at | MAML2 | 2.39160043 | 8.05798482 | 3.70E-14 | 3.74E-12 |
| 209906_at | C3AR1 | 1.62034968 | 8.32122922 | 3.73E-14 | 3.76E-12 |
| 210510_s_at | NRP1 | 1.56055098 | 7.3171434 | 3.77E-14 | 3.78E-12 |
| 226629_at | SLC43A2 | 1.57641868 | 8.50211433 | 3.97E-14 | 3.94E-12 |
| 237030_at | ACPP | 1.53890938 | 8.05225501 | 4.15E-14 | 4.10E-12 |
| 213338_at | TMEM158 | 1.73773739 | 10.7585184 | 4.18E-14 | 4.13E-12 |
| 219926_at | POPDC3 | 2.12181972 | 6.63647483 | 5.99E-14 | 5.68E-12 |
| 200897_s_at | PALLD | 1.64882729 | 8.35346573 | 6.07E-14 | 5.74E-12 |
| 208436_s_at | IRF7 | 1.55075885 | 8.74418094 | 6.34E-14 | 5.96E-12 |
| 228438_at | TRPA1 | 1.65933581 | 10.3950167 | 6.81E-14 | 6.30E-12 |
| 227747_at | --- | 1.55198677 | 7.93194342 | 6.84E-14 | 6.32E-12 |
| 1554867_a_at | LOC51334 | 1.86507425 | 7.40812044 | 6.90E-14 | 6.36E-12 |
| 1563445_x_at | CTSLL3 | 1.82851184 | 6.84405898 | 9.09E-14 | 8.12E-12 |
| 242903_at | IFNGR1 | 1.7678462 | 7.97757472 | 9.49E-14 | 8.42E-12 |
| 229900_at | CD109 | 1.54089288 | 8.62103824 | 1.05E-13 | 9.24E-12 |
| 210495_x_at | FN1 | 1.61505134 | 10.0973935 | 1.07E-13 | 9.43E-12 |
| 218854_at | SART2 | 1.54263807 | 8.36626559 | 1.13E-13 | 9.81E-12 |
| 224989_at | --- | 1.78010467 | 7.75893731 | 1.17E-13 | 1.02E-11 |
| 238638_at | SLC37A2 | 1.63842433 | 9.93438242 | 1.31E-13 | 1.13E-11 |
| 212382_at | --- | 1.60505834 | 7.06996616 | 1.35E-13 | 1.15E-11 |
| 209047_at | AQP1 | 2.44653569 | 7.84720827 | 1.38E-13 | 1.17E-11 |
| 236345_at | TBXAS1 | 1.66860916 | 8.46774141 | 1.40E-13 | 1.18E-11 |

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| 228873_at | COL22A1 | 1.56093003 | 7.43196243 | 1.41E-13 | 1.19E-11 |
| 239519_at | NRP1 | 2.19110297 | 5.55763801 | 1.43E-13 | 1.20E-11 |
| 220935_s_at | CDK5RAP2 | 1.84541222 | 10.4100106 | 1.54E-13 | 1.28E-11 |
| 1560228_at | SNAI3 | 1.91948596 | 7.8146015 | 1.56E-13 | 1.30E-11 |
| 218934_s_at | HSPB7 | 1.65040526 | 8.10534113 | 2.40E-13 | 1.90E-11 |
| 210146_x_at | LILRB2 | 1.9982938 | 6.76423766 | 2.86E-13 | 2.22E-11 |
| 209348_s_at | MAF | 1.56472875 | 8.72338323 | 3.17E-13 | 2.42E-11 |
| 1558569_at | LOC645238 | 1.75050375 | 7.56283286 | 3.25E-13 | 2.47E-11 |
| 243856_at | --- | 1.73115631 | 8.03640769 | 3.81E-13 | 2.86E-11 |
| 223798_at | SLC41A2 | 1.94681117 | 6.54582797 | 3.90E-13 | 2.92E-11 |
| 215990_s_at | BCL6 | 1.50671943 | 8.04953142 | 4.81E-13 | 3.52E-11 |
| 202869_at | OAS1 | 1.63942747 | 6.73520018 | 5.30E-13 | 3.86E-11 |
| 225631_at | KIAA1706 | 1.53753899 | 7.78142994 | 5.56E-13 | 4.03E-11 |
| 204116_at | IL2RG | 1.53970115 | 7.99806857 | 5.88E-13 | 4.22E-11 |
| 225189_s_at | RAPH1 | 1.85367315 | 6.14549622 | 6.27E-13 | 4.47E-11 |
| 211066_x_at | PCDHGC3 /// P | 1.58678656 | 10.4111947 | 7.90E-13 | 5.53E-11 |
| 221266_s_at | TM7SF4 | 1.83671444 | 6.22762311 | 8.02E-13 | 5.60E-11 |
| 1560485_at | HIVEP1 | 1.6480621 | 6.99003908 | 8.06E-13 | 5.62E-11 |
| 204881_s_at | UGCG | 1.5102382 | 9.51481557 | 8.38E-13 | 5.83E-11 |
| 235286_at | CKLF | 1.61741462 | 8.34288205 | 9.26E-13 | 6.36E-11 |
| 205003_at | DOCK4 | 1.5112689 | 8.20388936 | 1.02E-12 | 6.92E-11 |
| 218686_s_at | RHBDF1 | 1.51723286 | 7.92482272 | 1.05E-12 | 7.08E-11 |
| 221565_s_at | FAM26B | 1.59642371 | 7.91366407 | 1.09E-12 | 7.32E-11 |
| 206675_s_at | SKIL | 1.61042514 | 7.42083013 | 1.16E-12 | 7.69E-11 |
| 242358_at | --- | 2.20249712 | 6.04968315 | 1.24E-12 | 8.20E-11 |
| 241392_at | TMEM39A | 1.61384348 | 7.05009494 | 1.87E-12 | 1.19E-10 |
| 232333_at | MAML2 | 1.68481156 | 8.01950459 | 2.06E-12 | 1.30E-10 |
| 228762_at | LFNG | 1.55190457 | 9.0403074 | 2.08E-12 | 1.31E-10 |
| 242907_at | GBP2 | 2.14738965 | 6.03707956 | 2.72E-12 | 1.64E-10 |
| 203753_at | TCF4 | 1.50293289 | 7.66442858 | 2.78E-12 | 1.68E-10 |
| 207542_s_at | AQP1 | 1.69421791 | 6.82177348 | 3.02E-12 | 1.81E-10 |
| 242157_at | --- | 1.57383098 | 8.76647265 | 3.26E-12 | 1.94E-10 |
| 204058_at | ME1 | 1.73420796 | 9.51508263 | 3.53E-12 | 2.08E-10 |
| 209921_at | SLC7A11 | 1.94348494 | 9.29226579 | 3.63E-12 | 2.13E-10 |
| 211030_s_at | SLC6A6 | 1.51035569 | 7.57360907 | 3.78E-12 | 2.21E-10 |
| 209392_at | ENPP2 | 1.82310668 | 5.23034508 | 4.76E-12 | 2.73E-10 |
| 243894_at | SLC41A2 | 1.69547735 | 5.15085274 | 4.80E-12 | 2.75E-10 |
| 229937_x_at | LILRB1 | 1.58545389 | 7.41501062 | 5.00E-12 | 2.84E-10 |
| 214857_at | C10ORF95 | 1.60255368 | 7.13065345 | 5.02E-12 | 2.85E-10 |
| 230944_at | MGC45491 | 1.55203348 | 7.47887362 | 5.53E-12 | 3.14E-10 |
| 228057_at | DDIT4L | 1.68290143 | 9.61033195 | 6.99E-12 | 3.82E-10 |
| 204105_s_at | NRCAM | 2.27634648 | 6.95288228 | 7.49E-12 | 4.07E-10 |

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| 205681_at | BCL2A1 | 1.64702983 | 9.50173198 | 8.19E-12 | 4.40E-10 |
| 242405_at | MAML2 | 1.86052011 | 7.15057318 | 1.10E-11 | 5.73E-10 |
| 217678_at | SLC7A11 | 1.75913555 | 8.8692241 | 1.22E-11 | 6.25E-10 |
| 211962_s_at | ZFP36L1 | 1.59912563 | 8.8232205 | 1.23E-11 | 6.27E-10 |
| 221060_s_at | TLR4 | 1.53812487 | 8.81340284 | 2.27E-11 | 1.08E-09 |
| 200907_s_at | PALLD | 1.50739688 | 7.44132987 | 2.28E-11 | 1.08E-09 |
| 228918_at | SLC43A2 | 1.66364865 | 7.20166079 | 2.29E-11 | 1.09E-09 |
| 1555606_a_at | GDPD1 | 1.51121338 | 6.61034166 | 2.39E-11 | 1.13E-09 |
| 228450_at | PLEKHA7 | 1.50941089 | 6.45253703 | 2.70E-11 | 1.26E-09 |
| 229221_at | --- | 1.60263592 | 8.59003199 | 4.03E-11 | 1.79E-09 |
| 229635_at | LOC643424 | 1.53074512 | 7.55215178 | 4.38E-11 | 1.94E-09 |
| 1569149_at | PDLIM7 | 1.54849621 | 9.14969141 | 5.56E-11 | 2.41E-09 |
| 207433_at | IL10 | 1.52400243 | 5.63708634 | 7.49E-11 | 3.14E-09 |
| 221815_at | ABHD2 | 1.55904737 | 8.11542769 | 1.01E-10 | 4.08E-09 |
| 203060_s_at | PAPSS2 | 1.5764103 | 7.75963014 | 1.25E-10 | 4.94E-09 |
| 232746_at | CXCR7 | 2.0719893 | 6.54641126 | 1.43E-10 | 5.55E-09 |
| 1560960_at | MDGA1 | 1.97885133 | 5.71541524 | 1.47E-10 | 5.70E-09 |
| 234645_at | MAML2 | 1.87005824 | 6.53786268 | 1.72E-10 | 6.50E-09 |
| 223596_at | SLC12A6 | 1.50709112 | 7.32492551 | 1.75E-10 | 6.60E-09 |
| 87100_at | ABHD2 | 1.51939681 | 7.38326685 | 1.79E-10 | 6.75E-09 |
| 213931_at | ID2 /// ID2B | 2.71874933 | 9.84931953 | 1.87E-10 | 7.02E-09 |
| 216874_at | DKFZP686O132 | 1.70886875 | 5.93467446 | 2.11E-10 | 7.76E-09 |
| 244375_at | EVL | 1.56523772 | 7.93537524 | 2.24E-10 | 8.16E-09 |
| 1569150_x_at | PDLIM7 | 1.54117409 | 9.37943359 | 2.24E-10 | 8.18E-09 |
| 214453_s_at | IFI44 | 1.79674041 | 6.65852583 | 2.78E-10 | 9.87E-09 |
| 204999_s_at | ATF5 | 1.64452594 | 9.14215678 | 3.41E-10 | 1.18E-08 |
| 215836_s_at | PCDHGC3 /// P | 1.52441384 | 9.29079122 | 4.72E-10 | 1.60E-08 |
| 208161_s_at | ABCC3 | 1.61726316 | 8.40189868 | 5.05E-10 | 1.69E-08 |
| 202827_s_at | MMP14 | 1.62314882 | 10.2030389 | 5.39E-10 | 1.78E-08 |
| 208712_at | CCND1 | 1.5393933 | 7.40438263 | 6.16E-10 | 2.01E-08 |
| 223939_at | SUCNR1 | 1.57537424 | 8.40597144 | 7.17E-10 | 2.32E-08 |
| 205960_at | PDK4 | 1.69465703 | 7.19094792 | 1.28E-09 | 3.84E-08 |
| 214841_at | CNIH3 | 1.56253317 | 6.14111085 | 1.40E-09 | 4.15E-08 |
| 209993_at | ABCB1 | 1.58407983 | 5.06880643 | 1.52E-09 | 4.48E-08 |
| 1557938_s_at | PTRF | 1.50339198 | 6.8700736 | 1.62E-09 | 4.73E-08 |
| 232068_s_at | TLR4 | 1.74396268 | 6.76798691 | 1.84E-09 | 5.28E-08 |
| 242321_at | --- | 1.6662739 | 6.52856887 | 2.12E-09 | 5.99E-08 |
| 219574_at | MARCH1 | 1.64000788 | 5.55000344 | 3.54E-09 | 9.43E-08 |
| 202638_s_at | ICAM1 | 1.58753294 | 6.72394157 | 3.76E-09 | 9.97E-08 |
| 219496_at | ANKRD57 | 1.50970429 | 7.47583744 | 4.86E-09 | 1.26E-07 |
| 1555756_a_at | CLEC7A | 1.65932872 | 7.0882743 | 5.25E-09 | 1.35E-07 |
| 241929_at | CD36 | 1.82152709 | 8.32014251 | 5.66E-09 | 1.44E-07 |

| | | | | | |
|---|---|---|---|---|---|
| 1556423_at | VASH1 | 1.55220936 | 7.02874938 | 8.01E-09 | 1.97E-07 |
| 229435_at | GLIS3 | 1.5824943 | 4.92660385 | 8.07E-09 | 1.98E-07 |
| 217997_at | PHLDA1 | 2.01871208 | 7.37991533 | 8.18E-09 | 2.00E-07 |
| 235944_at | HMCN1 | 1.51434592 | 7.331681 | 9.15E-09 | 2.21E-07 |
| 206637_at | P2RY14 | 1.69022854 | 4.58701985 | 9.57E-09 | 2.30E-07 |
| 213293_s_at | TRIM22 | 1.54165851 | 6.59931282 | 9.57E-09 | 2.30E-07 |
| 238581_at | GBP5 | 1.57383447 | 7.67594481 | 1.03E-08 | 2.46E-07 |
| 1558404_at | LOC644242 /// | 1.85121181 | 5.31545142 | 1.46E-08 | 3.35E-07 |
| 230559_x_at | FGD4 | 1.51987215 | 5.45151267 | 1.69E-08 | 3.83E-07 |
| 1553151_at | ATP6V0D2 | 1.52950999 | 6.78084809 | 1.69E-08 | 3.84E-07 |
| 1554285_at | HAVCR2 | 1.64907555 | 7.49492704 | 3.00E-08 | 6.38E-07 |
| 244579_at | TRPS1 | 1.5354261 | 8.45494277 | 5.93E-08 | 1.16E-06 |
| 228640_at | --- | 1.5809974 | 4.58101232 | 7.52E-08 | 1.43E-06 |
| 210004_at | OLR1 | 1.59400178 | 5.26939608 | 8.40E-08 | 1.58E-06 |
| 243556_at | NGEF | 1.50840974 | 6.73352627 | 1.18E-07 | 2.14E-06 |
| 210360_s_at | MTSS1 | 1.7452905 | 6.18923946 | 1.40E-07 | 2.49E-06 |
| 217999_s_at | PHLDA1 | 1.73310668 | 6.08679858 | 2.07E-07 | 3.52E-06 |
| 227062_at | TNCRNA | 1.56840333 | 10.0441571 | 2.18E-07 | 3.69E-06 |
| 237904_at | ADORA3 | 1.52521897 | 6.15098521 | 2.49E-07 | 4.15E-06 |
| 1563621_at | KIAA1706 | 1.55572929 | 7.60284745 | 6.48E-07 | 9.74E-06 |

Downregulated:

| ID | Gene | raw.FC | AveExpr | P.Value | adj.P.Val |
|---|---|---|---|---|---|
| 207725_at | POU4F2 | -2.8001105 | 9.19852692 | 2.12E-22 | 1.81E-19 |
| 212993_at | --- | -1.8809512 | 9.86599984 | 2.25E-22 | 1.89E-19 |
| 211421_s_at | RET | -2.0125505 | 9.36968529 | 3.53E-22 | 2.84E-19 |
| 227899_at | VIT | -1.8754322 | 7.70929876 | 4.25E-22 | 3.36E-19 |
| 225224_at | C20ORF112 | -2.04379 | 8.5964785 | 1.37E-21 | 8.79E-19 |
| 213361_at | TDRD7 | -1.8488643 | 10.2732718 | 2.93E-21 | 1.67E-18 |
| 214539_at | SERPINB10 | -2.1313083 | 8.01802953 | 3.16E-21 | 1.78E-18 |
| 235275_at | OXCT2 | -2.0229254 | 12.4009174 | 4.06E-21 | 2.20E-18 |
| 203685_at | BCL2 | -2.3112793 | 8.44431889 | 4.88E-21 | 2.59E-18 |
| 227037_at | LOC201164 | -1.5468442 | 9.38990462 | 5.65E-21 | 2.94E-18 |
| 219714_s_at | CACNA2D3 | -2.206206 | 9.82724428 | 5.72E-21 | 2.95E-18 |
| 206643_at | HAL | -1.9307917 | 9.28853464 | 6.18E-21 | 3.10E-18 |
| 211144_x_at | TRGC2 /// TRG | -1.5748474 | 10.586818 | 7.12E-21 | 3.54E-18 |
| 217521_at | --- | -1.7887534 | 8.38380263 | 7.38E-21 | 3.63E-18 |
| 208206_s_at | RASGRP2 | -1.9706562 | 9.9264082 | 1.25E-20 | 5.95E-18 |
| 228977_at | IL17D | -2.1132305 | 7.51309566 | 2.19E-20 | 1.01E-17 |

| | | | | | |
|---|---|---|---|---|---|
| 209813_x_at | TRGC2 /// TRG | -1.6036338 | 10.7697475 | 3.87E-20 | 1.65E-17 |
| 204614_at | SERPINB2 | -2.3610663 | 10.8353035 | 6.10E-20 | 2.57E-17 |
| 212110_at | SLC39A14 | -1.682778 | 10.5673949 | 7.23E-20 | 3.00E-17 |
| 202444_s_at | SPFH1 | -1.8415073 | 9.34800962 | 7.37E-20 | 3.03E-17 |
| 216920_s_at | TRGC2 /// TRG | -1.5704575 | 11.3491957 | 8.78E-20 | 3.56E-17 |
| 202441_at | SPFH1 | -1.6532676 | 11.1411892 | 1.45E-19 | 5.66E-17 |
| 211919_s_at | CXCR4 | -1.5387599 | 11.0738986 | 3.40E-19 | 1.25E-16 |
| 204610_s_at | CCDC85B | -1.729942 | 9.65009386 | 6.61E-19 | 2.20E-16 |
| 200999_s_at | CKAP4 | -1.6192589 | 11.5934013 | 8.23E-19 | 2.64E-16 |
| 207865_s_at | BMP8B | -2.145585 | 9.11410521 | 9.38E-19 | 2.90E-16 |
| 217028_at | CXCR4 | -1.5274428 | 11.5438714 | 1.14E-18 | 3.50E-16 |
| 201968_s_at | PGM1 | -1.5051483 | 9.06546368 | 2.12E-18 | 6.10E-16 |
| 219463_at | C20ORF103 | -1.5731957 | 10.0186106 | 2.55E-18 | 7.26E-16 |
| 212242_at | TUBA1 | -1.5626324 | 11.2879097 | 2.82E-18 | 7.96E-16 |
| 213484_at | --- | -1.5736546 | 8.53538561 | 3.16E-18 | 8.83E-16 |
| 209201_x_at | CXCR4 | -1.5448129 | 11.1194624 | 3.16E-18 | 8.83E-16 |
| 218858_at | DEPDC6 | -1.7866919 | 7.55045943 | 5.06E-18 | 1.34E-15 |
| 202236_s_at | SLC16A1 | -1.5384699 | 10.1675739 | 9.26E-18 | 2.30E-15 |
| 208158_s_at | OSBPL1A | -1.6142678 | 8.3746552 | 1.71E-17 | 4.06E-15 |
| 202932_at | YES1 | -1.6455703 | 8.57014581 | 2.47E-17 | 5.62E-15 |
| 243209_at | KCNQ4 | -2.2463943 | 6.9665965 | 2.56E-17 | 5.79E-15 |
| 215806_x_at | TRGC2 /// TRG | -1.5328764 | 11.0634752 | 3.51E-17 | 7.61E-15 |
| 204521_at | C12ORF24 | -1.5676281 | 10.1844282 | 3.88E-17 | 8.36E-15 |
| 204301_at | KBTBD11 | -1.5574513 | 10.253905 | 4.37E-17 | 9.27E-15 |
| 227920_at | KIAA1553 | -1.6307063 | 8.01525239 | 5.17E-17 | 1.09E-14 |
| 218251_at | MID1IP1 | -1.559714 | 9.78570246 | 5.29E-17 | 1.11E-14 |
| 212646_at | RFTN1 | -1.658315 | 8.57843565 | 5.38E-17 | 1.12E-14 |
| 222799_at | HSPC049 | -1.5489442 | 8.60085628 | 1.10E-16 | 2.17E-14 |
| 227103_s_at | MGC2408 | -1.581709 | 8.7267591 | 1.30E-16 | 2.51E-14 |
| 206067_s_at | WT1 | -1.511783 | 9.85618462 | 1.37E-16 | 2.66E-14 |
| 214369_s_at | RASGRP2 | -1.5808582 | 9.41805033 | 1.69E-16 | 3.15E-14 |
| 206589_at | GFI1 | -1.5996464 | 11.7281473 | 1.99E-16 | 3.65E-14 |
| 225619_at | SLAIN1 | -2.2453889 | 7.41012008 | 2.01E-16 | 3.68E-14 |
| 212660_at | PHF15 | -1.69531 | 8.00752875 | 2.63E-16 | 4.66E-14 |
| 218971_s_at | HSPC049 | -1.5087203 | 9.12721477 | 3.08E-16 | 5.33E-14 |
| 201690_s_at | TPD52 | -1.5492402 | 9.27038373 | 3.25E-16 | 5.59E-14 |
| 229638_at | IRX3 | -1.6570492 | 11.8844594 | 3.38E-16 | 5.76E-14 |
| 223062_s_at | PSAT1 | -1.556602 | 9.43823571 | 4.70E-16 | 7.77E-14 |
| 225510_at | OAF | -1.6632727 | 10.1142626 | 6.67E-16 | 1.05E-13 |
| 209485_s_at | OSBPL1A | -1.6049308 | 8.36910929 | 7.34E-16 | 1.15E-13 |
| 204432_at | SOX12 | -1.7584476 | 6.5781916 | 8.71E-16 | 1.33E-13 |
| 205768_s_at | SLC27A2 | -1.6303006 | 7.69181894 | 8.98E-16 | 1.36E-13 |

| | | | | | |
|---|---|---|---|---|---|
| 211576_s_at | SLC19A1 | -1.5339487 | 9.8247482 | 9.81E-16 | 1.46E-13 |
| 201688_s_at | TPD52 | -1.6048433 | 8.65393713 | 9.93E-16 | 1.48E-13 |
| 50314_i_at | C20ORF27 | -1.561172 | 9.67877203 | 1.14E-15 | 1.66E-13 |
| 1553436_at | MUC19 | -1.64037 | 7.99717726 | 1.18E-15 | 1.71E-13 |
| 202800_at | SLC1A3 | -1.5176496 | 8.18097955 | 1.51E-15 | 2.13E-13 |
| 41037_at | TEAD4 | -1.6405647 | 6.31029525 | 1.70E-15 | 2.36E-13 |
| 216953_s_at | WT1 | -1.5276508 | 7.76890727 | 2.15E-15 | 2.95E-13 |
| 228055_at | NAPSB | -1.5385754 | 10.1648177 | 2.61E-15 | 3.52E-13 |
| 218424_s_at | STEAP3 | -1.7692882 | 7.88028032 | 2.78E-15 | 3.74E-13 |
| 212855_at | DCUN1D4 | -1.508562 | 7.88887861 | 2.92E-15 | 3.90E-13 |
| 202933_s_at | YES1 | -1.5437793 | 9.12374841 | 3.76E-15 | 4.89E-13 |
| 1553138_a_at | ANKRD41 | -2.0146608 | 6.96935627 | 6.26E-15 | 7.73E-13 |
| 227242_s_at | EBF3 | -1.8363477 | 4.86769268 | 8.15E-15 | 9.84E-13 |
| 237265_at | C16ORF73 | -1.5296704 | 9.74165113 | 9.60E-15 | 1.13E-12 |
| 213478_at | KIAA1026 | -1.8330762 | 7.39399329 | 1.16E-14 | 1.34E-12 |
| 225081_s_at | CDCA7L | -1.5491727 | 10.2951966 | 1.46E-14 | 1.66E-12 |
| 211299_s_at | FLOT2 | -1.6145204 | 9.10864173 | 1.58E-14 | 1.79E-12 |
| 213568_at | OSR2 | -2.2462672 | 5.99962469 | 1.64E-14 | 1.83E-12 |
| 227662_at | SYNPO2 | -1.5973696 | 8.62811124 | 1.76E-14 | 1.96E-12 |
| 200998_s_at | CKAP4 | -1.6910951 | 9.77491302 | 2.08E-14 | 2.25E-12 |
| 209900_s_at | SLC16A1 | -1.5885969 | 7.84437981 | 2.30E-14 | 2.43E-12 |
| 229084_at | CNTN4 | -1.6415136 | 7.72735571 | 2.30E-14 | 2.43E-12 |
| 238694_at | --- | -1.5762461 | 7.26420148 | 3.38E-14 | 3.46E-12 |
| 1555788_a_at | TRIB3 | -1.5022329 | 9.92495817 | 3.64E-14 | 3.70E-12 |
| 221900_at | COL8A2 | -1.5627579 | 10.2358313 | 4.09E-14 | 4.05E-12 |
| 225016_at | APCDD1 | -1.6872345 | 6.47036912 | 4.21E-14 | 4.14E-12 |
| 225768_at | NR1D2 | -1.7351352 | 6.8044854 | 5.44E-14 | 5.24E-12 |
| 222095_s_at | C1ORF76 | -1.7301956 | 7.38672115 | 6.40E-14 | 6.00E-12 |
| 229103_at | WNT3 | -1.7749895 | 5.55503782 | 7.97E-14 | 7.21E-12 |
| 205769_at | SLC27A2 | -1.7824201 | 7.67753108 | 1.53E-13 | 1.27E-11 |
| 201689_s_at | TPD52 | -1.645479 | 8.12663653 | 1.59E-13 | 1.31E-11 |
| 201350_at | FLOT2 | -1.5079906 | 11.0344892 | 2.08E-13 | 1.68E-11 |
| 221648_s_at | C1ORF121 | -1.517313 | 8.36815023 | 2.55E-13 | 2.00E-11 |
| 208078_s_at | SNF1LK | -1.597736 | 7.64505173 | 2.81E-13 | 2.18E-11 |
| 1562484_at | FLJ35848 | -1.9050209 | 6.65405977 | 3.15E-13 | 2.41E-11 |
| 1555370_a_at | CAMTA1 | -1.7040191 | 6.36041757 | 3.26E-13 | 2.47E-11 |
| 218376_s_at | MICAL1 | -1.5055354 | 11.194367 | 3.44E-13 | 2.61E-11 |
| 204567_s_at | ABCG1 | -1.8330717 | 5.8226155 | 3.51E-13 | 2.66E-11 |
| 39966_at | CSPG5 | -1.6105172 | 7.68266153 | 4.12E-13 | 3.07E-11 |
| 218326_s_at | LGR4 | -1.696564 | 6.525917 | 5.28E-13 | 3.85E-11 |
| 212430_at | RBM38 | -1.5884137 | 8.88476901 | 5.78E-13 | 4.17E-11 |
| 227236_at | TSPAN2 | -1.7695047 | 6.98434119 | 7.37E-13 | 5.19E-11 |

| | | | | | |
|---|---|---|---|---|---|
| 204794_at | DUSP2 | -1.5957268 | 8.45706393 | 7.96E-13 | 5.57E-11 |
| 230888_at | HSPC049 | -1.577802 | 7.20584208 | 9.14E-13 | 6.29E-11 |
| 212097_at | CAV1 | -1.6628831 | 7.59130877 | 9.63E-13 | 6.57E-11 |
| 209353_s_at | C1ORF76 | -1.7131519 | 7.30778535 | 1.02E-12 | 6.92E-11 |
| 201801_s_at | SLC29A1 | -1.6246978 | 8.73200853 | 1.05E-12 | 7.08E-11 |
| 210279_at | GPR18 | -1.5350315 | 8.98079125 | 1.29E-12 | 8.49E-11 |
| 52651_at | COL8A2 | -1.577706 | 9.9516637 | 1.31E-12 | 8.57E-11 |
| 235758_at | PNMA6A | -1.5784572 | 7.86091427 | 1.34E-12 | 8.77E-11 |
| 222162_s_at | ADAMTS1 | -1.842254 | 6.45805339 | 1.37E-12 | 8.95E-11 |
| 209369_at | ANXA3 | -1.7449323 | 5.34631362 | 1.41E-12 | 9.18E-11 |
| 219911_s_at | SLCO4A1 | -1.5143987 | 8.17455361 | 1.50E-12 | 9.71E-11 |
| 1557919_a_at | LOC648232 | -1.5028156 | 12.5466889 | 1.73E-12 | 1.11E-10 |
| 219497_s_at | BCL11A | -1.5825853 | 9.14635109 | 1.85E-12 | 1.18E-10 |
| 232271_at | HNF4G | -1.5978388 | 7.3715225 | 2.04E-12 | 1.29E-10 |
| 206653_at | --- | -1.5611734 | 6.70426513 | 2.13E-12 | 1.33E-10 |
| 225782_at | MSRB3 | -1.5020089 | 8.17316381 | 2.54E-12 | 1.55E-10 |
| 223704_s_at | DMRT2 | -1.6370445 | 6.61601092 | 5.67E-12 | 3.20E-10 |
| 1558613_at | OAF | -1.5776535 | 7.5183993 | 6.15E-12 | 3.44E-10 |
| 1555434_a_at | SLC39A14 | -1.5483414 | 7.91388969 | 6.58E-12 | 3.65E-10 |
| 1556194_a_at | --- | -1.7264827 | 7.80933003 | 1.10E-11 | 5.73E-10 |
| 219304_s_at | PDGFD | -1.5313053 | 8.14849618 | 1.10E-11 | 5.73E-10 |
| 200894_s_at | FKBP4 | -1.6280907 | 8.06454238 | 1.28E-11 | 6.49E-10 |
| 210347_s_at | BCL11A | -1.5419287 | 7.82101671 | 1.36E-11 | 6.85E-10 |
| 221249_s_at | FAM117A | -1.5920148 | 8.42643515 | 1.45E-11 | 7.21E-10 |
| 239410_at | --- | -1.521547 | 6.86497836 | 1.72E-11 | 8.46E-10 |
| 206039_at | RAB33A | -1.5487461 | 8.85562976 | 2.20E-11 | 1.05E-09 |
| 1554660_a_at | C1ORF71 | -1.5203911 | 7.61313106 | 2.54E-11 | 1.19E-09 |
| 209776_s_at | SLC19A1 | -1.5451778 | 7.72495148 | 2.90E-11 | 1.34E-09 |
| 1560495_at | --- | -1.6478409 | 7.28259363 | 3.01E-11 | 1.38E-09 |
| 202234_s_at | SLC16A1 | -1.5891823 | 7.76240785 | 4.97E-11 | 2.16E-09 |
| 207768_at | EGR4 | -2.266679 | 5.08097601 | 7.18E-11 | 3.02E-09 |
| 207717_s_at | PKP2 | -1.5155863 | 4.5970225 | 1.26E-10 | 4.97E-09 |
| 213912_at | KIAA0984 | -1.5617265 | 6.49154577 | 1.30E-10 | 5.13E-09 |
| 222891_s_at | BCL11A | -1.5929549 | 8.42933212 | 2.00E-10 | 7.44E-09 |
| 213268_at | CAMTA1 | -1.7460973 | 5.75010725 | 2.03E-10 | 7.52E-09 |
| 232007_at | --- | -1.5199738 | 9.70608088 | 2.60E-10 | 9.33E-09 |
| 227099_s_at | LOC387763 | -1.5087957 | 6.4279952 | 2.97E-10 | 1.05E-08 |
| 232614_at | BCL2 | -1.6221488 | 7.30276639 | 2.99E-10 | 1.05E-08 |
| 222668_at | KCTD15 | -1.5400712 | 5.79509816 | 3.31E-10 | 1.15E-08 |
| 213610_s_at | KLHL23 | -1.5730988 | 7.2326013 | 4.60E-10 | 1.56E-08 |
| 206935_at | PCDH8 | -1.6992238 | 5.66380311 | 6.65E-10 | 2.16E-08 |
| 203708_at | PDE4B | -1.5144333 | 7.44164625 | 8.10E-10 | 2.59E-08 |

| | | | | | |
|---|---|---|---|---|---|
| 1554298_a_at | WDR49 | -1.5642625 | 6.77053726 | 8.63E-10 | 2.73E-08 |
| 212558_at | SPRY1 | -1.6087624 | 5.95823849 | 1.41E-09 | 4.18E-08 |
| 242509_at | C16ORF74 | -1.5318238 | 6.48465026 | 2.21E-09 | 6.20E-08 |
| 201939_at | PLK2 | -1.5317787 | 7.43694803 | 5.43E-09 | 1.39E-07 |
| 242245_at | SYDE2 | -1.5851454 | 4.93022084 | 5.57E-09 | 1.42E-07 |
| 204557_s_at | DZIP1 | -1.5326546 | 5.01217049 | 5.85E-09 | 1.48E-07 |
| 204875_s_at | GMDS | -1.7607496 | 6.33236847 | 9.81E-09 | 2.35E-07 |
| 204285_s_at | PMAIP1 | -1.7424137 | 10.9563243 | 1.15E-08 | 2.73E-07 |
| 213006_at | CEBPD | -1.9902998 | 8.08295825 | 1.47E-08 | 3.38E-07 |
| 1554830_a_at | STEAP3 | -1.6156641 | 5.65856155 | 2.19E-08 | 4.84E-07 |
| 204286_s_at | PMAIP1 | -1.7353429 | 9.45448346 | 6.05E-08 | 1.18E-06 |
| 228325_at | KIAA0146 | -1.8819676 | 8.36526925 | 8.31E-08 | 1.57E-06 |
| 1569377_at | TMEM67 | -1.9524092 | 4.4888277 | 1.11E-07 | 2.04E-06 |
| 242892_at | PER2 | -2.1304461 | 6.97699912 | 1.72E-07 | 3.00E-06 |
| 1555847_a_at | LOC284454 | -2.1798122 | 9.88866319 | 1.88E-07 | 3.24E-06 |

## SUPPLEMENTARY TABLE 2

Pathways significantly enriched among top genes modulated by GA relative to mannitol control at 6 hours:
Top genes are defined by cutoffs of |FC|>1.5 and p-value<1e-5 to obtain lists of appropriate size for use with DAVID.

Enriched among top upregulated genes:

| Term | Pvalue | Fold Enrichm | Benjamini |
|---|---|---|---|
| GO:0005886~plasma membrane | 1.02E-19 | 2.41979941 | 2.18E-17 |
| GO:0031226~intrinsic to plasma membrane | 1.09E-11 | 3.26755853 | 7.78E-10 |
| GO:0016020~membrane | 8.59E-12 | 1.53815131 | 9.23E-10 |
| GO:0005887~integral to plasma membrane | 2.42E-11 | 3.24970302 | 1.04E-09 |
| GO:0044459~plasma membrane part | 1.97E-11 | 2.40372122 | 1.06E-09 |
| GO:0005576~extracellular region | 1.37E-10 | 2.82387307 | 4.90E-09 |
| GO:0031224~intrinsic to membrane | 4.97E-10 | 1.68368379 | 1.53E-08 |
| GO:0004871~signal transducer activity | 1.04E-10 | 2.53722457 | 2.51E-08 |
| GO:0060089~molecular transducer activity | 1.04E-10 | 2.53722457 | 2.51E-08 |
| GO:0004872~receptor activity | 6.20E-11 | 2.97630615 | 2.99E-08 |
| GO:0044425~membrane part | 1.40E-09 | 1.5389803 | 3.75E-08 |
| GO:0016021~integral to membrane | 1.98E-09 | 1.67551367 | 4.73E-08 |
| GO:0044421~extracellular region part | 3.24E-09 | 3.6100505 | 6.97E-08 |
| GO:0004888~transmembrane receptor activity | 2.35E-09 | 3.76803098 | 3.78E-07 |
| GO:0006955~immune response | 9.81E-10 | 3.57048831 | 6.34E-07 |
| GO:0009611~response to wounding | 3.29E-10 | 4.09715057 | 6.39E-07 |
| GO:0009605~response to external stimulus | 7.26E-10 | 3.12728281 | 7.04E-07 |
| GO:0002376~immune system process | 1.92E-09 | 2.85245261 | 9.30E-07 |
| GO:0050896~response to stimulus | 2.41E-09 | 1.85219081 | 9.36E-07 |
| GO:0032501~multicellular organismal process | 7.40E-09 | 1.76972744 | 2.39E-06 |
| GO:0050793~regulation of developmental process | 3.28E-08 | 3.16072861 | 9.08E-06 |
| GO:0009897~external side of plasma membrane | 5.99E-07 | 6.49667519 | 1.17E-05 |
| GO:0051239~regulation of multicellular organismal process | 7.17E-08 | 2.79159385 | 1.54E-05 |
| GO:0006952~defense response | 6.90E-08 | 3.41796458 | 1.67E-05 |
| GO:0006954~inflammatory response | 8.72E-08 | 4.47517285 | 1.69E-05 |
| GO:0031012~extracellular matrix | 1.51E-06 | 5.01711743 | 2.70E-05 |

|  |  |  |  |
|---|---|---|---|
| GO:0048583~regulation of response to stimulus | 1.68E-07 | 3.61268499 | 2.96E-05 |
| GO:0005578~proteinaceous extracellular matrix | 2.00E-06 | 5.30978261 | 3.07E-05 |
| GO:0009986~cell surface | 1.88E-06 | 4.06706753 | 3.10E-05 |
| GO:0002682~regulation of immune system process | 3.21E-07 | 3.76321353 | 5.19E-05 |
| GO:0005615~extracellular space | 6.96E-06 | 3.37129055 | 9.98E-05 |
| GO:0048731~system development | 7.36E-07 | 1.9176759 | 0.00010967 |
| GO:0051707~response to other organism | 1.25E-06 | 4.4259178 | 0.00017294 |
| GO:0007275~multicellular organismal development | 2.71E-06 | 1.74240626 | 0.00032825 |
| GO:0032101~regulation of response to external stimulus | 2.59E-06 | 6.28790109 | 0.00033427 |
| GO:0022610~biological adhesion | 3.65E-06 | 2.94001057 | 0.00039282 |
| GO:0007155~cell adhesion | 3.47E-06 | 2.94838667 | 0.00039594 |
| GO:0048856~anatomical structure development | 4.11E-06 | 1.79200644 | 0.00041952 |
| GO:0065008~regulation of biological quality | 5.75E-06 | 2.06736353 | 0.00050661 |
| GO:0007166~cell surface receptor linked signal transduction | 5.31E-06 | 2.24578872 | 0.00051425 |
| GO:0050727~regulation of inflammatory response | 5.72E-06 | 8.87043189 | 0.00052809 |
| GO:0006950~response to stress | 6.47E-06 | 1.89682191 | 0.0005449 |
| GO:0032502~developmental process | 9.45E-06 | 1.64267257 | 0.00073237 |
| GO:0031347~regulation of defense response | 9.45E-06 | 5.51937984 | 0.0007628 |
| GO:0009607~response to biotic stimulus | 1.20E-05 | 3.37558639 | 0.00089042 |
| GO:0019955~cytokine binding | 1.09E-05 | 6.97096043 | 0.00131926 |
| GO:0050776~regulation of immune response | 2.06E-05 | 4.29285099 | 0.00147588 |
| GO:0040011~locomotion | 2.38E-05 | 3.21025154 | 0.00164377 |
| GO:0080134~regulation of response to stress | 2.54E-05 | 3.70014291 | 0.00169407 |
| GO:0007626~locomotory behavior | 3.53E-05 | 4.08123158 | 0.00227722 |
| GO:0002684~positive regulation of immune system process | 4.09E-05 | 4.0245478 | 0.00255401 |
| GO:0000267~cell fraction | 0.00027348 | 1.99311488 | 0.00366864 |
| GO:0045028~purinergic nucleotide receptor activity, G-protein coupled | 5.12E-05 | 13.8685423 | 0.00411604 |
| GO:0001608~nucleotide receptor activity, G-protein coupled | 5.12E-05 | 13.8685423 | 0.00411604 |
| GO:0004930~G-protein coupled receptor activity | 4.66E-05 | 4.29264405 | 0.00449193 |
| GO:0016502~nucleotide receptor activity | 8.64E-05 | 12.5477288 | 0.00594437 |

| | | | |
|---|---|---|---|
| GO:0001614~purinergic nucleotide receptor activity | 8.64E-05 | 12.5477288 | 0.00594437 |
| GO:0005626~insoluble fraction | 0.00050614 | 2.11983643 | 0.00638231 |
| GO:0048513~organ development | 0.00010948 | 1.8456525 | 0.00640896 |
| GO:0002697~regulation of immune effector process | 0.00010851 | 6.00900225 | 0.00655072 |
| GO:0051384~response to glucocorticoid stimulus | 0.00011695 | 7.04601682 | 0.00664447 |
| GO:0005624~membrane fraction | 0.00064098 | 2.12816938 | 0.00762936 |
| hsa04060:Cytokine-cytokine receptor interaction | 7.88E-05 | 3.91086691 | 0.00816277 |
| GO:0031349~positive regulation of defense response | 0.00015337 | 6.7584243 | 0.00822279 |
| GO:0048584~positive regulation of response to stimulus | 0.00015308 | 3.78971503 | 0.00844122 |
| GO:0031960~response to corticosteroid stimulus | 0.00017474 | 6.62325581 | 0.00911158 |
| GO:0042221~response to chemical stimulus | 0.00023157 | 1.87929805 | 0.01115792 |
| GO:0065007~biological regulation | 0.00022752 | 1.23581669 | 0.01124356 |
| GO:0050865~regulation of cell activation | 0.00022283 | 4.29574375 | 0.01130118 |
| GO:0048545~response to steroid hormone stimulus | 0.00025981 | 4.21619294 | 0.0122074 |
| GO:0006935~chemotaxis | 0.00027256 | 4.65116279 | 0.01249951 |
| GO:0042330~taxis | 0.00027256 | 4.65116279 | 0.01249951 |
| GO:0002703~regulation of leukocyte mediated immunity | 0.0003028 | 7.42993441 | 0.01355657 |
| GO:0002822~regulation of adaptive immune response based on somatic recombination of immune receptors built from immunoglobulin superfamily domains | 0.00034918 | 7.24418605 | 0.01492816 |
| GO:0001568~blood vessel development | 0.00034714 | 3.47186797 | 0.01517609 |
| GO:0030154~cell differentiation | 0.00037713 | 1.79379845 | 0.01576601 |
| GO:0001944~vasculature development | 0.00039042 | 3.42764035 | 0.01597268 |
| GO:0002819~regulation of adaptive immune response | 0.00040094 | 7.06749858 | 0.0160609 |
| GO:0051241~negative regulation of multicellular organismal process | 0.0004538 | 4.90208078 | 0.01743952 |
| GO:0051704~multi-organism process | 0.00044925 | 2.22256907 | 0.01761538 |
| GO:0007165~signal transduction | 0.00048801 | 1.56692649 | 0.01837798 |
| GO:0009617~response to bacterium | 0.00051926 | 4.26756174 | 0.01917123 |
| GO:0048519~negative regulation of biological process | 0.00057125 | 1.62866946 | 0.01993331 |

| | | | |
|---|---|---|---|
| GO:0050864~regulation of B cell activation | 0.00056871 | 8.56455493 | 0.0202092 |
| GO:0001525~angiogenesis | 0.00056006 | 4.22401519 | 0.02027648 |
| GO:0048869~cellular developmental process | 0.00059519 | 1.73565404 | 0.02039329 |
| GO:0002694~regulation of leukocyte activation | 0.00064956 | 4.13953488 | 0.02184996 |
| GO:0044243~multicellular organismal catabolic process | 0.00070212 | 20.6976744 | 0.02319544 |
| GO:0030574~collagen catabolic process | 0.00070212 | 20.6976744 | 0.02319544 |
| GO:0016477~cell migration | 0.00071879 | 3.20321152 | 0.02334233 |
| GO:0045595~regulation of cell differentiation | 0.0007682 | 2.51728473 | 0.02373537 |
| GO:0032879~regulation of localization | 0.0007822 | 2.35870934 | 0.02378398 |
| GO:0050729~positive regulation of inflammatory response | 0.00076295 | 11.498708 | 0.0239569 |
| GO:0007186~G-protein coupled receptor protein signaling pathway | 0.00075328 | 2.72561968 | 0.0240464 |
| GO:0051270~regulation of cell motion | 0.00083518 | 3.6427907 | 0.02498336 |
| GO:0048518~positive regulation of biological process | 0.0009722 | 1.55920442 | 0.02858412 |
| GO:0001816~cytokine production | 0.00105123 | 7.52642706 | 0.0299652 |
| GO:0007610~behavior | 0.00104771 | 2.75968992 | 0.03031177 |
| GO:0050878~regulation of body fluid levels | 0.00117703 | 4.87004104 | 0.03300809 |
| GO:0032496~response to lipopolysaccharide | 0.0013154 | 5.68171455 | 0.03578575 |
| GO:0002683~negative regulation of immune system process | 0.0013154 | 5.68171455 | 0.03578575 |
| GO:0051674~localization of cell | 0.00131424 | 2.98966408 | 0.03626342 |
| GO:0048870~cell motility | 0.00131424 | 2.98966408 | 0.03626342 |
| GO:0046903~secretion | 0.00139387 | 3.16397571 | 0.03684834 |
| GO:0006928~cell motion | 0.0013811 | 2.46919625 | 0.03702169 |
| GO:0048514~blood vessel morphogenesis | 0.00142405 | 3.39812565 | 0.03712585 |
| GO:0001501~skeletal system development | 0.00146721 | 3.14395054 | 0.03772332 |
| GO:0050867~positive regulation of cell activation | 0.00151961 | 4.66426466 | 0.03853451 |
| GO:0030247~polysaccharide binding | 0.0007648 | 5.24382695 | 0.04514181 |
| GO:0001871~pattern binding | 0.0007648 | 5.24382695 | 0.04514181 |
| GO:0004222~metalloendopeptidase activity | 0.00087418 | 6.1483871 | 0.04585047 |
| GO:0002698~negative regulation of immune effector process | 0.00196103 | 15.0528541 | 0.0488232 |
| GO:0032103~positive regulation of response to external stimulus | 0.00201705 | 6.53610771 | 0.04892898 |
| GO:0010033~response to organic substance | 0.00199539 | 2.03004909 | 0.04902907 |

Enriched among top downregulated genes:

| Term | Pvalue | Fold Enrichm | Benjamini |
|---|---|---|---|
| GO:0007275~multicellular organismal development | 6.94E-06 | 2.16836735 | 0.00270611 |
| GO:0048731~system development | 5.04E-06 | 2.39616613 | 0.00294797 |
| GO:0048513~organ development | 2.61E-06 | 2.76008493 | 0.00305609 |
| GO:0048856~anatomical structure development | 3.69E-05 | 2.16450216 | 0.00861537 |
| GO:0030154~cell differentiation | 4.49E-05 | 2.55555556 | 0.00871888 |
| GO:0032502~developmental process | 3.28E-05 | 1.98412698 | 0.00955745 |
| GO:0003006~reproductive developmental process | 8.34E-05 | 6.25 | 0.01385786 |
| GO:0048869~cellular developmental process | 0.00010797 | 2.41090147 | 0.0156803 |
| GO:0009653~anatomical structure morphogenesis | 0.00030745 | 2.64317181 | 0.03921862 |

## SUPPLEMENTARY TABLE 3

Table 3 shows modulated genes (note that FC<0 for GA-Probioglat comparison means upregulated in Probioglat-GA comparison) without presence/absence filtering at each timepoint.

Comparing GA to Probioglat (mannitol-corrected):

Upregulated:

6 hr:

| Gene | ID | raw.FC | AveExpr | t | P.Value | adj.P.Val | B |
|---|---|---|---|---|---|---|---|
| MMP9 | 203936_s_at | -1.2926295 | 9.63366142 | -9.0041791 | 5.02E-11 | 2.74E-06 | 13.793663 |
| CXCL10 | 204533_at | -1.4567769 | 5.93611913 | -6.8101441 | 4.11E-08 | 0.00056208 | 8.11662055 |
| PRDM1 | 228964_at | -1.3131543 | 9.26923221 | -6.9712916 | 2.48E-08 | 0.00056208 | 8.55501455 |
| LPXN | 216250_s_at | -1.1874257 | 11.315416 | -6.8905168 | 3.19E-08 | 0.00056208 | 8.33560319 |
| FABP4 | 203980_at | -1.3897081 | 8.03922119 | -6.4609935 | 1.24E-07 | 0.00100306 | 7.15838496 |
| --- | 240076_at | -1.2154985 | 8.47153306 | -6.4502687 | 1.28E-07 | 0.00100306 | 7.12879005 |
| COL6A1 | 213428_s_at | -1.1799797 | 9.17734162 | -6.5227006 | 1.02E-07 | 0.00100306 | 7.3284926 |
| SLC39A8 | 209267_s_at | -1.1409956 | 10.4538343 | -6.3855772 | 1.58E-07 | 0.00107772 | 6.95009387 |
| MGC5618 | 221477_s_at | -1.1617675 | 10.5471179 | -6.2424898 | 2.48E-07 | 0.00135843 | 6.55382496 |
| SLC39A8 | 219869_s_at | -1.14866 | 10.1877186 | -6.2694824 | 2.28E-07 | 0.00135843 | 6.62867956 |
| --- | 226218_at | -1.2937342 | 7.33564432 | -6.1059571 | 3.84E-07 | 0.00140732 | 6.17456221 |
| STEAP1 | 205542_at | -1.198521 | 7.98610593 | -6.0852841 | 4.10E-07 | 0.00140732 | 6.11705174 |
| CHST11 | 219634_at | -1.1616563 | 9.51077621 | -6.0764318 | 4.21E-07 | 0.00140732 | 6.09241933 |
| CD9 | 201005_at | -1.1480015 | 10.9097322 | -6.0774378 | 4.20E-07 | 0.00140732 | 6.09521866 |
| TNFSF13B | 223502_s_at | -1.137131 | 10.6086468 | -6.1814333 | 3.02E-07 | 0.00140732 | 6.38434731 |
| LACTB | 226354_at | -1.1146026 | 10.6969136 | -6.1724213 | 3.10E-07 | 0.00140732 | 6.35931437 |
| ARL6IP5 | 200761_s_at | -1.1108957 | 11.9357889 | -6.0645684 | 4.38E-07 | 0.00140732 | 6.05940234 |
| NFKBIE | 203927_at | -1.1646409 | 10.0523732 | -5.9997498 | 5.38E-07 | 0.00157615 | 5.87889643 |
| SLIC1 | 228869_at | -1.1244476 | 10.0277009 | -5.994027 | 5.48E-07 | 0.00157615 | 5.86295139 |
| MMP1 | 204475_at | -1.5039262 | 6.32353561 | -5.9312361 | 6.69E-07 | 0.00174156 | 5.68791885 |
| SOD2 | 215223_s_at | -1.2035944 | 9.66361398 | -5.9462273 | 6.38E-07 | 0.00174156 | 5.72972041 |
| NFKBIA | 201502_s_at | -1.1701699 | 11.8415908 | -5.9153553 | 7.04E-07 | 0.0017486 | 5.64362855 |
| ADAMDEC1 | 206134_at | -1.1861199 | 8.53747931 | -5.7927992 | 1.04E-06 | 0.00247065 | 5.30158178 |
| MPEG1 | 226841_at | -1.141713 | 9.90354597 | -5.7187643 | 1.32E-06 | 0.00281664 | 5.09479213 |
| ANXA2P2 | 208816_x_at | -1.1086074 | 11.6486476 | -5.7130844 | 1.34E-06 | 0.00281664 | 5.07892372 |
| --- | 244434_at | -1.2846909 | 6.48107186 | -5.6742369 | 1.52E-06 | 0.00284109 | 4.97038261 |
| CCL2 | 216598_s_at | -1.2516796 | 11.2421198 | -5.6653825 | 1.56E-06 | 0.00284109 | 4.94564092 |
| **ISG20** | 204698_at | -1.2176821 | 6.18754674 | -5.677111 | 1.50E-06 | 0.00284109 | 4.97841335 |
| MTSS1 | 203037_s_at | -1.2132697 | 11.5042636 | -5.6909681 | 1.44E-06 | 0.00284109 | 5.0171321 |
| IFNGR1 | 211676_s_at | -1.1076638 | 12.1480464 | -5.6472459 | 1.65E-06 | 0.0029127 | 4.89496045 |
| --- | 230795_at | -1.1702144 | 9.26991641 | -5.6333398 | 1.73E-06 | 0.00294926 | 4.85610012 |
| NFE2L3 | 236471_at | -1.3257415 | 5.26403664 | -5.6026446 | 1.90E-06 | 0.00315306 | 4.77032024 |
| CD36 | 209555_s_at | -1.1414722 | 9.39991418 | -5.5482888 | 2.26E-06 | 0.00363742 | 4.61841752 |
| CYLD | 221903_s_at | -1.1207309 | 9.54523467 | -5.5045621 | 2.60E-06 | 0.00406002 | 4.49622693 |
| ICAM1 | 202638_s_at | -1.4084929 | 6.8285265 | -5.4886851 | 2.73E-06 | 0.00415135 | 4.45186392 |
| KIAA1505 | 227265_at | -1.1673293 | 9.93164349 | -5.4623712 | 2.97E-06 | 0.00423964 | 4.37834442 |
| BID | 227143_s_at | -1.1112086 | 11.5740779 | -5.471422 | 2.89E-06 | 0.00423964 | 4.40363069 |
| BID | 211725_s_at | -1.1017724 | 11.8106494 | -5.4568423 | 3.02E-06 | 0.00423964 | 4.36289801 |
| IL10 | 207433_at | -1.2783883 | 5.71640286 | -5.3801791 | 3.86E-06 | 0.00508408 | 4.14877517 |
| ANXA2 | 201590_x_at | -1.1067663 | 13.1932317 | -5.3762172 | 3.91E-06 | 0.00508408 | 4.13771284 |
| TNFAIP6 | 206026_s_at | -1.2533604 | 5.46505459 | -5.3471287 | 4.28E-06 | 0.00544542 | 4.0565035 |
| CD14 | 201743_at | -1.1688628 | 9.56313815 | -5.3162757 | 4.72E-06 | 0.00586803 | 3.97039297 |
| ICAM1 | 202637_s_at | -1.253703 | 7.7078627 | -5.2602772 | 5.64E-06 | 0.00674579 | 3.81417837 |
| ANXA2 | 210427_x_at | -1.1021711 | 13.1600502 | -5.2581893 | 5.68E-06 | 0.00674579 | 3.80835622 |
| SYNJ2 | 212828_at | -1.1079961 | 9.8266126 | -5.2259269 | 6.29E-06 | 0.00731141 | 3.71841109 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| GLIPR1 | 226142_at | -1.1476518 | 8.96232728 | -5.2116592 | 6.57E-06 | 0.00744619 | 3.67864746 |
| ECOP | 238604_at | -1.1291845 | 9.93048271 | -5.2069623 | 6.67E-06 | 0.00744619 | 3.66555947 |
| CD40 | 205153_s_at | -1.1516665 | 8.96773222 | -5.1878467 | 7.09E-06 | 0.00775153 | 3.61230284 |
| IFIH1 | 219209_at | -1.1839872 | 8.4216604 | -5.1481808 | 8.03E-06 | 0.0086134 | 3.50184783 |
| IL4I1 | 230966_at | -1.2886142 | 10.7302425 | -5.1035983 | 9.25E-06 | 0.00953971 | 3.3777992 |
| MAFB | 218559_s_at | -1.1661498 | 12.5070822 | -5.0783026 | 1.00E-05 | 0.01013992 | 3.30746517 |
| DAB2 | 201278_at | -1.1002534 | 9.40858428 | -5.0704754 | 1.03E-05 | 0.01020405 | 3.28570957 |
| P2RX4 | 204088_at | -1.11462 | 10.5804136 | -5.0589302 | 1.06E-05 | 0.01039288 | 3.25362692 |
| MLF1 | 204784_s_at | -1.1629248 | 9.99075341 | -5.0382007 | 1.14E-05 | 0.01089897 | 3.19604331 |
| STATH | 206835_at | -1.2217631 | 10.6277925 | -4.9970174 | 1.29E-05 | 0.01198544 | 3.08172746 |
| GIMAP8 | 235306_at | -1.1769391 | 7.15724646 | -4.9534429 | 1.48E-05 | 0.01329267 | 2.96090645 |
| TATDN3 | 235069_at | -1.1552651 | 9.09091742 | -4.9541849 | 1.48E-05 | 0.01329267 | 2.96296263 |
| SYNJ2 | 216180_s_at | -1.1540719 | 8.13588041 | -4.929194 | 1.60E-05 | 0.01372355 | 2.89373383 |
| TREM1 | 219434_at | -1.1280034 | 11.1714599 | -4.9272524 | 1.61E-05 | 0.01372355 | 2.88835722 |
| ANXA2 | 213503_x_at | -1.1003875 | 13.1627385 | -4.8992037 | 1.76E-05 | 0.01434614 | 2.81072248 |
| G0S2 | 213524_s_at | -1.1355006 | 8.75639391 | -4.864242 | 1.96E-05 | 0.01577044 | 2.71404776 |
| IL10RA | 204912_at | -1.1199911 | 10.5172379 | -4.8323374 | 2.17E-05 | 0.01717268 | 2.62592271 |
| BIRC3 | 210538_s_at | -1.257364 | 4.57445587 | -4.8159991 | 2.28E-05 | 0.01765329 | 2.58083111 |
| NT5E | 203939_at | -1.2383789 | 8.45460557 | -4.8143591 | 2.29E-05 | 0.01765329 | 2.57630644 |
| CCL5 | 1555759_a_a | -1.0910656 | 13.6361191 | -4.8032103 | 2.37E-05 | 0.01802488 | 2.54555373 |
| SRPX2 | 205499_at | -1.224512 | 6.16138512 | -4.767627 | 2.65E-05 | 0.01937153 | 2.4474847 |
| ARL6IP5 | 200760_s_at | -1.1107109 | 11.7204466 | -4.7591181 | 2.72E-05 | 0.01959427 | 2.42405329 |
| EBI3 | 219424_at | -1.1775996 | 7.06372735 | -4.7474062 | 2.82E-05 | 0.01976554 | 2.39181393 |
| CD40 | 215346_at | -1.1705995 | 8.77095715 | -4.7439006 | 2.86E-05 | 0.01976554 | 2.38216714 |
| SRA1 | 224130_s_at | -1.094757 | 10.8027383 | -4.7442703 | 2.85E-05 | 0.01976554 | 2.38318441 |
| --- | 238501_at | -1.2105582 | 5.44953239 | -4.73925 | 2.90E-05 | 0.01977223 | 2.36937124 |
| SLIC1 | 229045_at | -1.1547886 | 8.27898536 | -4.7357646 | 2.93E-05 | 0.01977223 | 2.35978293 |
| C5ORF13 | 238411_x_at | -1.1683694 | 3.79974787 | -4.7297145 | 2.98E-05 | 0.01979262 | 2.34314234 |
| CARD15 | 220066_at | -1.1393689 | 8.86627619 | -4.7275995 | 3.00E-05 | 0.01979262 | 2.33732587 |
| PLEKHO1 | 218223_s_at | -1.1393641 | 9.19617144 | -4.7232262 | 3.05E-05 | 0.01982503 | 2.32530094 |
| NFE2L3 | 204702_s_at | -1.1949945 | 6.87002251 | -4.7001908 | 3.27E-05 | 0.02069819 | 2.26199661 |
| P2RY5 | 218589_at | -1.1719902 | 9.42743243 | -4.6980902 | 3.29E-05 | 0.02069819 | 2.25622666 |
| PSCDBP | 209606_at | -1.1833853 | 8.14303401 | -4.6940285 | 3.34E-05 | 0.02072301 | 2.24507189 |
| PTX3 | 206157_at | -1.1323376 | 11.2731131 | -4.6853648 | 3.43E-05 | 0.0210494 | 2.22128475 |
| GHRL | 223862_at | -1.184681 | 7.10722772 | -4.6529266 | 3.79E-05 | 0.02252098 | 2.13230051 |
| SGIP1 | 223672_at | -1.1713796 | 8.75400755 | -4.6556052 | 3.76E-05 | 0.02252098 | 2.13964377 |
| RPL13 /// LO | 214976_at | -1.1498626 | 6.91302234 | -4.6576183 | 3.73E-05 | 0.02252098 | 2.14516306 |
| C13ORF31 | 1553141_at | -1.2240082 | 8.3027252 | -4.6445617 | 3.89E-05 | 0.02286455 | 2.10937474 |
| --- | 228573_at | -1.0954948 | 10.1938031 | -4.631833 | 4.05E-05 | 0.02353205 | 2.07450537 |
| --- | 213891_s_at | -1.1613505 | 8.36985954 | -4.6072376 | 4.37E-05 | 0.02435882 | 2.00718586 |
| C9ORF130 | 227893_at | -1.1466602 | 7.47771908 | -4.6095058 | 4.34E-05 | 0.02435882 | 2.01339098 |
| VPS33A | 204590_x_at | -1.1717826 | 7.44063872 | -4.5964894 | 4.51E-05 | 0.0246793 | 1.97779156 |
| LACTB | 1552486_s_a | -1.1146334 | 9.43978855 | -4.5992016 | 4.48E-05 | 0.0246793 | 1.98520746 |
| RAB27B | 228708_at | -1.2146134 | 8.64471961 | -4.5896791 | 4.61E-05 | 0.02495536 | 1.95917448 |
| FXYD2 | 207434_s_at | -1.2391134 | 6.87935784 | -4.5721048 | 4.87E-05 | 0.02609092 | 1.91116075 |
| SOD2 | 216841_s_at | -1.1587002 | 8.29547849 | -4.5601654 | 5.05E-05 | 0.02658149 | 1.87856531 |
| INADL | 214493_s_at | -1.1876014 | 5.13104061 | -4.5382854 | 5.40E-05 | 0.02787086 | 1.81888217 |
| BID | 204493_at | -1.0962323 | 11.1430522 | -4.5406927 | 5.36E-05 | 0.02787086 | 1.82544538 |
| BTG1 | 240347_at | -1.1577464 | 6.46143817 | -4.5117153 | 5.86E-05 | 0.02941834 | 1.74649575 |
| CENTA2 | 219358_s_at | -1.1328376 | 10.4221094 | -4.5125118 | 5.85E-05 | 0.02941834 | 1.74866433 |
| LOC54103 | 213142_x_at | -1.1327449 | 10.7990817 | -4.5010122 | 6.06E-05 | 0.02985684 | 1.71736561 |
| --- | 232297_at | -1.1396483 | 8.4593218 | -4.4977208 | 6.12E-05 | 0.02989176 | 1.7084108 |
| THBD | 203887_s_at | -1.0860181 | 12.8670409 | -4.4922535 | 6.23E-05 | 0.02996581 | 1.6935397 |
| KYNU | 210663_s_at | -1.1273404 | 10.5827862 | -4.4730592 | 6.61E-05 | 0.03124079 | 1.64136616 |
| TATDN3 | 228867_at | -1.0979673 | 8.53193411 | -4.4719767 | 6.63E-05 | 0.03124079 | 1.6384252 |
| ITGB5 | 201125_s_at | -1.1305667 | 9.66682508 | -4.4663279 | 6.74E-05 | 0.03151651 | 1.62308225 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| HNRPLL | 225386_s_at | -1.088481 | 10.9979975 | -4.4607622 | 6.86E-05 | 0.03178871 | 1.60796956 |
| CRYBB2 | 206777_s_at | -1.1273748 | 9.09050704 | -4.4486878 | 7.12E-05 | 0.03248173 | 1.57520029 |
| CD55 | 1555950_a_a | -1.101176 | 11.0430169 | -4.4455718 | 7.19E-05 | 0.03248173 | 1.56674717 |
| MPEG1 | 226818_at | -1.102944 | 9.97050985 | -4.4364675 | 7.39E-05 | 0.03312876 | 1.54205788 |
| POPDC3 | 219926_at | -1.2923154 | 6.73431127 | -4.4296067 | 7.55E-05 | 0.03333429 | 1.52346112 |
| PLAUR | 214866_at | -1.1197536 | 10.1465619 | -4.4291541 | 7.56E-05 | 0.03333429 | 1.52223465 |
| MGLL | 239914_at | -1.1755243 | 5.02263039 | -4.4192631 | 7.79E-05 | 0.03354952 | 1.49543825 |
| EBI2 | 205419_at | -1.1647466 | 10.3787766 | -4.4209004 | 7.75E-05 | 0.03354952 | 1.49987275 |
| TPSAB1 /// T | 207741_x_at | -1.154419 | 7.49088254 | -4.4208416 | 7.76E-05 | 0.03354952 | 1.49971361 |
| SLAMF8 | 219386_s_at | -1.1604525 | 10.1187042 | -4.4123213 | 7.96E-05 | 0.03370605 | 1.47664099 |
| VSNL1 | 203797_at | -1.1465556 | 9.26432896 | -4.4080282 | 8.07E-05 | 0.03370605 | 1.46501964 |
| ICAM2 | 213620_s_at | -1.129714 | 7.80787761 | -4.4083036 | 8.06E-05 | 0.03370605 | 1.46576519 |
| KYNU | 217388_s_at | -1.1268071 | 11.2241113 | -4.4076297 | 8.08E-05 | 0.03370605 | 1.4639412 |
| ARHGAP18 | 225166_at | -1.1854012 | 7.40195979 | -4.3979297 | 8.32E-05 | 0.03445978 | 1.43769541 |
| MITF | 226066_at | -1.1771138 | 7.94053593 | -4.3803753 | 8.78E-05 | 0.03578326 | 1.39023722 |
| MXD1 | 226275_at | -1.1272655 | 8.58697195 | -4.3782779 | 8.84E-05 | 0.03578326 | 1.38457024 |
| --- | 241389_at | -1.1324551 | 7.7082004 | -4.3740983 | 8.95E-05 | 0.03597723 | 1.37327956 |
| EGF | 206254_at | -1.2273072 | 5.23328013 | -4.3445051 | 9.80E-05 | 0.03909529 | 1.29342221 |
| MALT1 | 210017_at | -1.1361187 | 7.85916694 | -4.3417635 | 9.88E-05 | 0.03913824 | 1.28603152 |
| AKR1C2 | 211653_x_at | -1.214586 | 9.21551731 | -4.3261491 | 0.00010361 | 0.03933789 | 1.24396403 |
| LPAAT-THET | 224480_s_at | -1.2033448 | 8.82402466 | -4.3329062 | 0.00010149 | 0.03933789 | 1.26216342 |
| MFI2 | 235911_at | -1.1178645 | 10.2132798 | -4.3339031 | 0.00010118 | 0.03933789 | 1.26484915 |
| ARHGAP18 | 225171_at | -1.1011604 | 10.7603262 | -4.329986 | 0.0001024 | 0.03933789 | 1.25429744 |
| TXNL2 | 209080_x_at | -1.0905642 | 11.1937357 | -4.3267122 | 0.00010343 | 0.03933789 | 1.24548038 |
| CD55 | 201926_s_at | -1.0876428 | 11.0124454 | -4.3312016 | 0.00010202 | 0.03933789 | 1.25757168 |
| ADAM9 | 202381_at | -1.1288776 | 10.068453 | -4.2795249 | 0.00011941 | 0.04461757 | 1.11860933 |
| OSBPL11 | 218304_s_at | -1.1200967 | 8.80861724 | -4.268338 | 0.00012355 | 0.04461757 | 1.08859065 |
| C5ORF32 | 224707_at | -1.1088424 | 9.60174121 | -4.2676443 | 0.00012381 | 0.04461757 | 1.08672987 |
| CD300A | 209933_s_at | -1.0919093 | 11.068246 | -4.2779818 | 0.00011998 | 0.04461757 | 1.11446708 |
| ATP2C1 | 237278_x_at | -1.1252002 | 4.516837 | -4.2604681 | 0.00012654 | 0.04474124 | 1.06748681 |
| TGM5 | 207911_s_at | -1.0985729 | 10.9973837 | -4.255458 | 0.00012848 | 0.04474124 | 1.05405768 |
| CAST | 208908_s_at | -1.0958388 | 10.4613552 | -4.2557149 | 0.00012838 | 0.04474124 | 1.05474617 |
| TNFRSF9 | 207536_s_at | -1.1669411 | 6.64800587 | -4.2459826 | 0.00013222 | 0.04518347 | 1.02867283 |
| HMGB2 | 243368_at | -1.1602025 | 4.88716386 | -4.2463169 | 0.00013209 | 0.04518347 | 1.02956814 |
| TNFAIP3 | 202644_s_at | -1.1253187 | 10.6490533 | -4.2484635 | 0.00013123 | 0.04518347 | 1.03531746 |
| C1ORF21 | 223125_s_at | -1.1101543 | 11.0658204 | -4.2399019 | 0.00013469 | 0.04573895 | 1.01239127 |
| --- | 212387_at | -1.148179 | 7.86470579 | -4.2245512 | 0.0001411 | 0.04762227 | 0.97132047 |

12 hr:

| Gene | ID | raw.FC | AveExpr | t | P.Value | adj.P.Val | B |
|---|---|---|---|---|---|---|---|
| PRDM1 | 228964_at | -1.3131187 | 7.67111264 | -8.6246024 | 1.41E-10 | 7.72E-06 | 11.3048141 |
| RCSD1 | 239328_at | -1.2917804 | 9.91539671 | -6.452108 | 1.22E-07 | 0.0033307 | 6.31495199 |
| BTG1 | 240347_at | -1.2562187 | 6.63516956 | -5.7047112 | 1.33E-06 | 0.02422499 | 4.46209908 |
| FBXO45 | 225099_at | 1.13350791 | 9.69247626 | 5.51958363 | 2.40E-06 | 0.03282196 | 3.99779146 |
| ZNF566 | 240239_at | 1.20902406 | 6.20206745 | 5.35216774 | 4.09E-06 | 0.04477351 | 3.57707114 |

24 hr:

| Gene | ID | raw.FC | AveExpr | t | P.Value | adj.P.Val | B |
|---|---|---|---|---|---|---|---|
| MMP9 | 203936_s_at | -1.2587837 | 8.76550502 | -6.6308842 | 7.89E-08 | 0.00431641 | 6.0372842 |

Downregulated:

6 hr:

| Gene | ID | raw.FC | AveExpr | t | P.Value | adj.P.Val | B |
|---|---|---|---|---|---|---|---|
| LOC648342 | 1569392_at | 1.25828385 | 6.46339373 | 5.71764607 | 1.32E-06 | 0.00281664 | 5.09166798 |
| BTBD14A | 243431_at | 1.31196093 | 8.69387594 | 5.37680876 | 3.90E-06 | 0.00508408 | 4.13936456 |
| SERPINB2 | 204614_at | 1.25751853 | 10.7388922 | 5.14040426 | 8.23E-06 | 0.00865761 | 3.48020227 |
| MYB | 204798_at | 1.09897729 | 13.1513017 | 5.00361266 | 1.27E-05 | 0.01194194 | 3.10002645 |
| STT3B | 238303_at | 1.2645975 | 6.00460112 | 4.9254338 | 1.62E-05 | 0.01372355 | 2.88332163 |
| HSPD1 | 241716_at | 1.30689927 | 6.02121553 | 4.9223221 | 1.64E-05 | 0.01372355 | 2.87470616 |
| ACTN4 | 232058_at | 1.19228742 | 8.60657642 | 4.91815847 | 1.66E-05 | 0.01372355 | 2.86317939 |
| FAM62A | 244234_at | 1.14840119 | 7.29749849 | 4.78192868 | 2.54E-05 | 0.01899888 | 2.48688527 |
| HIC2 | 1559600_at | 1.17980654 | 8.38342055 | 4.76703429 | 2.66E-05 | 0.01937153 | 2.4458524 |
| OXCT2 | 235275_at | 1.16642629 | 12.3300201 | 4.71420617 | 3.13E-05 | 0.02014951 | 2.30050545 |
| --- | 228907_at | 1.17599277 | 8.21884465 | 4.6120071 | 4.30E-05 | 0.02435882 | 2.02023432 |
| GAPDHS | 222280_at | 1.1646993 | 7.71035699 | 4.60723903 | 4.37E-05 | 0.02435882 | 2.00718978 |
| SPFH1 | 202441_at | 1.12657525 | 11.0883546 | 4.55979394 | 5.06E-05 | 0.02658149 | 1.87755147 |
| NAPB | 1570441_at | 1.20267749 | 5.92073389 | 4.52611168 | 5.61E-05 | 0.02866712 | 1.78570418 |
| HNRPD | 213359_at | 1.16888386 | 9.72519123 | 4.50340998 | 6.02E-05 | 0.02985684 | 1.72389004 |
| CISH | 223377_x_at | 1.09133621 | 9.01105134 | 4.49116936 | 6.25E-05 | 0.02996581 | 1.69059129 |
| SFRS14 | 64371_at | 1.12400512 | 8.1962891 | 4.44643142 | 7.17E-05 | 0.03248173 | 1.5690791 |
| C14ORF10 | 239188_at | 1.16314645 | 6.54891766 | 4.38855767 | 8.56E-05 | 0.03519643 | 1.4123519 |
| --- | 232903_at | 1.21778341 | 6.93050721 | 4.29620676 | 0.0001135 | 0.04279881 | 1.16341547 |
| HDAC4 | 232225_at | 1.14445571 | 7.77327378 | 4.27489999 | 0.00012111 | 0.04461757 | 1.10619611 |
| CLK1 | 214683_s_at | 1.160507 | 9.27028645 | 4.268656 | 0.00012343 | 0.04461757 | 1.08944366 |
| CRLF3 | 235803_at | 1.19940674 | 9.07113133 | 4.2670238 | 0.00012404 | 0.04461757 | 1.08506571 |
| ZNF250 | 241738_at | 1.11389598 | 4.2390353 | 4.26401964 | 0.00012518 | 0.04473242 | 1.07700912 |
| WDFY1 | 234157_at | 1.20859908 | 6.39798409 | 4.25895039 | 0.00012712 | 0.04474124 | 1.06341818 |

12 hr:

| Gene | ID | raw.FC | AveExpr | t | P.Value | adj.P.Val | B |
|---|---|---|---|---|---|---|---|
| FBXO45 | 225099_at | 1.13350791 | 9.69247626 | 5.51958363 | 2.40E-06 | 0.03282196 | 3.99779146 |
| ZNF566 | 240239_at | 1.20902406 | 6.20206745 | 5.35216774 | 4.09E-06 | 0.04477351 | 3.57707114 |

**SUPPLEMENTARY TABLE 4a**

Pathways significantly enriched among genes upregulated by Probioglat relative to GA (mannitol-corrected comparison) at 6 hours:

| Term | Pvalue | Fold Enrichm | Benjamini |
|---|---|---|---|
| GO:0005576~extracellular region | 1.59E-09 | 4.04256216 | 2.49E-07 |
| GO:0002376~immune system process | 1.04E-08 | 4.15662651 | 1.53E-05 |
| GO:0048583~regulation of response to stimulus | 1.56E-07 | 5.89709585 | 0.00011513 |
| GO:0044421~extracellular region part | 2.87E-06 | 4.6644948 | 0.00022533 |
| GO:0048519~negative regulation of biological process | 6.21E-07 | 2.62528519 | 0.00030526 |
| GO:0006955~immune response | 1.10E-06 | 4.64403067 | 0.0003252 |
| GO:0002237~response to molecule of bacterial origin | 1.01E-06 | 14.5326132 | 0.00037043 |
| GO:0005886~plasma membrane | 7.17E-06 | 2.13272566 | 0.00037532 |
| GO:0051707~response to other organism | 2.07E-06 | 7.28915663 | 0.00050768 |
| GO:0050878~regulation of body fluid levels | 2.72E-06 | 12.5804711 | 0.00057207 |
| GO:0032879~regulation of localization | 3.74E-06 | 4.5284289 | 0.00068862 |
| GO:0032496~response to lipopolysaccharide | 6.46E-06 | 14.7506024 | 0.00086508 |
| GO:0060089~molecular transducer activity | 5.73E-06 | 2.80749625 | 0.00087605 |
| GO:0004871~signal transducer activity | 5.73E-06 | 2.80749625 | 0.00087605 |
| GO:0065007~biological regulation | 5.36E-06 | 1.47735835 | 0.00087776 |
| GO:0065008~regulation of biological quality | 6.39E-06 | 2.87122423 | 0.00094178 |
| GO:0050789~regulation of biological process | 7.87E-06 | 1.49362031 | 0.0009662 |
| GO:0051049~regulation of transport | 8.87E-06 | 5.49711891 | 0.00100533 |
| GO:0004872~receptor activity | 4.04E-06 | 3.35789983 | 0.00123687 |
| GO:0009611~response to wounding | 1.27E-05 | 4.78915663 | 0.00124947 |
| hsa04060:Cytokine-cytokine receptor interaction | 1.73E-05 | 6.21238938 | 0.00127682 |
| GO:0002682~regulation of immune system process | 1.23E-05 | 5.3123418 | 0.00129048 |
| GO:0048518~positive regulation of biological process | 1.62E-05 | 2.29046621 | 0.00132631 |

| | | | |
|---|---|---|---|
| GO:0051239~regulation of multicellular organismal process | 1.72E-05 | 3.49832925 | 0.00133056 |
| GO:0060341~regulation of cellular localization | 1.61E-05 | 7.83680175 | 0.00139875 |
| GO:0051046~regulation of secretion | 1.57E-05 | 9.68840881 | 0.0014461 |
| GO:0002822~regulation of adaptive immune response based on somatic recombination of immune receptors built from immunoglobulin superfamily domains | 3.26E-05 | 15.8042169 | 0.00184666 |
| GO:0043067~regulation of programmed cell death | 2.93E-05 | 3.18205709 | 0.00187738 |
| GO:0010941~regulation of cell death | 3.06E-05 | 3.17141476 | 0.00187808 |
| GO:0009617~response to bacterium | 3.20E-05 | 8.68960378 | 0.00188684 |
| GO:0042981~regulation of apoptosis | 2.57E-05 | 3.21441699 | 0.00189579 |
| GO:0050776~regulation of immune response | 2.88E-05 | 7.23857261 | 0.00192627 |
| GO:0048513~organ development | 2.80E-05 | 2.61696896 | 0.0019623 |
| GO:0002819~regulation of adaptive immune response | 3.69E-05 | 15.4187482 | 0.00201028 |
| GO:0009605~response to external stimulus | 4.27E-05 | 3.43336687 | 0.00224359 |
| GO:0045428~regulation of nitric oxide biosynthetic process | 4.62E-05 | 23.9457831 | 0.00234521 |
| GO:0051223~regulation of protein transport | 5.39E-05 | 10.2434739 | 0.00264462 |
| GO:0009607~response to biotic stimulus | 5.71E-05 | 4.99558579 | 0.00270962 |
| GO:0005615~extracellular space | 7.88E-05 | 4.83163919 | 0.00308733 |
| GO:0051241~negative regulation of multicellular organismal process | 7.32E-05 | 9.70434369 | 0.0033662 |
| GO:0032101~regulation of response to external stimulus | 8.47E-05 | 9.45551437 | 0.00366669 |
| GO:0070201~regulation of establishment of protein localization | 8.47E-05 | 9.45551437 | 0.00366669 |
| GO:0050793~regulation of developmental process | 8.33E-05 | 3.66930408 | 0.00371381 |
| GO:0048522~positive regulation of cellular process | 9.67E-05 | 2.22534329 | 0.00406592 |
| GO:0032501~multicellular organismal process | 0.000104285 | 1.86057044 | 0.00426099 |
| GO:0007166~cell surface receptor linked signal transduction | 0.000113804 | 2.85618377 | 0.0045237 |

| | | | |
|---|---|---|---|
| GO:0006916~anti-apoptosis | 0.000124449 | 5.88977026 | 0.00481596 |
| GO:0043066~negative regulation of apoptosis | 0.000129722 | 4.52724962 | 0.00489113 |
| GO:0060548~negative regulation of cell death | 0.000147362 | 4.45759963 | 0.00515874 |
| GO:0043069~negative regulation of programmed cell death | 0.000142772 | 4.47481044 | 0.00524771 |
| GO:0009893~positive regulation of metabolic process | 0.000147162 | 2.92670683 | 0.00527708 |
| GO:0031347~regulation of defense response | 0.000165947 | 8.3810241 | 0.00567284 |
| GO:0006952~defense response | 0.000177009 | 3.96343997 | 0.00591277 |
| GO:0050708~regulation of protein secretion | 0.000186347 | 16.9937816 | 0.00608588 |
| GO:0051704~multi-organism process | 0.000215223 | 3.33724036 | 0.00672774 |
| GO:0032880~regulation of protein localization | 0.00021195 | 8.01663174 | 0.00676933 |
| GO:0002697~regulation of immune effector process | 0.000233713 | 10.5361446 | 0.00700664 |
| GO:0002706~regulation of lymphocyte mediated immunity | 0.000238915 | 15.9638554 | 0.00701932 |
| GO:0080134~regulation of response to stress | 0.000230106 | 5.3878012 | 0.00704207 |
| GO:0032502~developmental process | 0.000273185 | 1.8912593 | 0.00786556 |
| GO:0048584~positive regulation of response to stimulus | 0.000283953 | 6.15249318 | 0.00801779 |
| GO:0007155~cell adhesion | 0.000307737 | 3.71863926 | 0.00852335 |
| GO:0022610~biological adhesion | 0.000315593 | 3.70773416 | 0.00857888 |
| GO:0002684~positive regulation of immune system process | 0.000324184 | 6.02065404 | 0.00865189 |
| GO:0001775~cell activation | 0.000386538 | 4.99080533 | 0.01012459 |
| GO:0045429~positive regulation of nitric oxide biosynthetic process | 0.000407508 | 26.3403614 | 0.0104848 |
| GO:0002703~regulation of leukocyte mediated immunity | 0.00041591 | 13.8633481 | 0.01051636 |
| GO:0048856~anatomical structure development | 0.000458417 | 2.01871598 | 0.01138993 |
| GO:0046903~secretion | 0.000554725 | 5.5090952 | 0.01353905 |
| GO:0050727~regulation of inflammatory response | 0.000612986 | 12.5430293 | 0.01470747 |
| GO:0048731~system development | 0.000635394 | 2.0659107 | 0.0149972 |

|  |  |  |  |
|---|---|---|---|
| GO:0031226~intrinsic to plasma membrane | 0.000511383 | 2.90140135 | 0.01593322 |
| GO:0051051~negative regulation of transport | 0.00074669 | 8.20998279 | 0.01732488 |
| GO:0051050~positive regulation of transport | 0.000772048 | 6.30367624 | 0.01763083 |
| GO:0051384~response to glucocorticoid stimulus | 0.000868651 | 11.4523311 | 0.01951397 |
| GO:0005625~soluble fraction | 0.000768008 | 4.51789639 | 0.0199032 |
| GO:0031325~positive regulation of cellular metabolic process | 0.000976424 | 2.70157553 | 0.02158118 |
| GO:0050817~coagulation | 0.001021169 | 10.9751506 | 0.02222647 |
| GO:0007596~blood coagulation | 0.001021169 | 10.9751506 | 0.02222647 |
| GO:0031960~response to corticosteroid stimulus | 0.001104078 | 10.7511679 | 0.02366131 |
| GO:0051047~positive regulation of secretion | 0.001104078 | 10.7511679 | 0.02366131 |
| GO:0030097~hemopoiesis | 0.001226255 | 4.81652324 | 0.02515165 |
| GO:0007275~multicellular organismal development | 0.001212098 | 1.85689232 | 0.02521544 |
| GO:0010033~response to organic substance | 0.001204931 | 2.95193706 | 0.02542679 |
| hsa04621:NOD-like receptor signaling pathway | 0.000725707 | 7.94716981 | 0.02650336 |
| GO:0002252~immune effector process | 0.00136637 | 7.18373494 | 0.02760362 |
| GO:0032680~regulation of tumor necrosis factor production | 0.001395324 | 17.560241 | 0.02780002 |
| GO:0006954~inflammatory response | 0.001443579 | 4.68273092 | 0.02836525 |
| GO:0007599~hemostasis | 0.001483225 | 9.93975904 | 0.02875056 |
| GO:0051173~positive regulation of nitrogen compound metabolic process | 0.001639177 | 3.03927247 | 0.03014551 |
| GO:0051240~positive regulation of multicellular organismal process | 0.001622601 | 5.46318608 | 0.03022181 |
| GO:0042127~regulation of cell proliferation | 0.00158235 | 2.85949644 | 0.0302467 |
| GO:0005887~integral to plasma membrane | 0.001373673 | 2.75859094 | 0.03036028 |
| GO:0050896~response to stimulus | 0.0016107 | 1.7338691 | 0.03038701 |
| GO:0002700~regulation of production of molecular mediator of immune response | 0.001768391 | 16.2094532 | 0.03208543 |
| GO:0042113~B cell activation | 0.001821278 | 9.40727194 | 0.03262879 |
| GO:0007165~signal transduction | 0.001988349 | 1.86414448 | 0.03472894 |

| | | | |
|---|---|---|---|
| GO:0048534~hemopoietic or lymphoid organ development | 0.001967993 | 4.4362714 | 0.0347911 |
| GO:0005102~receptor binding | 0.000373426 | 3.37939364 | 0.03738004 |
| GO:0050794~regulation of cellular process | 0.002340559 | 1.34948203 | 0.04028545 |
| GO:0046651~lymphocyte proliferation | 0.002435526 | 14.5326132 | 0.04140481 |
| GO:0070661~leukocyte proliferation | 0.002687978 | 14.0481928 | 0.04508478 |
| GO:0032943~mononuclear cell proliferation | 0.002687978 | 14.0481928 | 0.04508478 |
| GO:0002520~immune system development | 0.002858408 | 4.1521752 | 0.04734076 |
| GO:0042994~cytoplasmic sequestering of transcription factor | 0.002996182 | 35.1204819 | 0.04901917 |
| GO:0042100~B cell proliferation | 0.002996182 | 35.1204819 | 0.04901917 |

**SUPPLEMENTARY TABLE 4b**

Pathways significantly enriched among genes upregulated by Probioglat relative to GA (mannitol-corrected comparison) at 6 hours, earlier run including Kegg and GO BP only:

| Pathway | Fold Enrichment | PValue | Benjamini |
|---|---|---|---|
| Cytokine-cytokine receptor interaction | 4.35698707 | 1.27E-04 | 0.00976734 |
| NOD-like receptor signaling pathway | 10.04279131 | 2.62E-04 | 0.01003313 |
| response to molecule of bacterial origin | 13.53138285 | 1.85E-06 | 0.00274795 |
| immune response | 3.794670407 | 3.41E-06 | 0.00253001 |
| regulation of apoptosis | 3.437543465 | 6.44E-06 | 0.00318073 |
| regulation of programmed cell death | 3.403676042 | 7.38E-06 | 0.00273572 |
| regulation of cell death | 3.391147173 | 7.77E-06 | 0.00230315 |
| response to wounding | 4.116859404 | 1.28E-05 | 0.00315938 |
| response to lipopolysaccharide | 13.22385142 | 1.35E-05 | 0.0028572 |
| regulation of nitric oxide biosynthetic process | 26.93747511 | 3.12E-05 | 0.00576833 |
| positive regulation of immune system process | 6.1118641 | 3.39E-05 | 0.0055742 |
| regulation of adaptive immune response based on somatic recombination of immune receptors built from immunoglobulin superfamily domains | 15.8686217 | 3.47E-05 | 0.00513317 |

| | | | |
|---|---|---|---|
| regulation of adaptive immune response | 15.58525346 | 3.79E-05 | 0.00509678 |
| regulation of cellular localization | 5.865417967 | 4.67E-05 | 0.00576377 |
| regulation of body fluid levels | 8.253183863 | 4.82E-05 | 0.00548643 |
| defense response | 3.547862575 | 6.58E-05 | 0.00694762 |
| regulation of secretion | 6.480996487 | 6.85E-05 | 0.00675163 |
| regulation of cell proliferation | 3.142134962 | 7.26E-05 | 0.00671416 |
| anti-apoptosis | 6.355151895 | 7.86E-05 | 0.00683534 |
| regulation of protein transport | 8.931899642 | 1.24E-04 | 0.01018322 |
| negative regulation of apoptosis | 4.52001701 | 1.42E-04 | 0.01104867 |
| cell activation | 5.068375108 | 1.43E-04 | 0.01055706 |
| negative regulation of programmed cell death | 4.457064127 | 1.59E-04 | 0.01120592 |
| negative regulation of cell death | 4.444683393 | 1.63E-04 | 0.01094271 |
| B cell activation | 11.48387097 | 1.65E-04 | 0.01056607 |
| regulation of establishment of protein localization | 8.415178175 | 1.72E-04 | 0.01059381 |
| secretion | 4.84874552 | 1.99E-04 | 0.0117664 |
| response to bacterium | 6.029528107 | 3.40E-04 | 0.01921489 |
| response to organic substance | 3.026262807 | 3.46E-04 | 0.01885962 |
| regulation of protein localization | 7.378525791 | 3.51E-04 | 0.01843931 |
| inflammatory response | 4.475765095 | 3.60E-04 | 0.01826237 |
| positive regulation of nitric oxide biosynthetic process | 27.70711726 | 3.70E-04 | 0.01816152 |
| regulation of lymphocyte mediated immunity | 13.46873755 | 4.89E-04 | 0.02311946 |
| regulation of lymphocyte activation | 6.879976751 | 5.10E-04 | 0.02337339 |
| positive regulation of lymphocyte activation | 8.997672098 | 5.13E-04 | 0.022829 |
| regulation of immune effector process | 8.641328649 | 6.18E-04 | 0.02660928 |
| regulation of protein secretion | 12.5398591 | 6.42E-04 | 0.02685938 |
| regulation of response to external stimulus | 6.404003517 | 7.44E-04 | 0.03021027 |
| positive regulation of leukocyte activation | 8.233718807 | 7.70E-04 | 0.03040558 |
| regulation of leukocyte mediated immunity | 11.92314472 | 7.77E-04 | 0.02991572 |
| positive regulation of transport | 5.218380828 | 8.05E-04 | 0.03016938 |
| cell adhesion | 2.909247312 | 8.70E-04 | 0.03175969 |
| positive regulation of secretion | 8.007102693 | 8.73E-04 | 0.03112191 |
| negative regulation of multicellular organismal process | 6.208759507 | 8.74E-04 | 0.03043604 |
| biological adhesion | 2.905097173 | 8.81E-04 | 0.02996299 |
| regulation of B cell proliferation | 20.78033794 | 8.82E-04 | 0.02930901 |

| | | | |
|---|---|---|---|
| regulation of leukocyte activation | 6.133955176 | 9.31E-04 | 0.03025871 |
| positive regulation of cell activation | 7.862830573 | 9.48E-04 | 0.03012533 |
| positive regulation of response to stimulus | 4.930927647 | 0.00112022 | 0.03477139 |
| hemopoiesis | 4.930927647 | 0.00112022 | 0.03477139 |
| regulation of tumor necrosis factor production | 18.7693375 | 0.00119195 | 0.03620158 |
| regulation of cell activation | 5.818494624 | 0.00122343 | 0.03639613 |
| leukocyte activation | 4.808673243 | 0.00129524 | 0.03773715 |
| positive regulation of nitrogen compound metabolic process | 2.9363521 | 0.00135277 | 0.0386239 |
| positive regulation of multicellular organismal process | 4.769257888 | 0.00135811 | 0.03804226 |
| regulation of cytokine production | 5.625616349 | 0.00145409 | 0.03992524 |
| regulation of inflammatory response | 9.569892473 | 0.00176885 | 0.04748898 |
| positive regulation of cell communication | 3.979213648 | 0.00177694 | 0.04685454 |
| adaptive immune response | 9.445608155 | 0.00185618 | 0.048042 |
| adaptive immune response based on somatic recombination of immune receptors built from immunoglobulin superfamily domains | 9.445608155 | 0.00185618 | 0.048042 |
| response to glucocorticoid stimulus | 9.324510615 | 0.00194645 | 0.04946032 |
| hemopoietic or lymphoid organ development | 4.475765095 | 0.00195153 | 0.04875256 |
| response to steroid hormone stimulus | 5.303315412 | 0.00196163 | 0.04818865 |
| humoral immune response | 9.206478835 | 0.00203972 | 0.04924664 |

## SUPPLEMENTARY TABLE 5

Reported Adverse Events and Relapses in Teva's Patient Support Program, 2012-2013

| | **2012**<br>(Copaxone alone) | **2013**<br>(Probioglat+ Copaxone) | **Statistical Significance of Increase**<br>from 2012 to 2013 |
|---|---|---|---|
| Adverse Events | 125 | 380 | $p < 2.2e\text{-}29^*$ |
| Adverse Event Rate (per month) | 10.4 | 31.7 | |
| Relapses | 8 | 59 | $p < 3e\text{-}11^*$ |
| Relapse Rate (per month) | 0.7 | 4.9 | |
| Total Number of Patients in Teva's Patient Support Program | 1618 | 1552 | |

* Single tailed p-value by Fisher's Exact test comparing the number of adverse events and relapses in 2012 < 2013.

## SUPPLEMENTARY TABLE 6

Table of Probioglat expression values for key genes compared to the range set by observed expression values under Copaxone treatment:

Red text indicates that the expression value for this Probioglat treated sample is outside of the observed range of all Copaxone samples.

| | | Copaxone Expression Value Range | | Probioglat Expression Values | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Probeset | Gene | Maxi-mum | Mini-mum | Sample 1 | Sample 2 | Sample 3 | Sample 4 | Sample 5 | Sample 6 |
| 203936_s_at | MMP9 | 9.97 | 9.53 | 10.14 | 10.05 | 10.12 | 10.14 | 10.04 | 10.04 |
| 201743_at | CD14 | 9.69 | 9.32 | 9.75 | 9.75 | 9.67 | 9.79 | 9.71 | 9.86 |
| 202637_s_at | ICAM1 | 8.06 | 7.44 | 8.14 | 7.96 | 8.26 | 7.84 | 8.18 | 7.92 |
| 202638_s_at | ICAM1 | 7.30 | 6.51 | 7.67 | 7.54 | 7.45 | 7.32 | 7.19 | 6.94 |
| 223961_s_at | CISH | 7.69 | 7.24 | 7.31 | 7.20 | 7.41 | 7.37 | 7.62 | 7.23 |
| 223377_x_at | CISH | 9.11 | 8.86 | 8.81 | 8.81 | 8.82 | 8.85 | 8.84 | 8.88 |