## Supplemental Figure 1



Supplemental Figure 1. Flow cytometry analysis of peripheral blood B cell subsets in training and test set patients. (A) B cell subsets were analysed by gating on $\mathrm{CD} 19^{+}$lymphocytes and defined as follows: late-memory B cells $\mathrm{CD} 19^{+} \mathrm{CD} 27^{+} \operatorname{IgD}{ }^{-} \mathrm{CD} 24^{+} \mathrm{CD} 38^{- \text {-int }}$; naïve/mature B cells $\mathrm{CD} 19^{+} \mathrm{CD} 27^{-} \mathrm{CD} 24^{\text {int }} \mathrm{CD} 38^{\text {int. }}$; T1/T2 transitional B cells CD19 ${ }^{+} \mathrm{CD} 27^{-} \mathrm{CD} 24^{+} \mathrm{CD} 38^{\text {hi }}$. Percentages of naïve B cells (B), T1/T2 transitional B cells (C) and memory B cells (D) of total B cells. Ratio of the percentage of T1/T2 transitional: memory B cells (E). Box-plots show median and interquartile range. Whiskers above and below the box indicate the $5^{\text {th }}$ and $95^{\text {th }}$ percentiles. When significant, p
values for 2-tailed Mann-Whitney $U$ test comparisons between groups are shown (* $\mathrm{p}<0.05$, ${ }^{* *}$ $\mathrm{p}<0.01$ ).

## Supplemental Figure 2



Supplemental Figure 2. Analysis of B cell cytokine production by intracellular cytokine staining. B cell production of (A) TGF _, (B) IL-10 and (C) IFN_ was assessed by intracellular cytokine staining after in vitro stimulation of PBMC with phorbol 12-myristate 13-acetate and ionomycin. Results are expressed as the number of cytokine producing B cells (gated on CD19 ${ }^{+}$ lymphocytes) detected per $1 \times 10^{4} \mathrm{~B}$ cells analysed by flow cytometry in stimulated $(+)$ and unstimulated (-) cultures, with median and interquartile range shown for each group. Whiskers above and below the box indicate the $5^{\text {th }}$ and $95^{\text {th }}$ percentiles. Figures (D-F) show the number of cytokine producing cells per $1 \times 10^{4}$ stimulated B cells expressed as a ratio of each cytokine response. Figure G shows TGF_ and IFN_ cell cytokine responses, where each patient is represented by a filled circle and black filled circles represent Tol-DF patients, showing that B cells of Tol-DF patients have a higher capacity to produce TGF_ rather than IFN_. P values for Wilcoxon-matched pair test (A-C) and 2-tailed Mann-Whitney U test comparisons between groups
(D-F) are shown $\left({ }^{*} \mathrm{p}<0.05,{ }^{* *} \mathrm{p}<0.01,{ }^{* * *} \mathrm{p}<0.001\right)$. Sample $\mathrm{n}: \mathrm{HC}=8$, Tol-DF=10, s-LP=8, s$\mathrm{CNI}=16, \mathrm{CR}=4$.

## Supplemental Figure 3



## Supplemental Figure 3

Assessment of direct pathway alloresponses in renal transplant patient groups by IFN_
ELISpot analysis. Cellular functional assays detecting direct pathway alloresponses by IFN ELISpot in the (A) training and (B) test sets. The number of IFN_ producing cells in recipient CD4 ${ }^{+}$ T cells was calculated. Data shows the frequency ( 1 responder / n cells) and median group frequency (black bar) of T cell responses to donor APCs (_ anti-Donor response) or equally mismatched $3^{\text {rd }}$ Party APCs (santi- $3^{\text {rd }} \mathrm{P}$ response) after deducting background. Two-sided p values for Wilcoxon-matched paired test $(* * p<0.01)$ between donor and $3^{\text {rd }} \mathrm{P}$ frequencies is shown.

## Supplemental Figure 4



Supplemental Figure 4. QRT-PCR gene expression analysis of peripheral blood expression of FoxP3 and $\boldsymbol{\alpha} \mathbf{- 1 , 2 - m a n n o s i d a s e . ~ Q R T - P C R ~ a n a l y s i s ~ o f ~ ( A ) ~ F o x P 3 ~ a n d ~ ( B ) ~} \alpha-1,2$-mannosidase expression in whole peripheral blood samples of the training and test sets. Expression levels of FoxP3 and $\alpha-1,2$-mannosidase are expressed as units relative to the expression of HPRT. When significant, p values for 2-tailed Mann-Whitney U test comparisons between groups are shown (* $\mathrm{p}<0.05,{ }^{* *} \mathrm{p}<0.01,{ }^{* * *} \mathrm{p}<0.001$ ).

## Supplemental Figure 5. Median of log-fold change in expression of all probes identified with

 significant differential expression in patient groups of the training and test sets. Plots showing the median of log-fold change in expression (relative to median of all samples) of differentially expressed probes for each patient group of the (A) training and (B) test sets, for all probes detected to be significantly differentially expressed by microarray analysis when ranked on $1 \%$ FDR. Boxplots show median and interquartile range. Whiskers above and below the box indicate the $5^{\text {th }}$ and $95^{\text {th }}$ percentiles.
## Figure 5A

Rank 1: CD79B
2.8957e-08


Rank 2:TCL1A
9.502e-08


Rank 3 : HS3ST1
1.0893e-07


Rank 4: TCL1A
1.2363e-07


Rank 5 : SH2D1B
1.9033e-07


Rank 6:MS4A1
2.2974e-07


Rank 7: TLR5
3.287e-07


Rank 8 : THC2438936
3.336e-07


Rank 9 : PNOC
6.035e-07


Rank 10 : SLC8A1 7.242e-07


Rank 11: FCRL2
7.424e-07


Rank 12 : BLK
1.4605e-06


Rank 13 : PCDH9
1.5219e-06


Rank 14: CD200
2.0047e-06


Rank 15: THC2317432
2.0735e-06


Rank 16 : BCL11A
2.2103e-06


Rank 17 : TSPAN3
3.248e-06


Rank 18: CD79A
3.961e-06


Rank 19 : CASP5
4.113e-06


Rank 20 : FCRL5
4.518e-06


Rank 21:IL1RL2
5.652e-06


Rank 22 : EBI2
6.636e-06


Rank 23 : BLNK
6.711e-06


Rank 24: THC2340114


Rank 25 : RNF24
7.217e-06


Rank 26 : DIMT1L
7.548e-06


Rank 27: EPO
7.588e-06


Rank 28 : ZAK
7.962e-06


Rank 29: CD40
8.79e-06


Rank 30 : CREB3L4
9.191e-06


Rank 31: IGHM
9.729e-06


Rank 32 : ADAM17
1.0187e-05


Rank 33 : SH2D1B
1.098e-05


Rank 34 : AKR1C3
1.1499e-05


Rank 35 : CASD1
1.2146e-05


Rank 36 : FCRLA
1.3121e-05


Rank 37 : BTLA
1.4511e-05


Rank 38 : COL4A3BP
$1.5407 \mathrm{e}-05$


Rank 39 : CLCN5
1.5726e-05


Rank 40 : LHFPL2
1.6299e-05


Rank 41 : ARG1
1.676e-05


Rank 42 : ANXA3
1.6942e-05


Rank 43 : HLA-DOA
1.8553e-05


Rank 44 : KLRF1
1.9078e-05


Rank 45 : CD22
2.1561e-05


Rank 46 : TLR2
$2.3429 \mathrm{e}-05$


Rank 47 : PLXDC2
$2.5879 \mathrm{e}-05$


Rank 48 : BCL7A
$2.8508 \mathrm{e}-05$


Rank 49 : VMO1
2.8841e-05


Rank 50 : ADAMTS4
2.972e-05


Rank 51 : PTPRJ
3.0936e-05


Rank 52 : IFNAR1
3.1601e-05


Rank 53 : MAGEA10 3.2e-05


Rank 54 : HLA-DOB
3.363e-05


Rank 55 : CD163
3.507e-05


Rank 56 : FLJ32866
3.698e-05


Rank 57 : EBF1
3.855e-05


Rank 58 : GPR92
4.112e-05


Rank 59 : COX11
4.197e-05


Rank 60 : PEX3
4.219e-05


Rank 61: ACVR1
4.264e-05


Rank 62 : CD83
4.592e-05


Rank 63: GPR120
4.776e-05


Rank 64 : FLJ23356
5.019e-05


Rank 65 : FAM129A
5.453e-05


Rank 66 : ASPH
5.49e-05


Rank 67: MCTP1
5.858e-05


Rank 68 : SORT1
5.895e-05


Rank 69 : F8
6.211e-05


Rank 70 : TMEM49
6.878e-05


Rank 71 : MBOAT2
6.937e-05


Rank 72: SORL1
7.092e-05


Rank 73:IQGAP1 7.171e-05


Rank 74 : CLEC6A
7.776e-05


Rank 75 : SIRPA
7.782e-05


Rank 76 : PDHX
8.241e-05


Rank 77 : STAT3
8.345e-05


Rank 78 : SLPI
8.534e-05


Rank 79 : NTHL1
8.911e-05


Rank 80 : CXCL5
8.92e-05


Rank 81 : RET
9.64e-05


Rank 82 : GPR84
0.00010047


Rank 83 : ITK
0.0001015


Rank 84 : AIM2
0.00010612


Rank 85 : NCOA1


Rank 86 : LOC145474 0.00011707


Rank 87 : TNFAIP8
0.00011875


Rank 88 : ENOX2
0.00011879


Rank 89 : FSTL3 0.00011967


Rank 90 : FAM13A1
0.00012517


Rank 91 : KCNJ2
0.00012889


Rank 92 : BNIP3 0.00013136


Rank 93 : GALNT14
0.00013177


Rank 94 : TGDS 0.00013296


Rank 95 : VSIG2
0.00013341


Rank 96 : DNAJC19
0.00013469


Rank 97 : A_23_P126328 0.00013582


Rank 98 : PPL 0.00013882


Rank 99 : WASF3
0.00014123


Rank 100: THC2380706 0.00014497


Rank 101 : C1ORF19
0.00014827


Rank 102:SERPINH1
0.00015675


Rank 103 : LITAF
0.00016266


Rank 104 : FLJ37035
0.00016688


Rank 105: FGF7
0.00017408


Rank 106: SLC25A37
0.00017489


Rank 107:IGF1R 0.00019761


Rank 108: EDG1
0.00019885


Rank 109 : NGEF 0.00019888


Rank 110 : TNFAIP6
0.00020038


Rank 111 : RAX 0.00020123


Rank 112: TMTC3 0.00020146


Rank 113 : MNAT1
0.00020319


Rank 114: ZNF181 0.00020441


Rank 115: MYC 0.00020703


Rank 116: CLEC5A
0.00020992


Rank 117: GPX7
0.00022204


Rank 118: HPN 0.00022275


Rank 119 : PPIL3
0.00022426


Rank 120: THUMPD1 0.00022539


Rank 121: MAD2L1
0.00022985


Rank 122: SPTLC2
0.00023099


Rank 123 : THAP2
0.00023455


Rank 124:CRYAB 0.00024539


Rank 125 : C8ORF60
0.0002462


Rank 126 : MXD1
0.00024878


Rank 127 : MATK
0.00025111


Rank 128: LYN 0.00025524


Rank 129: LGALS2
0.00025635


Rank 130 : SEPT9 0.00025951


Rank 131 : PDCD6
0.00027342


Rank 132: DCLRE1A 0.00027807


Rank 133 : IL10RA
0.00028781


Rank 134 : MAGEH1
0.00030851


Rank 135: LOC550643
0.0003202


Rank 136: SLC25A37
0.0003212


Rank 137: CARD6
0.0003232


Rank 138: ZFP2
0.000324


Rank 139 : PTMA
0.0003259


Rank 140 : BACE2
0.0003302


Rank 141 : CHST2
0.0003439


Rank 142 : MUC5AC
0.0003463


Rank 143 : BCKDHB
0.0003477


Rank 144: MTX2
0.0003486


Rank 145 : QSOX1
0.0003567


Rank 146 : PKM2
0.000365


Rank 147:ITGB1BP1
0.0003666


Rank 148: CD7
0.0003692


Rank 149 : ACOT2
0.0003761


Rank 150: SEPT3
0.0003771


Rank 151 : RTN3
0.0003799


Rank 152 : FKBP5
0.0003804


Rank 153: CD40LG
0.0003853


Rank 154 : AIM1 0.0003882


Rank 155 : FANK1
0.0003884


Rank 156 : DNMT1
0.0003952


Rank 157: AK3L1
0.0004051


Rank 158 : RFC4
0.0004052


Rank 159: BTG1
0.0004121


Rank 160 : SPON1
0.0004152


Rank 161: KCNJ15
0.0004167


Rank 162: ATL3 0.0004178


Rank 163 : APH1B
0.0004193


Rank 164: LRRC18
0.0004194


Rank 165: AFF3
0.0004247


Rank 166 : MCEE
0.0004256


Rank 167 : NLRC4
0.0004287


Rank 168 : PLA1A
0.0004346


Rank 169: DTX1
0.0004395


Rank 170 : TRIM4
0.0004396


Rank 171: TMEM106B 0.0004506


Rank 172: CCNG1
0.0004536


Rank 173: HP
0.0004649


Rank 174: TXNDC13
0.0004759


Rank 175: OR2M1P;OR2M2
0.0004778


Rank 176 : FCAR 0.0004804


Rank 177: BTG2
0.0004977


Rank 178 : VCPIP1
0.0005103


Rank 179 : SATB1
0.0005111


Rank 180: PAK1
0.0005242


Rank 181 : PDLIM7
0.0005243


Rank 182: NOTCH2
0.0005283


Rank 183: A_24_P706752
0.0005314


Rank 184 : IL23A
0.0005405


Rank 185: DDEF1
0.0005408


Rank 186 : GPRC5B 0.00055


Rank 187: XBP1
0.0005502


Rank 188: SOCS3
0.0005521


Rank 189: SFRS10
0.0005548


Rank 190 : TNFSF10
0.0005615


Rank 191 : B3GALT6
0.0005628


Rank 192: AQP9
0.0005635


Rank 193: ZNF655
0.0005743


Rank 194 : UPB1 0.0005839


Rank 195 : RNASE2
0.0005867


Rank 196: MAP2K6
0.0005947


Rank 197: CHST2
0.0006037


Rank 198 : LYRM7
0.0006079


Rank 199: AK124263
0.0006098


Rank 200 : MYT1;PCMTD2
0.0006132


Rank 201: CD96 0.0006216


Rank 202 : IRF2
0.00063


Rank 203 : PCGF6
0.0006301


Rank 204:IGKV3-20
0.0006323


Rank 205: CARD11
0.0006366


Rank 206:IFT80
0.0006494


Rank 207 : SLAMF1
0.0006616


Rank 208: SIP1 0.00067


Rank 209 : FAIM 0.0006737


Rank 210 : NEK1
0.0006753


Rank 211: IL1R2
0.0006851


Rank 212: HOXB2
0.0007017


Rank 213 : VCAN
0.000712


Rank 214 : FLT3
0.0007149


Rank 215: CD55


Rank 216:SLC26A8
0.0007239


Rank 217 : PDLIM1
0.0007299


Rank 218: ZMYM1
0.0007352


Rank 219 : FCGR1A
0.0007437


Rank 220 : LGALS8
0.0007442


Rank 221: MRPS30
0.0007479


Rank 222 : CLIC3
0.0007495


Rank 223 : BEX4
0.0007498


Rank 224: SLC11A1
0.0007508


Rank 225 : BMP2K
0.0007561


Rank 226 : SFT2D3
0.0007632


Rank 227 : C5ORF28
0.0007689


Rank 228: STX11
0.0007771


Rank 229 :ITGA1 0.0007853


Rank 230 : PHLDB2
0.0007932


Rank 231: A_23_P399604
0.0007998


Rank 232 : GTL3
0.0008345


Rank 233 : ITSN2
0.0008378


Rank 234: ARHGEF12
0.0008391


Rank 235 : LOC100131941 0.0008459


Rank 236: MUC8
0.0008464


Rank 237 : ORM2
0.0008574


Rank 238 : FLJ22662
0.0008718


Rank 239 : APEX1
0.0008757


Rank 240 : RPS4Y1
0.0008954


Rank 241 : LCK
0.0009192


Rank 242 : LOC642897
0.0009525


Rank 243 : MCL1
0.0009576


Rank 244 : SLC26A8
0.0009576


Rank 245 : PSMB3
0.0009602


Rank 246: CD247
0.0009699


Rank 247 : UPF3A
0.0009735


Rank 248 : RGS1
0.0009772


Rank 249 : RBM3
0.000984


Rank 250 : POLR3H
0.0010194


## Figure 5B

Rank 1: TCL1A
4.678e-13


Rank 2:TCL1A
8.7e-13


Rank 3 : HS3ST1
3.0965e-12


Rank 4: CD200
9.779e-12


Rank 5 : ADAMTS4
$6.583 \mathrm{e}-11$


Rank 6 : CTLA4
2.7675e-10


Rank 7 : GPR44
4.024e-10


Rank 8 : TBC1D4
7.215e-10


Rank 9 : PCDH9
8.099e-10


Rank 10: THC2317432
8.651e-10


Rank 11: IGKV3-20
1.2947e-09


Rank 12: CD79B
$1.5024 \mathrm{e}-09$


Rank 13 : IGHM
1.6126e-09


Rank 14 : MGC29506
1.6481e-09


Rank 15 : IGKC
1.6747e-09


Rank 16: CD247
1.895e-09


Rank 17 : BTG1
2.1968e-09


Rank 18: LOC100132941
2.3376e-09


Rank 19 : MCTP1
2.4322e-09


Rank 20 : BLNK
3.0073e-09


Rank 21: LOC652494 3.914e-09


Rank 22: RGS1
5.146e-09


Rank 23: AY062331
5.701e-09


Rank 24:ICOS
5.855e-09


Rank 25: CR613436
6.421e-09


Rank 26 :IGJ
7.149e-09


Rank 27 : BMP2K
$9.514 \mathrm{e}-09$


Rank 28 : BTLA
1.069e-08


Rank 29 : CD79A
1.1756e-08


Rank 30 : OCIAD2
1.1973e-08


Rank 31 : FHIT
1.3494e-08


Rank 32 : ENST00000359488
1.4266e-08


Rank 33 : IRF8
1.4928e-08


Rank 34 : ENST00000360623
2.1058e-08


Rank 35 : RPS6
2.2906e-08


Rank 36: SORT1
$2.3354 \mathrm{e}-08$


Rank 37 : KIAA0485
2.4445e-08


Rank 38 : ASB2
2.4669e-08


Rank 39 : RPL9
2.4729e-08


Rank 40 : BBS4
2.5037e-08


Rank 41 : EIF2AK3
2.5599e-08


Rank 42 : CD48
2.8923e-08


Rank 43 : FCRL2
3.0755e-08


Rank 44 : DENND2D
3.0983e-08


Rank 45 : IGLL3
3.423e-08


Rank 46 : PMP22
3.844e-08


Rank 47 : HINT1
4.206e-08


Rank 48 : FANK1
4.491e-08


Rank 49 : RHOH
5.184e-08


Rank 50 : IGLC
$5.384 \mathrm{e}-08$


Rank 51 : ATL3
5.802e-08


Rank 52: THC2438936
7.053e-08


Rank 53 : PNOC
7.254e-08


Rank 54 : LOC100131323
8.289e-08


Rank 55 : IGHG1;IGHG2;IGHG3;IGHG4
9.033e-08


Rank 56 : FCRLA
9.092e-08


Rank 57 : MS4A1
9.259e-08


Rank 58 : TMEM49
9.328e-08


Rank 59 : BCL7A
1.0907e-07


Rank 60 : PLXDC2
1.1132e-07


Rank 61: CD28


Rank 62 : SLAMF1
1.1321e-07


Rank 63 : DNASE1L3
1.147e-07


Rank 64 : FN1
1.163e-07


Rank 65 : LHFPL2
$1.319 \mathrm{e}-07$


Rank 66 : SPTLC2
1.3632e-07


Rank 67:IKZF2
1.5457e-07


Rank 68 : DPP4
1.5835e-07


Rank 69 : KLRB1
1.6148e-07


Rank 70 : IL2RA
$1.7285 \mathrm{e}-07$


Rank 71: SPTA1 1.7982e-07


Rank 72: AK129547
1.8401e-07


Rank 73 : FCER2
1.8989e-07


Rank 74 : HLA-DOA
1.9692e-07


Rank 75 : SWAP70
1.9974e-07


Rank 76 : PLEKHA1


Rank 77 : LDHB
2.1606e-07


Rank 78 : TGDS
2.2467e-07


Rank 79 : RPS27
$2.3234 \mathrm{e}-07$


Rank 80 : TSPAN3
2.328e-07


Rank 81 : IGLL1
2.4308e-07


Rank 82 : EBI2
2.5917e-07


Rank 83 : SORT1
2.8479e-07


Rank 84 : LAT


Rank 85 : BNIP3
2.9924e-07


Rank 86 : MGC24039
3.0018e-07


Rank 87 : RFC4
3.186e-07


Rank 88 : NEDD4L
3.24e-07


Rank 89 : ABLIM1
3.253e-07


Rank 90 : QRSL1
3.532e-07


Rank 91 : MAOA 3.712e-07


Rank 92 : LOC643837
3.754e-07


Rank 93 : TNCRNA
3.94e-07


Rank 94 : MAPK14
4.036e-07


Rank 95 : CCR7
4.492e-07


Rank 96 : LOC729349
4.629e-07


Rank 97 : TLR5
4.674e-07


Rank 98 : MAGEH1
4.772e-07


Rank 99 : ITK
4.922e-07


Rank 100 : GADD45A
5.113e-07


Rank 101 : FZD5
5.368e-07


Rank 102 : EBF1
5.41e-07


Rank 103:SPON1
5.637e-07


Rank 104: RPS21
5.653e-07


Rank 105: EBF1
6.159e-07


Rank 106 : AKR1C3
6.555e-07


Rank 107: OLIG2
6.632e-07


Rank 108 : RPA3
$6.644 \mathrm{e}-07$


Rank 109: EDG1
7.713e-07


Rank 110 : MBOAT2
7.77e-07


Rank 111: BLK
7.84e-07


Rank 112: KCNJ2
8.153e-07


Rank 113: FOXO3
8.382e-07


Rank 114: HSF2
8.47e-07


Rank 115: DTX1
8.99e-07


Rank 116: RPL30
9.07e-07


Rank 117: IL12RB2
9.143e-07


Rank 118 : FLJ36644
9.648e-07


Rank 119: SLC25A37
1.0423e-06


Rank 120: CD19
1.097e-06


Rank 121: CD22
1.0981e-06


Rank 122: EP400
1.105e-06


Rank 123: CD83
1.1672e-06


Rank 124 : IRAK3
1.1956e-06


Rank 125 : GPR84
1.2634e-06


Rank 126 : GATM
$1.2925 \mathrm{e}-06$


Rank 127: THC2280867
$1.3427 \mathrm{e}-06$


Rank 128 : HLA-DOB
1.4006e-06


Rank 129: ABCD1
1.4275e-06


Rank 130 : UVRAG
1.4686e-06


Rank 131 : PPIL3
1.4701e-06


Rank 132 : TNFAIP8
$1.4748 \mathrm{e}-06$


Rank 133: OLFM4
1.4769e-06


Rank 134 : BAG1
1.4841e-06


Rank 135: CXORF21
1.6388e-06


Rank 136 : PIK3IP1
1.6527e-06


Rank 137: LETMD1
$1.6779 \mathrm{e}-06$


Rank 138 : ZBED5
1.6949e-06


Rank 139 : TIMP2;LOC732206 1.6986e-06


Rank 140 : EEF1A1;EEF1AL7
1.7305e-06


Rank 141 : NUBPL
$1.7398 \mathrm{e}-06$


Rank 142: HOXB2
$1.7458 \mathrm{e}-06$


Rank 143 : PTPRF
1.9735e-06


Rank 144 : NELL2
2.0909e-06


Rank 145 : LCN2
2.1468e-06


Rank 146: TCF4
2.1549e-06


Rank 147 : MARCKSL1
2.2539e-06


Rank 148 : PSMA1
2.264e-06


Rank 149: TCF7
$2.3908 \mathrm{e}-06$


Rank 150: HLX
2.5741e-06


Rank 151: EGR1
2.6123e-06


Rank 152:IL23A
2.6536e-06


Rank 153: AF471475
2.8731e-06


Rank 154: CCR4
2.9108e-06


Rank 155 : HNRPH1
2.9401e-06


Rank 156 : HCG_1984468;LOC388524;RPSA 3.0663e-06


Rank 157: MT1E
3.192e-06


Rank 158: CCL23
3.205e-06


Rank 159 : PSCD1
3.254e-06


Rank 160: CTSD
3.315e-06


Rank 161: SLC26A8
3.348e-06


Rank 162 : PDLIM7
3.385e-06


Rank 163 : CASD1


Rank 164: BEX5
3.467e-06


Rank 165 : ENST00000322032
3.503e-06


Rank 166 : SLC29A1
3.552e-06


Rank 167: HSPE1
3.577e-06


Rank 168 : KLRB1
3.654e-06


Rank 169 : SLC41A1
3.757e-06


Rank 170: FZD5


Rank 171: AK094477
4.272e-06


Rank 172 : ETAA1
4.419e-06


Rank 173: CA433167
4.542e-06


Rank 174 : STAG3
4.574e-06


Rank 175: C6ORF105
4.716e-06


Rank 176: BEX4
4.836e-06


Rank 177 : PPWD1
4.993e-06


Rank 178 : RNASE2
5.457e-06


Rank 179 : INHBA
5.621e-06


Rank 180:SPRY1
5.899e-06


Rank 181: THC2349739
6.006e-06


Rank 182: RECK
6.034e-06


Rank 183 : ARID5B
6.489e-06


Rank 184 : RPS27A
6.738e-06


Rank 185 : ATXN3
6.741e-06


Rank 186 : ELA2
6.996e-06


Rank 187: DENND1A
7.033e-06


Rank 188: CELSR1
7.052e-06


Rank 189 : DDC
7.148e-06


Rank 190 : RPL35;LOC390876;LOC440737;HCG_1983332
7.19e-06


Rank 191 : MAN1A1
7.389e-06


Rank 192: COL17A1 7.398e-06


Rank 193 : HSPA8
7.4e-06


Rank 194 : CXCL9
7.521e-06


Rank 195 : FADS3
7.537e-06


Rank 196 : PDHX
7.559e-06


Rank 197: C12ORF57
8.04e-06


Rank 198 : NFAM1
8.149e-06


Rank 199: OXCT1
8.187e-06


Rank 200 : F7
8.718e-06


Rank 201 : HRH4
8.747e-06


Rank 202 : TNKS
8.771e-06


Rank 203: CD52
8.823e-06


Rank 204: CD2
8.883e-06


Rank 205: CD40


Rank 206: TCF3
8.988e-06


Rank 207: LCK
9.061e-06


Rank 208 : PFKFB3
9.475e-06


Rank 209: SFRS10
9.566e-06


Rank 210 : NMD3
9.775e-06


Rank 211 : MEFV
9.812e-06


Rank 212: LIMA1
9.994e-06


Rank 213: GZMK
$1.0079 \mathrm{e}-05$


Rank 214 : ASPH
1.0108e-05


Rank 215 : MS4A6A
1.0643e-05


## C441124;LOC642788;LOC646301;LOC646434;LOC653056;LOC728100;LOC728417;LOC728728;LOC728790;LOC72!

 $1.0722 \mathrm{e}-05$

Rank 217: CCDC18
1.0952e-05


Rank 218 : AIM2
1.1622e-05


Rank 219: LOC440731
$1.1767 \mathrm{e}-05$


Rank 220 : AKR1B1
1.2097e-05


Rank 221: THC2393621
1.2149e-05


Rank 222 : PTHR1
1.2226e-05


Rank 223: ZNF14
$1.2432 \mathrm{e}-05$


Rank 224 : ERG
1.2491e-05


Rank 225 : IRF4
$1.2508 \mathrm{e}-05$


Rank 226 : TANK
1.2831e-05


Rank 227 : TRIM4
$1.284 \mathrm{e}-05$


Rank 228 : AMFR
1.2921e-05


Rank 229: HLTF
1.2938e-05


Rank 230 : CD6
1.3208e-05


Rank 231 : ANXA3
1.3766e-05


Rank 232 : C6ORF108
1.3792e-05


Rank 233: CLC
1.3868e-05


Rank 234 : AUTS2
$1.3994 \mathrm{e}-05$


Rank 235: ZNF549
1.4311e-05


Rank 236: TKTL1
1.4321e-05


Rank 237: NR3C2
$1.4358 \mathrm{e}-05$


Rank 238 : MAOB
$1.4618 \mathrm{e}-05$


Rank 239 : IL28RA
1.4916e-05


Rank 240 : DNMT1
$1.5013 \mathrm{e}-05$


Rank 241 : FCAR
1.5455e-05


Rank 242 : PLEKHG1
$1.5624 \mathrm{e}-05$


Rank 243 : A_24_P910255
1.616e-05


Rank 244: ZAK
1.6665e-05


Rank 245 : IL4
$1.673 \mathrm{e}-05$


Rank 246 : RTTN
$1.7412 \mathrm{e}-05$


Rank 247 : STMN1
1.7537e-05


Rank 248 : SEPT9
$1.767 \mathrm{e}-05$


Rank 249 : A_23_P393495
1.7671e-05


Rank 250 : DYSF
1.7765e-05


Rank 251 : BCL11A
$1.7804 \mathrm{e}-05$


252 : FLJ14186;LOC441124;LOC646434;LOC653056;LOC728417;LOC728728;LOC729021;LOC729028;LOC730953;L 1.8016e-05


Rank 253: RASGRP1
1.8023e-05


Rank 254 : PPP3CC
1.8097e-05


Rank 255 : EIF2C4
1.8142e-05


Rank 256 : MTX3
1.816e-05


Rank 257 : DDEF1IT1 1.825e-05


Rank 258: LOC100129122 1.8654e-05


Rank 259 : PDE2A
1.9686e-05


Rank 260 : ITGAM
1.9926e-05


Rank 261 : MIZF


Rank 262 : SET
2.0087e-05


Rank 263 : RBBP9
2.0936e-05


Rank 264 : SLC26A8
2.1207e-05


Rank 265 : A_24_P110487
2.137e-05


Rank 266 : IL10RA
2.1382e-05


Rank 267 : FLJ22662
2.2268e-05


Rank 268 : SPI1
2.2331e-05


Rank 269 : THC2296737


Rank 270 : LMNA
2.2509e-05


Rank 271: FCER1A
2.2646e-05


Rank 272 : GCLM
2.2966e-05


Rank 273:INTS10
$2.3142 \mathrm{e}-05$


Rank 274: GPX7
2.3154e-05


Rank 275 : CD40LG
$2.3594 \mathrm{e}-05$


Rank 276:TACSTD2
2.3595e-05


Rank 277: KLF7
2.3807e-05


Rank 278: THC2317292
$2.3938 \mathrm{e}-05$


Rank 279 : FCER1G
2.4568e-05


Rank 280 : SNHG5
2.457e-05


Rank 281 : CTSF


Rank 282 : UPF3A
2.5086e-05


Rank 283: CD81
2.5197e-05


Rank 284: CCDC88A
2.5778e-05


Rank 285 : DAD1
2.5965e-05


Rank 286 : EIF3E
2.597e-05


Rank 287: RPL14
$2.6548 \mathrm{e}-05$


Rank 288 : HS3ST3B1
2.6767e-05


Rank 289: ANKFY1
2.6801e-05


Rank 290:LYPD1
2.7023e-05


Rank 291 : DSE
2.7347e-05


Rank 292 : CD3D
2.758e-05


Rank 293: TMEM106B
2.8109e-05


Rank 294: CYFIP2
2.8326e-05


Rank 295 : LIN7A
2.8693e-05


Rank 296 : ANK3
2.8904e-05


Rank 297: RPL23
2.9594e-05


Rank 298 : PTPLAD1;LOC732402
2.9982e-05


Rank 299 : LYCAT
3.0133e-05


Rank 300 : MAD2L1
$3.0174 \mathrm{e}-05$


Rank 301 : FCRL5
3.0387e-05


Rank 302 : PITPNM1
3.0996e-05


Rank 303 : C1QB
3.0998e-05


Rank 304 : RPL15
3.1129e-05


Rank 305 : DDR1
3.244e-05


Rank 306: SERPINA1
3.551e-05


Rank 307: COX6A1
3.555e-05


Rank 308 : RASGRP4
3.575e-05


Rank 309 : PCTK1
3.759e-05


Rank 310 : THAP2
3.97e-05


Rank 311 : CTSB
4.079e-05


Rank 312:TRA@
4.096e-05


Rank 313: ATP8A2
4.17e-05


Rank 314 : UBE2T
4.178e-05


Rank 315 : LTF
4.186e-05


Rank 316 : AKAP2
4.231e-05


Rank 317: THUMPD1
4.327e-05


Rank 318 : FCGR1A
4.445e-05


Rank 319 : RETN
4.534e-05


Rank 320 : NUDCD2
4.551e-05


Rank 321: LOC645638
4.568e-05


Rank 322 : PTPRCAP
4.656e-05


Rank 323 : C14ORF106
4.683e-05


Rank 324: AF314543
4.751e-05


Rank 325 : A_24_P850187 4.798e-05


Rank 326 : CHIT1
4.818e-05


Rank 327 : PDE8B
4.824e-05


Rank 328 : HSPA9
4.831e-05


Rank 329 : SH2D1B
4.841e-05


Rank 330 : MEF2A
4.892e-05


Rank 331 : TMTC3
4.896e-05


Rank 332 : MIRN155
$5.019 \mathrm{e}-05$


Rank 333 : GALNT14
5.1e-05


Rank 334 : PPIA
5.102e-05


Rank 335 : BCKDHB
5.157e-05


Rank 336 : SFRS2
5.169e-05


Rank 337 : GALNT4
5.171e-05


Rank 338 : SATB1
5.219e-05


Rank 339 : PRKCE
5.241e-05


Rank 340 : ZNF17
5.304e-05


Rank 341 : PRIM1
5.324e-05


Rank 342 : PRKCH
5.332e-05


Rank 343 : MAP3K7IP3
5.376e-05


Rank 344 : FAU
5.395e-05


Rank 345 : FLT3
5.437e-05


Rank 346 : PLCL2
5.534e-05


Rank 347 : HSPD1
5.567e-05


Rank 348 : ACTN4
$5.619 \mathrm{e}-05$


Rank 349 : TXNDC9
5.694e-05


Rank 350 : THC2432515
5.778e-05


Rank 351 : ZWILCH
5.86e-05


Rank 352 : SH2D1B
5.869e-05


Rank 353 : CAMP
5.929e-05


Rank 354: TUBB;TUBB2A 5.947e-05


Rank 355 : AKAP1
5.977e-05


Rank 356 : DTNBP1
6.002e-05


Rank 357: ADD3
6.007e-05


Rank 358 : ZNF573
6.09e-05


Rank 359 : CHST2
$6.174 \mathrm{e}-05$


Rank 360: ARG1
6.279e-05


Rank 361 : SSFA2
6.557e-05


Rank 362 : DHX9
6.631e-05


Rank 363 : UBE2CBP 6.673e-05


Rank 364 : DEFA4
6.744e-05


Rank 365 : HLA-DRA
6.956e-05


Rank 366 : DNTT
6.981e-05


Rank 367 : ZDHHC3
7.113e-05


Rank 368 : RHBDD1
7.127e-05


Rank 369 : IL7R
7.142e-05


Rank 370: SFT2D3
7.265e-05


Rank 371 : KLRG1
7.338e-05


Rank 372 : MSR1
7.422e-05


Rank 373 : ABI2
7.428e-05


Rank 374: NDFIP2
7.467e-05


Rank 375 : IFT80
7.494e-05


Rank 376 : BST1
7.54e-05


Rank 377 : HLA-DQA2
7.556e-05


Rank 378 : VSTM3
7.72e-05


Rank 379 : CCDC123
7.85e-05


Rank 380 : AMIGO1
7.979e-05


Rank 381 : NDUFB5
8.072e-05


Rank 382 : PIP4K2A
8.092e-05


Rank 383 : BZRAP1
8.248e-05


Rank 384 : FURIN
8.431e-05


Rank 385: GNG7
8.478e-05


Rank 386 : DOK3
8.512e-05


Rank 387 : KIAA 0888
8.597e-05


Rank 388 : DHRS12
8.728e-05


Rank 389 : SLPI
8.994e-05


Rank 390 : GLDC
9.078e-05


Rank 391: RSL1D1
9.415e-05


Rank 392 : PTMA
9.517e-05


Rank 393 : CDK4
9.595e-05


Rank 394 : BC033983
9.735e-05


Rank 395 : STAT4
9.897e-05


Rank 396 : FAT 0.00010247


Rank 397 : ZNF264
0.00010373


Rank 398 : PILRB
0.000104


Rank 399 : EVI2B
0.00010402


Rank 400 : C5ORF28
0.00010603


Rank 401 : A_23_P399604
0.00010801


Rank 402 : FAM108A1;FAM108A2;FAM108A3
0.00011106


Rank 403 : RHOBTB3 0.00011157


Rank 404 : PLCG1
0.00011268


Rank 405 : SLC7A8
0.00011411


Rank 406 : PPARA
0.00011429


Rank 407 : PBX1 0.00011538


Rank 408 : RPS27L
0.00011614


Rank 409 : C8ORF60
0.00011894


Rank 410 : OLAH 0.00011976


Rank 411 : MKI67IP
0.00012106


Rank 412 : C16ORF63 0.00012154


Rank 413 : PEX3
0.00012272


Rank 414 : FLJ21272 0.00012374


Rank 415 : TOP2B
0.00012376


Rank 416 : ICAM2
0.00012776


Rank 417 : WWP2
0.0001288


Rank 418 : SMAD3
0.00012971


Rank 419 : QRSL1 0.00013028


Rank 420 : APOB48R 0.00013257


Rank 421 : TNRC8
0.00013261


Rank 422: SLC39A8 0.00013279


Rank 423 : MAPK14 0.00013338


Rank 424 : EFCAB2
0.00013598


Rank 425 : PRKCD 0.00013663


Rank 426 : WDR21A
0.00013692


Rank 427 : DBI


Rank 428 : B3GNT5
0.00013812


Rank 429 : C5ORF39
0.0001408


Rank 430 : EMR4
0.00014104


Rank 431 : ASF1A
0.00014306


Rank 432 : FLJ36840
0.00014354


Rank 433 : PDCD6
0.00014419


Rank 434 : SRXN1
0.00014549


Rank 435 : RP2
0.00014725


Rank 436 : C1QBP
0.00014762


Rank 437 : FLJ32866
0.00014781


Rank 438 : CCRL2;LOC727811
0.00014794


Rank 439 : RHCE;RHD 0.00015363


Rank 440 : MTA3
0.000155


Rank 441 : CST7


Rank 442 : CCT2
0.00015672


Rank 443 : XBP1
0.00015807


Rank 444 : ATP5F1
0.00015835


Rank 445 : EVI5 0.00016323


Rank 446 : LEPROT 0.00016338


Rank 447 : FGD2 0.0001671


Rank 448 : WHDC1L1 0.0001672


Rank 449 : AKAP8L 0.00016795


Rank 450 : VSIG4
0.00016797


Rank 451 : BZW1
0.00016827


Rank 452 : CREBL2
0.00016892


Rank 453 : GRN
0.00017178


Rank 454 : PCGF6
0.00017217


Rank 455 : LMO2
0.00017242


Rank 456 : IQCK
0.0001733


Rank 457 : KIF1C 0.00017399


Rank 458 : KIF3C 0.00017556


Rank 459 : PLAU 0.00017919


Rank 460 : FYN
0.00017954


Rank 461 : HEATR1
0.00018228


Rank 462 : AF113698
0.0001827


Rank 463 : TCIRG1 0.00018543


Rank 464 : CLCF1
0.00018708


Rank 465 : KLF1 0.00018821


Rank 466 : MGC24039
0.00019249


Rank 467 : NFE2
0.00019352


Rank 468 : PFKM
0.00019439


Rank 469 : PLCL1 0.00019563


Rank 470 : CCR8
0.00019653


Rank 471 : CKB


Rank 472 : FLJ30277
0.00020198


Rank 473 : C200RF103 0.00020703


Rank 474 : LTB
0.0002085


Rank 475 : CHST11
0.00020995


Rank 476 : CEACAM1 0.00021023


Rank 477 : CALML4 0.00021082


Rank 478 : RBMS1 0.00021128


Rank 479 : TFB1M;TIAM2
0.00021392


Rank 480 : LOC388210
0.00021519


Rank 481 : MCM3
0.000216


Rank 482 : IGHA1 0.00022007


Rank 483:IGLV3-19
0.0002203


Rank 484 : C1ORF142
0.0002227


Rank 485 : FANCE
0.00022335


Rank 486 : AK5


Rank 487 : NAP1L1
0.00022481


Rank 488 : DDX58
0.00022672


Rank 489 : IRAK2 0.00022704


Rank 490 : GARNL1
0.00022709


Rank 491 : NARS2
0.00022754


Rank 492 : CSF2RB 0.00022883


Rank 493 : CASP5
0.00022889


Rank 494: DIMT1L
0.00022975


Rank 495 : GNB4
0.00023283


Rank 496 : TNFAIP6
0.0002335


Rank 497 :IL1RN
0.00023505


Rank 498 : DFNB59
0.00023717


Rank 499 : EXOSC1
0.00024209


Rank 500 : SLC25A4
0.00024383


Rank $501:$ A_24_P492919
0.00024464


Rank 502 : CARD11
0.00024517


Rank 503: C1ORF217
0.00024519


Rank 504: SLC25A37
0.00024549


Rank 505 : PSMC6
0.00024675


Rank 506 : NFIA 0.00024803


Rank 507: TM2D1 0.00024877


Rank 508 : ATR 0.00025017


Rank 509 : VCPIP1
0.0002505


Rank 510 : WDR45L 0.00025145


Rank 511: ATG5


Rank 512 : NUCKS1
0.00025341


Rank 513 : LTB4R
0.00025351


Rank 514 : POLR1D 0.00025474


Rank 515 : PIGK


Rank 516 : SIP1 0.00026431


Rank 517: PRICKLE1 0.00026598


Rank 518: ARHGEF9 0.00026806


Rank 519 : MGC29891
0.0002685


Rank 520 : AQP1


Rank 521: CCDC90B
0.00027047


Rank 522: SYT11 0.00027101


Rank 523 : LOC440354
0.00027346


Rank 524:TRD@
0.00027617


Rank 525 : KIF21A
0.00027885


Rank 526 : MOBKL2A 0.00028042


Rank 527 : LRBA
0.00028255


Rank 528: AK095738
0.00028555


Rank 529 : CENPQ
0.00028794


Rank 530 : CXCL16
0.00029013


Rank 531: USP47
0.00029072


Rank 532 : TGFBR3
0.00029394


Rank 533 : CD96
0.00029416


Rank 534 : PTK2B 0.00029592


Rank 535: CDC42BPA 0.00029742


Rank 536: C21ORF34
0.00029813


Rank 537 : N-PAC 0.00030107


Rank 538 : TMSB4X;TMSL3
0.00030651


Rank 539 : A_24_P297302 0.00030672


Rank 540 : LTBP3
0.00030789


Rank 541 : MNAT1 0.00031174


Rank 542 : DNAJC18
0.00031214


Rank 543 : PRNP
0.00031266


Rank 544: BCL2


Rank 545 : IL1R2 0.0003134


Rank 546 : ARHGEF12
0.00031605


Rank 547 : SRRD;TFIP11 0.0003176


Rank 548 : RASGEF1A 0.00032


Rank 549 : GPRASP1 0.0003217


Rank 550 : UCP3
0.0003223


Rank 551: GNAQ
0.0003251


Rank 552 : DHX8
0.000335


Rank 553 : FAM29A
0.0003363


Rank 554 : ABCA1
0.0003364


Rank 555 : PCM1
0.0003406


Rank 556 : TBCD
0.0003406


Rank 557 : AGMAT 0.0003439


Rank 558 : IFITM2
0.0003444


Rank 559 : PSMB4
0.0003451


Rank 560 : ITGAE
0.0003461


Rank 561: A_24_P942312 0.0003467


Rank 562 : ARPC4
0.0003496


Rank 563 : MAFG;LOC644132 0.0003509


Rank 564 : GABARAPL1 0.0003526


Rank 565 : ELP2 0.0003567


Rank 566 : ACSL1
0.0003615


Rank 567: LOC441641 0.0003695


Rank 568: C19ORF43
0.0003698


Rank 569 : TSPAN5 0.00037


Rank 570 : RORA
0.0003706


Rank 571: TRAF7
0.0003736


Rank 572 : TLR1 0.0003771


Rank 573: CD5
0.0003781


Rank 574: TUFT1 0.0003782


Rank 575 : CCR6 0.0003821


Rank 576: GCC2
0.0003949


Rank 577 : ACOT2 0.0003989


Rank 578 : C1ORF26
0.0004012


Rank 579 : PCNA 0.0004023


Rank 580 : IL2RB
0.0004114


Rank 581 : CCDC98;MRPS18C
0.0004128


Rank 582 : GATA3
0.0004143


Rank 583 : ALDH4A1
0.0004151


Rank 584: Al378923
0.0004182


Rank 585 : APEX1
0.000422


Rank 586: ZNF547
0.0004257


Rank 587: MAL
0.0004277


Rank 588 : FN1
0.0004297


Rank 589 : KIF3A
0.000438


Rank 590 : FAIM 0.0004389


Rank 591: CAD
0.00044


Rank 592:SSR4
0.0004425


Rank 593 : UCKL1
0.0004475


Rank 594 : C14ORF129
0.0004497


Rank 595 : GLS
0.0004502


Rank 596: COX6C
0.0004543


Rank 597 : NGFRAP1
0.0004645


Rank 598 : ITGAX
0.0004788


Rank 599 : ALS2CR13
0.0004793


Rank 600 : CA4
0.0004799


Rank 601 : ABCB1
0.0004824


Rank 602 : SOD1
0.000483


Rank 603 : PIP4K2A 0.000483


Rank 604: AF263545
0.0004853


Rank 605: ZNF804A
0.0004854


Rank 606 :TACSTD1 0.0004876


Rank 607 : CLEC5A
0.0004887


Rank 608 : ID3
0.0004904


Rank 609 : A_23_P147970 0.0004914


Rank 610: MT2A
0.0004955


Rank 611: ZDHHC4 0.000497


Rank 612: TLOC1
0.0005034


Rank 613: C5ORF37
0.0005077


Rank 614 : PGM5
0.0005105


Rank 615: MTERFD2
0.0005127


Rank 616 : GTL3
0.0005154


Rank 617: AK094334 0.0005166


Rank 618: CCR5
0.0005214


Rank 619 : RBM3
0.0005248


Rank 620 : AK095831
0.0005286


Rank 621: AF116673
0.0005379


Rank 622: LOC162632
0.0005396


Rank 623 : BASP1
0.0005404


Rank 624 : MIER1
0.000552


Rank 625 : TAF1B 0.000554


Rank 626 : HSPH1
0.0005551


Rank 627 : GCSH
0.0005557


Rank 628 : PTPN11
0.0005587


Rank 629 : NOSIP
0.0005596


Rank 630 : BCL6
0.0005646


Rank 631: LOC644538
0.0005793


Rank 632 : NEDD9
0.0005875


Rank 633 : UCHL5
0.0005981


Rank 634: LOC390306
0.0006008


Rank 635 : BCKDHB
0.0006029


Rank 636 : NUDT16
0.0006073


Rank 637: CD163
0.0006098


Rank 638 : DNAJC19
0.0006116


Rank 639 : ADH1A
0.0006152


Rank 640 : DNAJC16 0.0006178


Rank 641 : CXCR3
0.0006218


Rank 642 : PIN4
0.0006242


Rank 643: ATP6V1G1 0.0006287


Rank 644 : M-RIP
0.0006324


Rank 645 : PRKAB2 0.000633


Rank 646 : PPAP2A
0.0006572


Rank 647 : HRH2
0.0006628


Rank 648 : CRIP3
0.0006634


Rank 649: LOC284262
0.0006664


Rank 650 : NPIP;LOC339047;LOC642778;LOC642799 0.0006678


Rank 651 : TGFBR1
0.0006695


Rank 652: TGFB1
0.0006712


Rank 653 : HPCAL4
0.0006751


Rank 654 : LIMK1
0.0006772


Rank 655 : NDUFA4
0.0006818


Rank 656 : IL24
0.0006824


Rank 657 : EIF1
0.0006839


Rank 658: AW270158
0.0006939


Rank 659 : TSHZ3
0.0006997


Rank 660 : FCGR2A;FCGR2C 0.0007006


Rank 661: BC028022 0.0007024


Rank 662 : MMP8
0.0007035


Rank 663 : AQP3
0.0007086


Rank 664 : PLEK2 0.0007138


Rank 665 : LOC644186
0.0007296


Rank 666 : MANSC1
0.0007368


Rank 667 : MMP9
0.0007403


Rank 668 : SLC10A4
0.0007413


Rank 669 : KIF14 0.0007415


Rank 670 : ORAI3
0.0007494


Rank 671: PSMD7
0.0007525


Rank 672: ZNF227;ZNF235
0.0007564


Rank 673 : REEP3 0.000759


Rank 674 : PDCD2
0.000761


Rank 675 : RPAP3
0.0007627


Rank 676: LOC643641;SSPO
0.0007629


Rank 677 : CHMP1A
0.0007698


Rank 678: RBL2 0.0007702


Rank 679 : EPRS 0.0007706


Rank 680 : TNFRSF25
0.0007801


Rank 681: LY9
0.0007842


Rank 682 : BCS1L
0.0007848


Rank 683 : IGBP1
0.0007865


Rank 684 : RBM3
0.0007968


Rank 685 : CFLAR
0.0007982


Rank 686 : ABCC4
$8 \mathrm{e}-04$


Rank 687 : ZRANB3
0.0008006


Rank 688 : FAM152A
0.0008008


Rank 689 : JDP2
0.0008065


Rank 690: AFF3 0.0008086


Rank 691: CENPM
0.0008121


Rank 692: LOC342892
0.0008186


Rank 693 : MICAL2
0.0008188


Rank 694 : SPATA6 0.0008254


Rank 695 : LILRB2
0.0008272


Rank 696 : CCDC46 0.0008331


Rank 697: TTC27
0.0008374


Rank 698 : PDGFB
0.0008452


Rank 699 : ZAP70
0.0008503


Rank 700 : BCL2L13
0.0008595


Rank 701: LOC731062
0.0008633


Rank 702 : DEPDC5
0.0008663


Rank 703 : THC2385462
0.0008663


Rank 704 : CKS1B
0.0008684


Rank 705 : ADAMTS7;LOC388194;LOC390660;LOC400406;LOC400419;LOC441730;LOC642935 0.000871


Rank 706 : SLC2A3
0.0008738


Rank 707: ZAK
0.0008759


Rank 708: KIAA0494
0.0008774


Rank 709 : MFAP1
0.0008795


Rank 710 : USP45
0.0008855


Rank 711: LOC283788 0.0008871


Rank 712 : PFAS
0.0008946


Rank 713 : DIDO1 0.0008957


Rank 714: THC2380706
0.0009037


Rank 715 : PLD4 0.0009047


Rank 716 : MTX2
0.0009067


Rank 717 : DDX10 0.0009088


Rank 718 : DKFZP564A0769
0.0009109


Rank 719 : HBXIP
0.0009123


Rank 720: SR140
0.0009194


Rank 721: ORMDL2
0.0009248


Rank 722: THC2377375 0.000929


Rank 723 : LAX1
0.0009373


Rank 724 : LRRC25
0.0009374


Rank 725: AP3S2
0.0009398


Rank 726 : SYK
0.0009472


Rank 727 : POLRMT 0.0009482


Rank 728 : OMD
0.0009509


Rank 729: KIR3DX1 0.0009545


Rank 730 : TMED10
0.0009557


Rank 731: FA2H
0.0009644


Rank 732 : MXD1
0.0009655


Rank 733 : ITSN2
0.0009679


Rank 734 : POLG2
0.0009744


Rank 735 : BACE2
0.0009772


Rank 736 : SLC8A1
0.0009826


Rank 737 : L3MBTL3 0.0009862


Rank 738 : ENTPD5
0.0009902


Rank 739 : KLHDC1
0.0009922


Rank 740 : CCR3


Rank 741 : STARD9
0.0010151


## Supplemental Figure 6



Supplemental Figure 6. Correlation of gene expression analysis within the training set determined by microarray and qRT-PCR methods. Correlation of gene expression by microarray and qRT-PCR for selected genes that displayed significantly differential expression (A E) for training set. Signal intensity data of each probe on the microarray was calculated for each patient and expression relative to HPRT was then calculated for each gene as $\log 2$ [gene of interest] - $\log 2$ [HPRT]. qRT-PCR data are depicted as units / HPRT. Pearson and Spearman rank correlation coefficients and p-values are shown. RT-PCR gene expression data for the same set of genes is shown in $\mathrm{F}-\mathrm{J}$ ). Median Box-plots show median and interquartile range. Whiskers above and below the box indicate the $5^{\text {th }}$ and $95^{\text {th }}$ percentiles. Statistical comparison between groups was assessed by Mann-Whitney U test and significant p values are shown ( $\mathrm{F} \mathrm{p}<0.05,{ }^{* *} \mathrm{p}<0.01$, ${ }^{* * *}$ $\mathrm{p}<0.001$ ).

## Supplemental Figure 7



Supplemental Figure 7. Correlation of gene expression analysis within the test set determined by microarray and qRT-PCR methods. Correlation of gene expression by microarray and qRTPCR for selected genes that displayed significantly differential expression ( $\mathrm{A}-\mathrm{E}$ ) for test set. Signal intensity data of each probe on the microarray was calculated for each patient and expression relative to HPRT was then calculated for each gene as $\log 2$ [gene of interest] - $\log 2$ [HPRT]. qRTPCR data are depicted as units / HPRT . Pearson and Spearman rank correlation coefficients and pvalues are shown. RT-PCR gene expression data for the same set of genes is shown in $\mathrm{F}-\mathrm{J}$ ). Boxplots show median and interquartile range. Whiskers above and below the box indicate the $5^{\text {th }}$ and $95^{\text {th }}$ percentiles. Statistical comparison between groups was assessed by Mann-Whitney $U$ test and significant p values are shown ( ${ }^{*} \mathrm{p}<0.05,{ }^{* *} \mathrm{p}<0.01,{ }^{* * *} \mathrm{p}<0.001$ ).

Supplemental Table 1. Study group statistical comparisons of percentage distributions of peripheral blood lymphocyte subsets analysed by flow cytometry. Two-sided p values for Mann-Whitney U tests performed between non-tolerant patient groups of (A) the training set and (B) the test set when analysing the percentage distribution of peripheral blood lymphocyte subsets by flow cytometry.

Table 1A

| Training Set | $\begin{gathered} \text { HC vs } \\ \text { s-LP } \end{gathered}$ | $\underset{\text { s-nCNI }}{\text { HC vs }}$ | $\begin{aligned} & \text { HC vs } \\ & \text { s-CNI } \end{aligned}$ | $\begin{gathered} \text { HC vs } \\ \text { CR } \end{gathered}$ | $\begin{aligned} & \text { s-LP vs } \\ & \text { s-nCNI } \end{aligned}$ | $\begin{gathered} \substack{\text { s-LP vs } \\ \text { s-CNI }} \end{gathered}$ | $\underset{\text { CR }}{\substack{\text { s-LP vs }}}$ | $\underset{s-\mathrm{CNI}}{\substack{\mathrm{~s} \text {-nCNI vs }}}$ | $\underset{\mathrm{CR}}{\substack{\text { s-nCNI vs }}}$ | $\underset{\text { CR }}{\substack{\text { s-CNI vs } \\ \hline}}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| \% T cells | n.s. | 0.044 | n.s. | n.s. | 0.03 | 0.028 | n.s. | n.s. | n.s. | n.s. |
| \% B cells | n.s. | 0.001 | n.s. | n.s. | n.s. | n.s. | n.s. | n.s. | n.s. | n.s. |
| \% NK cells | n.s. | n.s. | n.s. | n.s. | n.s. | n.s. | n.s. | n.s. | n.s. | n.s. |
| Ratio B/T | n.s. | 0.002 | n.s. | n.s. | 0.044 | n.s. | n.s. | n.s. | n.s. | n.s. |
| \% CD4 ${ }^{+} \mathrm{CD} 25{ }^{\text {int }}$ | n.s. | n.s. | n.s. | n.s. | n.s. | n.s. | n.s. | n.s. | n.s. | n.s. |
| \% CD4 ${ }^{+} \mathrm{CD} 25{ }^{\text {hi }}$ | n.s. | n.s. | n.s. | n.s. | n.s. | 0.026 | n.s. | n.s. | n.s. | n.s. |

Table 1B


Supplemental Table 2: Study group statistical comparisons of the ratio of FoxP3 and _1,2mannosidase expression detected in peripheral blood. Two-sided p values for the Mann-Whitney U test performed on the calculated ratio of FoxP3 and _1,2-mannosidase expression between nontolerant patient groups of the (A) the training set and (B) the test set.

Table 2A

| Training Set | HC vs <br> s-LP | HC vs <br> s-nCNI | HC vs <br> s-CNI | HC vs <br> CR | s-LP vs <br> s-nCNI | s-LP vs <br> s-CNI | s-LP vs <br> CR | s-nCNI vs <br> s-CNI | s-nCNI vs <br> CR | s-CNI vs <br> CR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| P values | 0.004 | $<0.001$ | $<0.001$ | sR <br> 1 | n.s. | 0.005 | $<0.001$ | n.s. | 0.013 | 0.002 |

Table 2B

| Test Set | HC vs <br> Mono | HC vs <br> s-CNI | HC vs <br> CAN | Mono vs <br> s-CNI | Mono vs <br> CAN | s-CNI vs <br> CAN |  |  |
| :---: | :---: | :---: | :---: | :---: | :--- | :---: | :---: | :---: | :---: |
| P values | 0.004 |  | $<0.001$ | $<0.00$ <br> 1 | n.s. | n.s. |  | n.s. |

Supplemental Table 3A. List of probes within the training and test sets with significant differential expression identified by four-class analysis of microarray data.
Complete list of 260 probes within (A) training set and 1378 probes within (B) test set with significant differential expression identified following four-class analysis, listed in order of ranked significance, with corresponding microarray probe ID and EntrezGene ID (where assigned). Probes were ranked on p values by Kruskal-Wallis test with adjustment for False Discovery Rate (FDR) at $1 \%$.

| Training set |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Rank | Gene Name | EntrezGene ID | Probe ID | $\boldsymbol{P}$ |
| 1 | CD79B | 974 | A_23_P207201_riset1 | 7.3E-05 |
| 2 | TCL1A | 8115 | A_23_P357717_riset1 | 7.7E-05 |
| 3 | HS3ST1 | 9957 | A_23_P121657_riset1 | 7.7E-05 |
| 4 | TCL1A | 8115 | MIL_PPPID394307780_riset1 | 7.8E-05 |
| 5 | SH2D1B | 117157 | A_32_P324533_riset1 | $9.0 \mathrm{E}-05$ |
| 6 | MS4A1 | 931 | MIL_PPPID394453510_riset1 | 9.6E-05 |
| 7 | TLR5 | 7100 | A_23_P85903_riset1 | 1.0E-04 |
| 8 | THC2438936 |  | A_32_P71876_riset1 | 1.0E-04 |
| 9 | PNOC | 5368 | A_23_P253321_riset1 | $1.5 \mathrm{E}-04$ |
| 10 | SLC8A1 | 6546 | A_32_P147078_riset1 | 1.7E-04 |
| 11 | FCRL2 | 79368 | A_23_P160751_riset1 | 1.7E-04 |
| 12 | BLK | 640 | BLK_riset2 | $2.7 \mathrm{E}-04$ |
| 13 | PCDH9 | 5101 | A_24_P187218_riset1 | 2.8E-04 |
| 14 | CD200 | 4345 | A_23_P121480_riset1 | 3.3E-04 |
| 15 | THC2317432 |  | A_32_P124728_riset1 | 3.3E-04 |
| 16 | BCL11A | 53335 | A_24_P402588_riset1 | 3.5E-04 |
| 17 | TSPAN3 | 10099 | A_23_P14804_riset1 | 4.5E-04 |
| 18 | CD79A | 973 | CD79A_riset2_piqor | 5.0E-04 |
| 19 | CASP5 | 838 | CASP5_riset2 | 5.1E-04 |
| 20 | FCRL5 | 83416 | A_23_P201211_riset1 | 5.4E-04 |
| 21 | IL1RL2 | 8808 | A_23_P56604_riset1 | 6.1E-04 |
| 22 | EBI2 | 1880 | A_23_P25566_riset1 | 6.6E-04 |
| 23 | BLNK | 29760 | A_24_P64344_riset1 | 6.6E-04 |
| 24 | THC2340114 |  | A_32_P192834_riset1 | 6.8E-04 |
| 25 | RNF24 | 11237 | A_23_P120533_riset1 | 6.8E-04 |


| 26 | DIMT1L | 27292 | A_23_P58529_riset1 | 7.0E-04 |
| :---: | :---: | :---: | :---: | :---: |
| 27 | EPO | 2056 | A_23_P145664_riset1 | 7.0E-04 |
| 28 | ZAK | 51776 | A_23_P318300_riset1 | 7.1E-04 |
| 29 | CD40 | 958 | A_23_P57036_riset1 | 7.5E-04 |
| 30 | CREB3L4 | 148327 | A_23_P63232_riset1 | 7.6E-04 |
| 31 | IGHM |  | A_24_P417352_riset1 | 7.8E-04 |
| 32 | ADAM17 | 6868 | A_32_P129621_riset1 | 8.0E-04 |
| 33 | SH2D1B | 117157 | A_32_P324533_riset1 | 8.3E-04 |
| 34 | AKR1C3 | 8644 | A_23_P138543_riset1 | 8.4E-04 |
| 35 | CASD1 | 64921 | A_24_P69379_riset1 | 8.6E-04 |
| 36 | FCRLA | 84824 | A_23_P46037_riset1 | $9.0 \mathrm{E}-04$ |
| 37 | BTLA | 151888 | MIL_PPPID399200354_riset1 | 9.4E-04 |
| 38 | COL4A3BP | 10087 | A_23_P61748_riset1 | $9.7 \mathrm{E}-04$ |
| 39 | CLCN5 | 1184 | CLCN5_riset2 | $9.8 \mathrm{E}-04$ |
| 40 | LHFPL2 | 10184 | A_23_P255104_riset1 | 9.9E-04 |
| 41 | ARG1 | 383 | A_23_P111321_riset1 | $1.0 \mathrm{E}-03$ |
| 42 | ANXA3 | 306 | A_23_P121716_riset1 | $1.0 \mathrm{E}-03$ |
| 43 | HLA-DOA | 3111 | A_32_P356316_riset1 | $1.1 \mathrm{E}-03$ |
| 44 | KLRF1 | 51348 | A_32_P158966_riset1 | $1.1 \mathrm{E}-03$ |
| 45 | CD22 | 933 | CD22_riset2 | $1.2 \mathrm{E}-03$ |
| 46 | TLR2 | 7097 | A_23_P92499_riset1 | $1.2 \mathrm{E}-03$ |
| 47 | PLXDC2 | 84898 | A_32_P187518_rev_riset1 | 1.3E-03 |
| 48 | BCL7A | 605 | A_24_P203056_riset1 | $1.4 \mathrm{E}-03$ |
| 49 | VMO1 | 284013 | A_23_P55356_riset1 | $1.4 \mathrm{E}-03$ |
| 50 | ADAMTS4 | 9507 | A_23_P360754_riset1 | $1.4 \mathrm{E}-03$ |
| 51 | PTPRJ | 5795 | A_24_P921321_riset1 | $1.5 \mathrm{E}-03$ |
| 52 | IFNAR1 | 3454 | MIL_PPPID397416299_riset1 | $1.5 \mathrm{E}-03$ |
| 53 | MAGEA10 | 4109 | A_32_P17253_riset1 | $1.5 \mathrm{E}-03$ |
| 54 | HLA-DOB | 3112 | A_23_P30736_riset1 | $1.5 \mathrm{E}-03$ |
| 55 | CD163 | 9332 | A_23_P33723_riset1 | $1.6 \mathrm{E}-03$ |
| 56 | FLJ32866 |  | MIL_PPPID400032869_riset1 | $1.6 \mathrm{E}-03$ |
| 57 | EBF1 | 1879 | A_24_P156501_riset1 | $1.7 \mathrm{E}-03$ |
| 58 | GPR92 | 57121 | A_23_P204375_riset1 | $1.7 \mathrm{E}-03$ |
| 59 | COX11 | 1353 | A_24_P404204_riset1 | $1.7 \mathrm{E}-03$ |
| 60 | PEX3 | 8504 | A_23_P259328_riset1 | $1.7 \mathrm{E}-03$ |


| 61 | ACVR1 | 90 | A_23_P79218_riset1 | $1.7 \mathrm{E}-03$ |
| :---: | :---: | :---: | :---: | :---: |
| 62 | CD83 | 9308 | A_23_P70670_riset1 | $1.8 \mathrm{E}-03$ |
| 63 | GPR120 | 338557 | A_24_P129588_riset1 | $1.9 \mathrm{E}-03$ |
| 64 | FLJ23356 | 84197 | A_23_P83835_riset1 | $2.0 \mathrm{E}-03$ |
| 65 | FAM129A | 116496 | A_24_P233786_riset1 | 2.1E-03 |
| 66 | ASPH | 444 | A_24_P295245_riset1 | $2.1 \mathrm{E}-03$ |
| 67 | MCTP1 | 79772 | A_24_P212481_riset1 | 2.2E-03 |
| 68 | SORT1 | 6272 | A_24_P325520_riset1 | 2.2E-03 |
| 69 | F8 | 2157 | A_24_P314451_riset1 | 2.2E-03 |
| 70 | TMEM49 | 81671 | A_32_P9753_riset1 | $2.4 \mathrm{E}-03$ |
| 71 | MBOAT2 | 129642 | A_23_P370635_riset1 | 2.4E-03 |
| 72 | SORL1 | 6653 | A_23_P87049_riset1 | $2.4 \mathrm{E}-03$ |
| 73 | IQGAP1 | 8826 | A_24_P321919_riset1 | $2.5 \mathrm{E}-03$ |
| 74 | CLEC6A | 93978 | MIL_PPPID394307776_riset1 | $2.6 \mathrm{E}-03$ |
| 75 | SIRPA | 140885 | A_24_P267619_riset1 | $2.6 \mathrm{E}-03$ |
| 76 | PDHX | 8050 | A_23_P36266_riset1 | $2.7 \mathrm{E}-03$ |
| 77 | STAT3 | 6774 | A_23_P100790_riset1 | $2.7 \mathrm{E}-03$ |
| 78 | SLPI | 6590 | A_23_P91230_riset1 | $2.7 \mathrm{E}-03$ |
| 79 | NTHL1 | 4913 | A_23_P88904_riset1 | $2.8 \mathrm{E}-03$ |
| 80 | CXCL5 | 6374 | A_24_P277367_riset1 | 2.8E-03 |
| 81 | RET | 5979 | MIL_PPPID397416187_riset1 | $2.9 \mathrm{E}-03$ |
| 82 | GPR84 | 53831 | A_23_P25155_riset1 | $3.0 \mathrm{E}-03$ |
| 83 | ITK | 3702 | ITK_riset2 | $3.0 \mathrm{E}-03$ |
| 84 | AIM2 | 9447 | A_32_P44394_riset1 | 3.1E-03 |
| 85 | NCOA1 | 8648 | NCOA1_riset2_piqor | 3.2E-03 |
| 86 | LOC145474 | 145474 | A_32_P393377_riset1 | 3.2E-03 |
| 87 | TNFAIP8 | 25816 | TNFAIP8_riset2 | 3.3E-03 |
| 88 | ENOX2 | 10495 | MIL_PPPID394307984_riset1 | 3.3E-03 |
| 89 | FSTL3 | 10272 | A_23_P209167_riset1 | 3.3E-03 |
| 90 | FAM13A1 | 10144 | A_23_P370651_riset1 | $3.4 \mathrm{E}-03$ |
| 91 | KCNJ2 | 3759 | A_23_P329261_riset1 | 3.4E-03 |
| 92 | BNIP3 | 664 | A_23_P138635_riset1 | $3.4 \mathrm{E}-03$ |
| 93 | GALNT14 | 79623 | A_23_P67847_riset1 | $3.4 \mathrm{E}-03$ |
| 94 | TGDS | 23483 | A_23_P65217_riset1 | $3.5 \mathrm{E}-03$ |
| 95 | VSIG2 | 23584 | A_23_P36018_riset1 | $3.5 \mathrm{E}-03$ |


| 96 | DNAJC19 | 131118 | A_23_P121396_riset1 | 3.5E-03 |
| :---: | :---: | :---: | :---: | :---: |
| 97 | A_23_P126328 |  | A_23_P126328_riset1 | 3.5E-03 |
| 98 | PPL | 5493 | A_23_P106901_riset1 | $3.5 \mathrm{E}-03$ |
| 99 | WASF3 | 10810 | A_24_P176079_riset1 | 3.6E-03 |
| 100 | THC2380706 |  | A_24_P214556_riset1 | $3.6 \mathrm{E}-03$ |
| 101 | C1ORF19 | 116461 | A_23_P104022_riset1 | $3.7 \mathrm{E}-03$ |
| 102 | SERPINH1 | 871 | A_23_P75998_riset1 | 3.8E-03 |
| 103 | LITAF | 9516 | A_23_P3532_riset1 | 3.9E-03 |
| 104 | FLJ37035 | 645524 | A_24_P59471_riset1 | $3.9 \mathrm{E}-03$ |
| 105 | FGF7 | 2252 | A_32_P196029_riset1 | $4.0 \mathrm{E}-03$ |
| 106 | SLC25A37 | 51312 | A_32_P197026_riset1 | 4.1E-03 |
| 107 | IGF1R | 3480 | A_23_P417282_riset1 | $4.3 \mathrm{E}-03$ |
| 108 | EDG1 | 1901 | A_23_P160117_riset1 | 4.4E-03 |
| 109 | NGEF | 25791 | A_23_P102364_riset1 | 4.4E-03 |
| 110 | TNFAIP6 | 7130 | A_23_P165624_riset1 | 4.4E-03 |
| 111 | RAX | 30062 | A_23_P89746_riset1 | 4.4E-03 |
| 112 | TMTC3 | 160418 | A_24_P944222_riset1 | 4.4E-03 |
| 113 | MNAT1 | 4331 | A_23_P32615_riset1 | 4.4E-03 |
| 114 | ZNF181 | 339318 | A_23_P50735_riset1 | 4.4E-03 |
| 115 | MYC | 4609 | MIL_PPPID404158649_riset2 | 4.5E-03 |
| 116 | CLEC5A | 23601 | A_23_P71165_riset1 | 4.5E-03 |
| 117 | GPX7 | 2882 | A_23_P73972_riset1 | 4.6E-03 |
| 118 | HPN | 3249 | A_23_P101801_riset1 | 4.6E-03 |
| 119 | PPIL3 | 53938 | A_23_P28213_risetl | 4.6E-03 |
| 120 | THUMPD1 | 55623 | A_24_P90878_riset1 | 4.7E-03 |
| 121 | MAD2L1 | 4085 | A_23_P92441_riset1 | 4.7E-03 |
| 122 | SPTLC2 | 9517 | A_24_P150486_riset1 | 4.7E-03 |
| 123 | THAP2 | 83591 | A_24_P350437_riset1 | 4.7E-03 |
| 124 | CRYAB | 1410 | A_24_P206776_riset1 | 4.9E-03 |
| 125 | C8ORF60 | 619426 | A_24_P59387_riset1 | 4.9E-03 |
| 126 | MXD1 | 4084 | A_23_P408094_riset1 | 4.9E-03 |
| 127 | MATK | 4145 | A_23_P50678_riset1 | 4.9E-03 |
| 128 | LYN | 4067 | A_23_P147431_riset1 | $5.0 \mathrm{E}-03$ |
| 129 | LGALS2 | 3957 | LGALS2_riset2 | $5.0 \mathrm{E}-03$ |
| 130 | SEPT09 | 6414 | A_32_P344025_risetl | $5.0 \mathrm{E}-03$ |


| 131 | PDCD6 | 10016 | A_23_P218997_riset1 | 5.1E-03 |
| :---: | :---: | :---: | :---: | :---: |
| 132 | DCLRE1A | 9937 | A_23_P75038_riset1 | 5.2E-03 |
| 133 | IL10RA | 3587 | A_24_P107303_riset1 | 5.3E-03 |
| 134 | MAGEH1 | 28986 | A_23_P34144_riset1 | 5.5E-03 |
| 135 | LOC550643 | 550643 | A_24_P867868_riset1 | 5.6E-03 |
| 136 | SLC25A37 | 51312 | A_32_P197026_riset1 | 5.6E-03 |
| 137 | CARD6 | 84674 | A_23_P41854_riset1 | $5.6 \mathrm{E}-03$ |
| 138 | ZFP2 | 80108 | A_23_P133359_riset1 | 5.6E-03 |
| 139 | PTMA | 5757 | A_32_P746413_riset1 | 5.6E-03 |
| 140 | BACE2 | 25825 | A_23_P154875_riset1 | $5.7 \mathrm{E}-03$ |
| 141 | CHST2 | 9435 | CHST2_riset2_piqor | $5.8 \mathrm{E}-03$ |
| 142 | MUC5AC | 4586 | MIL_PPPID404158966_riset2 | 5.8E-03 |
| 143 | BCKDHB | 594 | A_24_P239664_riset1 | 5.8E-03 |
| 144 | MTX2 | 10651 | A_23_P120335_riset1 | $5.8 \mathrm{E}-03$ |
| 145 | QSOX1 | 5768 | QSOX1_riset2 | 5.9E-03 |
| 146 | PKM2 | 5315 | A_23_P399501_riset1 | 5.9E-03 |
| 147 | ITGB1BP1 | 9270 | A_23_P154507_riset1 | $6.0 \mathrm{E}-03$ |
| 148 | CD7 | 924 | A_23_P118862_riset1 | 6.0E-03 |
| 149 | ACOT2 | 10965 | A_23_P3111_riset1 | 6.0E-03 |
| 150 | SEPT03 | 6414 | A_32_P344025_riset1 | $6.0 \mathrm{E}-03$ |
| 151 | RTN3 | 10313 | A_23_P76682_riset1 | $6.1 \mathrm{E}-03$ |
| 152 | FKBP5 | 2289 | A_24_P38081_riset1 | $6.1 \mathrm{E}-03$ |
| 153 | CD40LG | 959 | A_23_P62220_riset1 | $6.1 \mathrm{E}-03$ |
| 154 | AIM1 | 202 | A_23_P70785_risetl | $6.1 \mathrm{E}-03$ |
| 155 | FANK1 | 92565 | A_23_P115785_riset1 | 6.1E-03 |
| 156 | DNMT1 | 1786 | A_23_P27490_risetl | 6.2E-03 |
| 157 | AK3L1 | 205 | MIL_PPPID394453462_riset1 | 6.2E-03 |
| 158 | RFC4 | 5984 | A_23_P18196_risetl | $6.2 \mathrm{E}-03$ |
| 159 | BTG1 | 694 | A_23_P87560_riset1 | 6.3E-03 |
| 160 | SPON1 | 10418 | A_32_P133072_riset1 | $6.3 \mathrm{E}-03$ |
| 161 | KCNJ15 | 3772 | A_23_P17655_risetl | $6.3 \mathrm{E}-03$ |
| 162 | ATL3 | 25923 | A_23_P105028_riset1 | 6.3E-03 |
| 163 | APH1B | 83464 | A_23_P205997_riset1 | $6.3 \mathrm{E}-03$ |
| 164 | LRRC18 | 474354 | A_24_P321125_riset1 | 6.3E-03 |


| 165 | AFF3 | 3899 | A_23_P373464_riset1 | 6.4E-03 |
| :---: | :---: | :---: | :---: | :---: |
| 166 | MCEE | 84693 | A_23_P56654_riset1 | 6.4E-03 |
| 167 | NLRC4 | 58484 | A_23_P119835_riset1 | 6.4E-03 |
| 168 | PLA1A | 51365 | A_23_P29816_riset1 | 6.4E-03 |
| 169 | DTX1 | 1840 | A_24_P290751_riset1 | 6.5E-03 |
| 170 | TRIM4 | 89122 | A_23_P500601_risetl | $6.5 \mathrm{E}-03$ |
| 171 | TMEM106B | 54664 | A_32_P353072_risetl | 6.6E-03 |
| 172 | CCNG1 | 900 | A_23_P58606_riset1 | $6.6 \mathrm{E}-03$ |
| 173 | HP | 3240 | MIL_PPPID399806176_riset1 | $6.7 \mathrm{E}-03$ |
| 174 | TXNDC13 | 56255 | A_23_P166100_riset1 | $6.7 \mathrm{E}-03$ |
| 175 | OR2M1P;OR2M2 | 388762;391194 | A_32_P310503_risetl | 6.8E-03 |
| 176 | FCAR | 2204 | A_24_P348265_riset1 | $6.8 \mathrm{E}-03$ |
| 177 | BTG2 | 7832 | A_23_P62901_riset1 | $6.9 \mathrm{E}-03$ |
| 178 | VCPIP1 | 80124 | A_32_P74366_riset1 | $7.0 \mathrm{E}-03$ |
| 179 | SATB1 | 6304 | SATB1_riset2 | 7.0E-03 |
| 180 | PAK1 | 5058 | MIL_PPPID397416203_riset1 | 7.1E-03 |
| 181 | PDLIM7 | 9260 | A_24_P41882_riset1 | 7.1E-03 |
| 182 | NOTCH2 | 4853 | A_23_P200792_riset1 | 7.1E-03 |
| 183 | A_24_P706752 |  | A_24_P648391_riset1 | 7.1E-03 |
| 184 | IL23A | 51561 | A_23_P76078_riset1 | 7.2E-03 |
| 185 | DDEF1 | 50807 | A_23_P71526_riset1 | 7.2E-03 |
| 186 | GPRC5B | 51704 | A_23_P324327_riset1 | 7.3E-03 |
| 187 | XBP1 | 7494 | A_23_P120845_riset1 | 7.3E-03 |
| 188 | SOCS3 | 9021 | A_23_P207058_riset1 | 7.3E-03 |
| 189 | SFRS10 | 6434 | A_24_P145911_riset1 | 7.3E-03 |
| 190 | TNFSF10 | 8743 | A_23_P121253_risetl | 7.3E-03 |
| 191 | B3GALT6 | 126792 | A_23_P35021_risetl | 7.3E-03 |
| 192 | AQP9 | 366 | A_23_P106362_riset1 | 7.3E-03 |
| 193 | ZNF655 | 79027 | A_23_P345081_riset1 | 7.4E-03 |
| 194 | UPB1 | 51733 | A_23_P120822_riset1 | 7.5E-03 |
| 195 | RNASE2 | 6036 | A_23_P151638_risetl | $7.5 \mathrm{E}-03$ |
| 196 | MAP2K6 | 5608 | A_23_P207445_riset1 | $7.5 \mathrm{E}-03$ |
| 197 | CHST2 | 9435 | CHST2_riset2_piqor | 7.6E-03 |
| 198 | LYRM7 | 90624 | A_32_P18159_risetl | 7.6E-03 |


| 199 | AK124263 |  | A_24_P538708_riset1 | 7.6E-03 |
| :---: | :---: | :---: | :---: | :---: |
| 200 | MYT1;PCMTD2 | 4661;55251 | A_23_P210829_riset1 | 7.6E-03 |
| 201 | CD96 | 10225 | A_23_P44154_riset1 | 7.7E-03 |
| 202 | IRF2 | 3660 | A_23_P136478_riset1 | $7.7 \mathrm{E}-03$ |
| 203 | PCGF6 | 84108 | A_23_P115703_riset1 | 7.7E-03 |
| 204 | IGKV3-20 | 28912 | A_23_P21800_risetl | 7.7E-03 |
| 205 | CARD11 | 84433 | A_23_P82324_riset1 | 7.8E-03 |
| 206 | IFT80 | 57560 | A_23_P316150_riset1 | $7.8 \mathrm{E}-03$ |
| 207 | SLAMF1 | 6504 | SLAMF1_riset2 | $7.9 \mathrm{E}-03$ |
| 208 | SIP1 | 8487 | A_23_P88194_riset1 | $8.0 \mathrm{E}-03$ |
| 209 | FAIM | 55179 | A_23_P253932_riset1 | 8.0E-03 |
| 210 | NEK1 | 4750 | A_23_P124427_riset1 | $8.0 \mathrm{E}-03$ |
| 211 | IL1R2 | 7850 | A_23_P79398_riset1 | 8.0E-03 |
| 212 | HOXB2 | 3212 | A_23_P107283_riset1 | 8.1E-03 |
| 213 | VCAN | 1462 | VCAN_riset2 | 8.2E-03 |
| 214 | FLT3 | 2322 | MIL_PPPID394308044_riset1 | 8.2E-03 |
| 215 | CD55 | 1604 | A_23_P374862_riset1 | 8.2E-03 |
| 216 | SLC26A8 | 116369 | A_23_P30950_riset1 | 8.2E-03 |
| 217 | PDLIM1 | 9124 | A_23_P149992_riset1 | 8.3E-03 |
| 218 | ZMYM1 | 79830 | A_24_P53985_riset1 | 8.3E-03 |
| 219 | FCGR1A | 2209 | A_23_P63395_riset1 | 8.3E-03 |
| 220 | LGALS8 | 3964 | LGALS8_riset2 | 8.3E-03 |
| 221 | MRPS30 | 10884 | A_23_P252362_riset1 | 8.4E-03 |
| 222 | CLIC3 | 9022 | A_23_P254654_riset1 | 8.4E-03 |
| 223 | BEX4 | 56271 | A_23_P114391_riset1 | 8.4E-03 |
| 224 | SLC11A1 | 6556 | A_32_P436132_riset1 | 8.4E-03 |
| 225 | BMP2K | 55589 | A_24_P86240_riset1 | 8.4E-03 |
| 226 | SFT2D3 | 84826 | A_23_P5566_riset1 | 8.4E-03 |
| 227 | C5ORF28 | 64417 | A_23_P121875_riset1 | 8.5E-03 |
| 228 | STX11 | 8676 | A_23_P156788_riset1 | 8.5E-03 |


| 229 | ITGA1 | 3672 | A_23_P256332_riset1 | 8.6E-03 |
| :---: | :---: | :---: | :---: | :---: |
| 230 | PHLDB2 | 90102 | A_24_P240166_riset1 | 8.6E-03 |
| 231 | A_23_P399604 |  | A_23_P399604_riset1 | $8.7 \mathrm{E}-03$ |
| 232 | GTL3 | 29105 | A_23_P3514_riset1 | 8.9E-03 |
| 233 | ITSN2 | 50618 | MIL_PPPID399200362_riset1 | 8.9E-03 |
| 234 | ARHGEF12 | 23365 | A_24_P175783_riset1 | 8.9E-03 |
| 235 | LOC100131941 | 100131941 | MIL_PPPID400032845_riset1 | 8.9E-03 |
| 236 | MUC8 | 0 | MUC8_riset2_piqor | 8.9E-03 |
| 237 | ORM2 | 5005 | A_23_P9485_riset1 | $9.0 \mathrm{E}-03$ |
| 238 | FLJ22662 | 79887 | A_23_P87709_riset1 | $9.1 \mathrm{E}-03$ |
| 239 | APEX1 | 328 | A_23_P151649_riset1 | $9.1 \mathrm{E}-03$ |
| 240 | RPS4Y1 | 6192 | A_23_P259314_riset1 | $9.2 \mathrm{E}-03$ |
| 241 | LCK | 3932 | LCK_riset2 | $9.3 \mathrm{E}-03$ |
| 242 | LOC642897 | 642897 | A_24_P84401_riset1 | $9.5 \mathrm{E}-03$ |
| 243 | MCL1 | 4170 | A_24_P336754_riset1 | $9.5 \mathrm{E}-03$ |
| 244 | SLC26A8 | 116369 | A_23_P30950_riset1 | $9.5 \mathrm{E}-03$ |
| 245 | PSMB3 | 5691 | PSMB3_riset2_piqor | $9.5 \mathrm{E}-03$ |
| 246 | CD247 | 919 | A_23_P34676_riset1 | 9.6E-03 |
| 247 | UPF3A | 65110 | A_32_P202778_riset1 | $9.6 \mathrm{E}-03$ |
| 248 | RGS1 | 5996 | A_23_P97141_riset1 | $9.6 \mathrm{E}-03$ |
| 249 | RBM3 | 5935 | RBM3_riset2 | $9.6 \mathrm{E}-03$ |
| 250 | POLR3H | 171568 | A_24_P322847_riset1 | $9.8 \mathrm{E}-03$ |
| 251 | RHOH | 399 | A_23_P58132_riset1 | $9.8 \mathrm{E}-03$ |
| 252 | SELL | 6402 | A_23_P114921_riset1 | $9.8 \mathrm{E}-03$ |
| 253 | RAC2 | 5880 | A_23_P218774_riset1 | $9.8 \mathrm{E}-03$ |
| 254 | LETMD1 | 25875 | A_23_P117037_riset1 | $9.9 \mathrm{E}-03$ |
| 255 | THC2286599 |  | A_32_P106807_riset1 | $9.9 \mathrm{E}-03$ |
| 256 | PIAS1 | 8554 | PIAS1_riset2_piqor | $9.9 \mathrm{E}-03$ |
| 257 | LDHB | 3945 | A_23_P53476_riset1 | $9.9 \mathrm{E}-03$ |
| 258 | CDKN1B | 1027 | A_23_P204696_riset2 | $1.0 \mathrm{E}-02$ |
| 259 | TRA@ | 6955 | A_23_P258504_riset1 | $1.0 \mathrm{E}-02$ |

## Supplemental Table 3B. List of probes within the training and test sets with significant differential expression identified by four-class analysis of microarray data.

Complete list of 260 probes within (A) training set and 1378 probes within (B) test set with significant differential expression identified following four-class analysis, listed in order of ranked significance, with corresponding microarray probe ID and EntrezGene ID (where assigned). Probes were ranked on p values by Kruskal-Wallis test with adjustment for False Discovery Rate (FDR) at $1 \%$.

| Test set |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Rank | Gene Name | EntrezGene ID | Probe ID | P |
| 1 | TCL1A | 8115 | A_23_P357717_riset1 | $6.09 \mathrm{E}-10$ |
| 2 | TCL1A | 8115 | MIL_PPPID394307780_riset1 | $6.09 \mathrm{E}-10$ |
| 3 | HS3ST1 | 9957 | A_23_P121657_riset1 | $1.45 \mathrm{E}-09$ |
| 4 | CD200 | 4345 | A_23_P121480_riset1 | $3.42 \mathrm{E}-09$ |
| 5 | ADAMTS4 | 9507 | A_23_P360754_riset1 | $1.84 \mathrm{E}-08$ |
| 6 | CTLA4 | 1493 | A_23_P102481_riset1 | $6.14 \mathrm{E}-08$ |
| 7 | GPR44 | 11251 | GPR44_riset2 | $7.93 \mathrm{E}-08$ |
| 8 | TBC1D4 | 9882 | A_23_P88095_riset1 | $1.11 \mathrm{E}-07$ |
| 9 | PCDH9 | 5101 | A_24_P187218_riset1 | $1.17 \mathrm{E}-07$ |
| 10 | THC2317432 | - | A_32_P124728_riset1 | $1.21 \mathrm{E}-07$ |
| 11 | IGKV3-20 | 28912 | A_23_P21800_riset1 | $1.43 \mathrm{E}-07$ |
| 12 | CD79B | 974 | A_23_P207201_riset1 | $1.51 \mathrm{E}-07$ |
| 13 | IGHM | 3507 | A_24_P417352_riset1 | $1.54 \mathrm{E}-07$ |
| 14 | MGC29506 | 51237 | A_23_P84596_riset1 | $1.55 \mathrm{E}-07$ |
| 15 | IGKC | 3514 | MIL_PPPID399806182_riset1 | $1.56 \mathrm{E}-07$ |
| 16 | CD247 | 919 | A_23_P34676_riset1 | $1.64 \mathrm{E}-07$ |
| 17 | BTG1 | 694 | A_23_P87560_riset1 | $1.73 \mathrm{E}-07$ |
| 18 | $\begin{gathered} \hline \text { LOC10013294 } \\ 1 \\ \hline \end{gathered}$ | 100132941 | A_24_P144346_riset1 | $1.77 \mathrm{E}-07$ |
| 19 | MCTP1 | 79772 | A_24_P212481_riset1 | $1.79 \mathrm{E}-07$ |
| 20 | BLNK | 29760 | A_24_P64344_riset1 | $2.11 \mathrm{E}-07$ |
| 21 | LOC652494 | 652494 | A_24_P100684_riset1 | $2.57 \mathrm{E}-07$ |
| 22 | RGS1 | 5996 | A_23_P97141_riset1 | $3.12 \mathrm{E}-07$ |
| 23 | AY062331 | - | A_24_P639701_riset1 | $3.33 \mathrm{E}-07$ |
| 24 | ICOS | 29851 | MIL_PPPID399200278_riset1 | $3.39 \mathrm{E}-07$ |


| 25 | CR613436 | - | A_32_P27135_riset1 | $3.60 \mathrm{E}-07$ |
| :---: | :---: | :---: | :---: | :---: |
| 26 | IGJ | 3512 | A_23_P167168_riset1 | $3.85 \mathrm{E}-07$ |
| 27 | BMP2K | 55589 | A_24_P86240_riset1 | $4.73 \mathrm{E}-07$ |
| 28 | BTLA | 151888 | MIL_PPPID399200354_riset1 | 5.13E-07 |
| 29 | CD79A | 973 | CD79A_riset2_piqor | $5.47 \mathrm{E}-07$ |
| 30 | OCIAD2 | 132299 | A_23_P121702_riset1 | $5.53 \mathrm{E}-07$ |
| 31 | FHIT | 2272 | FHIT_riset2 | 5.96E-07 |
| 32 | $\begin{gathered} \hline \text { ENST0000035 } \\ 9488 \end{gathered}$ | - | A_23_P21260_riset1 | 6.17E-07 |
| 33 | IRF8 | 3394 | A_23_P129636_riset1 | $6.32 \mathrm{E}-07$ |
| 34 | ENST0000036 0623 | - | A_24_P24053_riset1 | 7.85E-07 |
| 35 | RPS6 | 6194 | A_23_P123563_riset1 | $8.23 \mathrm{E}-07$ |
| 36 | SORT1 | 6272 | A_24_P325520_riset1 | 8.33E-07 |
| 37 | KIAA0485 |  | A_24_P762886_riset1 | 8.52E-07 |
| 38 | ASB2 | 51676 | A_23_P205370_riset1 | $8.58 \mathrm{E}-07$ |
| 39 | RPL9 | 6133 | A_32_P153100_riset1 | $8.58 \mathrm{E}-07$ |
| 40 | BBS4 | 585 | A_23_P99967_riset1 | $8.63 \mathrm{E}-07$ |
| 41 | EIF2AK3 | 9451 | A_23_P135857_riset1 | $8.74 \mathrm{E}-07$ |
| 42 | CD48 | 962 | A_23_P74145_riset1 | $9.45 \mathrm{E}-07$ |
| 43 | FCRL2 | 79368 | A_23_P160751_riset1 | $9.83 \mathrm{E}-07$ |
| 44 | DENND2D | 79961 | A_23_P85952_riset1 | $9.87 \mathrm{E}-07$ |
| 45 | IGLL3 | 91353 | IGLL3_riset2 | $1.06 \mathrm{E}-06$ |
| 46 | PMP22 | 5376 | A_23_P100711_riset1 | $1.16 \mathrm{E}-06$ |
| 47 | HINT1 | 3094 | A_23_P252832_riset1 | $1.25 \mathrm{E}-06$ |
| 48 | FANK1 | 92565 | A_23_P115785_riset1 | $1.31 \mathrm{E}-06$ |
| 49 | RHOH | 399 | A_23_P58132_riset1 | $1.46 \mathrm{E}-06$ |
| 50 | IGLC | 3536 | MIL_PPPID399806199_riset1 | $1.51 \mathrm{E}-06$ |
| 51 | ATL3 | 25923 | A_23_P105028_riset1 | $1.59 \mathrm{E}-06$ |
| 52 | FCRL1 | 115350 | A_32_P71876_riset1 | $1.84 \mathrm{E}-06$ |
| 53 | PNOC | 5368 | A_23_P253321_riset1 | $1.87 \mathrm{E}-06$ |
| 54 | $\begin{gathered} \text { LOC10013132 } \\ 3 \end{gathered}$ | 100131323 | A_24_P93452_riset1 | $2.05 \mathrm{E}-06$ |
| 55 | $\begin{gathered} \text { IGHG1;IGHG } \\ \text { 2;IGHG3;IGH } \\ \text { G4 } \\ \hline \end{gathered}$ | 3500;3501;3502;3503 | MIL_PPPID399806233_riset1 | $2.17 \mathrm{E}-06$ |
| 56 | FCRLA | 84824 | A_23_P46037_riset1 | 2.18E-06 |
| 57 | MS4A1 | 931 | MIL_PPPID394453510_riset1 | $2.21 \mathrm{E}-06$ |


| 58 | TMEM49 | 81671 | A_32_P9753_riset1 | 2.22E-06 |
| :---: | :---: | :---: | :---: | :---: |
| 59 | BCL7A | 605 | A_24_P203056_riset1 | $2.45 \mathrm{E}-06$ |
| 60 | PLXDC2 | 84898 | A_32_P187518_rev_riset1 | $2.47 \mathrm{E}-06$ |
| 61 | CD28 | 940 | A_23_P91095_riset1 | $2.50 \mathrm{E}-06$ |
| 62 | SLAMF1 | 6504 | SLAMF1_riset2 | $2.50 \mathrm{E}-06$ |
| 63 | DNASE1L3 | 1776 | A_23_P257993_riset1 | $2.53 \mathrm{E}-06$ |
| 64 | FN1 | 2335 | A_24_P119745_riset1 | $2.54 \mathrm{E}-06$ |
| 65 | LHFPL2 | 10184 | A_23_P255104_riset1 | $2.79 \mathrm{E}-06$ |
| 66 | SPTLC2 | 9517 | A_24_P150486_riset1 | $2.85 \mathrm{E}-06$ |
| 67 | IKZF2 | 22807 | A_32_P114284_riset1 | 3.13E-06 |
| 68 | DPP4 | 1803 | A_23_P39885_riset1 | $3.17 \mathrm{E}-06$ |
| 69 | KLRB1 | 3820 | A_32_P807121_riset1 | $3.21 \mathrm{E}-06$ |
| 70 | IL2RA | 3559 | A_23_P127288_riset1 | $3.37 \mathrm{E}-06$ |
| 71 | SPTA1 | 6708 | A_23_P63158_riset1 | $3.47 \mathrm{E}-06$ |
| 72 | AK129547 | - | A_32_P194372_riset1 | $3.52 \mathrm{E}-06$ |
| 73 | FCER2 | 2208 | A_23_P164773_riset1 | $3.59 \mathrm{E}-06$ |
| 74 | HLA-DOA | 3111 | A_32_P356316_riset1 | $3.67 \mathrm{E}-06$ |
| 75 | SWAP70 | 23075 | A_23_P116533_riset1 | $3.71 \mathrm{E}-06$ |
| 76 | PLEKHA1 | 59338 | A_23_P115792_riset1 | $3.82 \mathrm{E}-06$ |
| 77 | LDHB | 3945 | A_23_P53476_riset1 | $3.89 \mathrm{E}-06$ |
| 78 | TGDS | 23483 | A_23_P65217_riset1 | $3.99 \mathrm{E}-06$ |
| 79 | RPS27 | 6232 | A_23_P74629_riset1 | $4.07 \mathrm{E}-06$ |
| 80 | TSPAN3 | 10099 | A_23_P14804_riset1 | 4.08E-06 |
| 81 | IGLL1 | 3543 | A_24_P83102_riset1 | $4.20 \mathrm{E}-06$ |
| 82 | EBI2 | 1880 | A_23_P25566_riset1 | $4.39 \mathrm{E}-06$ |
| 83 | SORT1 | 6272 | A_24_P325520_riset1 | $4.69 \mathrm{E}-06$ |
| 84 | LAT | 27040 | A_23_P44105_riset1 | 4.78E-06 |
| 85 | BNIP3 | 664 | A_23_P138635_riset1 | $4.84 \mathrm{E}-06$ |
| 86 | MGC24039 | 160518 | A_23_P379746_riset1 | $4.85 \mathrm{E}-06$ |
| 87 | RFC4 | 5984 | A_23_P18196_riset1 | $5.05 \mathrm{E}-06$ |
| 88 | NEDD4L | 23327 | A_23_P387856_riset1 | $5.10 \mathrm{E}-06$ |
| 89 | ABLIM1 | 3983 | A_23_P202520_riset1 | $5.11 \mathrm{E}-06$ |
| 90 | QRSL1 | 55278 | A_24_P63799_riset1 | $5.45 \mathrm{E}-06$ |
| 91 | MAOA | 4128 | A_23_P96410_riset1 | $5.65 \mathrm{E}-06$ |
| 92 | LOC643837 | 643837 | A_32_P196036_riset1 | $5.70 \mathrm{E}-06$ |


| 93 | TNCRNA | 283131 | A_32_P1036_riset1 | 5.91E-06 |
| :---: | :---: | :---: | :---: | :---: |
| 94 | MAPK14 | 1432 | MAPK14_1_riset2 | 6.02E-06 |
| 95 | CCR7 | 1236 | A_23_P343398_riset1 | $6.50 \mathrm{E}-06$ |
| 96 | LOC729349 | 729141 | A_24_P161233_riset1 | $6.64 \mathrm{E}-06$ |
| 97 | TLR5 | 7100 | A_23_P85903_riset1 | 6.68E-06 |
| 98 | MAGEH1 | 28986 | A_23_P34144_riset1 | $6.78 \mathrm{E}-06$ |
| 99 | ITK | 3702 | ITK_riset2 | 6.93E-06 |
| 100 | GADD45A | 1647 | A_23_P23221_riset1 | 7.11E-06 |
| 101 | FZD5 | 7855 | A_24_P148503_riset1 | $7.35 \mathrm{E}-06$ |
| 102 | EBF1 | 1879 | A_24_P156501_riset1 | 7.39E-06 |
| 103 | SPON1 | 10418 | A_32_P133072_riset1 | 7.60E-06 |
| 104 | RPS21 | 6227 | A_23_P120660_riset1 | $7.61 \mathrm{E}-06$ |
| 105 | EBF1 | 1879 | A_24_P156501_riset1 | 8.13E-06 |
| 106 | AKR1C3 | 8644 | A_23_P138543_riset1 | 8.53E-06 |
| 107 | OLIG2 | 10215 | A_23_P211079_riset1 | 8.60E-06 |
| 108 | RPA3 | 6119 | A_23_P256455_riset1 | 8.61E-06 |
| 109 | EDG1 | 1901 | A_23_P160117_riset1 | $9.65 \mathrm{E}-06$ |
| 110 | MBOAT2 | 129642 | A_23_P370635_riset1 | $9.71 \mathrm{E}-06$ |
| 111 | BLK | 640 | BLK_riset2 | $9.78 \mathrm{E}-06$ |
| 112 | KCNJ2 | 3759 | A_23_P329261_riset1 | $1.01 \mathrm{E}-05$ |
| 113 | FOXO3 | 2309 | A_32_P493575_riset1 | $1.03 \mathrm{E}-05$ |
| 114 | HSF2 | 3298 | A_32_P9963_riset1 | $1.04 \mathrm{E}-05$ |
| 115 | DTX1 | 1840 | A_24_P290751_riset1 | $1.08 \mathrm{E}-05$ |
| 116 | RPL30 | 6156 | A_24_P29818_riset1 | $1.09 \mathrm{E}-05$ |
| 117 | IL12RB2 | 3595 | IL12RB2_riset2 | $1.09 \mathrm{E}-05$ |
| 118 | FLJ36644 | 400617 | A_32_P102966_riset1 | $1.14 \mathrm{E}-05$ |
| 119 | SLC25A37 | 51312 | A_32_P197026_riset1 | $1.21 \mathrm{E}-05$ |
| 120 | CD19 | 930 | CD19_riset2 | $1.26 \mathrm{E}-05$ |
| 121 | CD22 | 933 | CD22_riset2 | $1.26 \mathrm{E}-05$ |
| 122 | EP400 | 57634 | A_23_P253154_riset1 | $1.26 \mathrm{E}-05$ |
| 123 | CD83 | 9308 | A_23_P70670_riset1 | $1.31 \mathrm{E}-05$ |
| 124 | IRAK3 | 11213 | IRAK3_riset2 | $1.34 \mathrm{E}-05$ |
| 125 | GPR84 | 53831 | A_23_P25155_riset1 | $1.39 \mathrm{E}-05$ |
| 126 | GATM | 2628 | A_23_P129064_riset1 | $1.41 \mathrm{E}-05$ |
| 127 | THC2280867 | - | A_32_P122715_riset1 | $1.45 \mathrm{E}-05$ |


| 128 | HLA-DOB | 3112 | A_23_P30736_riset1 | $1.49 \mathrm{E}-05$ |
| :---: | :---: | :---: | :---: | :---: |
| 129 | ABCD1 | 215 | A_23_P148556_riset1 | $1.51 \mathrm{E}-05$ |
| 130 | UVRAG | 7405 | UVRAG_riset2 | $1.54 \mathrm{E}-05$ |
| 131 | PPIL3 | 53938 | A_23_P28213_riset1 | $1.54 \mathrm{E}-05$ |
| 132 | TNFAIP8 | 25816 | TNFAIP8_riset2 | $1.54 \mathrm{E}-05$ |
| 133 | OLFM4 | 10562 | A_24_P181254_riset1 | $1.55 \mathrm{E}-05$ |
| 134 | BAG1 | 573 | BAG1_riset2_piqor | $1.55 \mathrm{E}-05$ |
| 135 | CXORF21 | 80231 | A_23_P62227_riset1 | $1.66 \mathrm{E}-05$ |
| 136 | PIK3IP1 | 113791 | A_24_P134488_riset1 | $1.66 \mathrm{E}-05$ |
| 137 | LETMD1 | 25875 | A_23_P117037_riset1 | $1.68 \mathrm{E}-05$ |
| 138 | ZBED5 | 58486 | A_23_P98483_riset1 | $1.69 \mathrm{E}-05$ |
| 139 | $\begin{gathered} \hline \text { TIMP2;LOC7 } \\ 32206 \\ \hline \end{gathered}$ | 7077 | MIL_PPPID397416231_riset1 | $1.69 \mathrm{E}-05$ |
| 140 | $\begin{gathered} \hline \text { EEF1A1;EEF } \\ \text { 1AL7 } \\ \hline \end{gathered}$ | 1915;441032 | MIL_PPPID399806198_riset1 | $1.71 \mathrm{E}-05$ |
| 141 | NUBPL | 80224 | A_23_P170906_riset1 | $1.72 \mathrm{E}-05$ |
| 142 | HOXB2 | 3212 | A_23_P107283_riset1 | $1.73 \mathrm{E}-05$ |
| 143 | PTPRF | 5792 | A_32_P416233_riset1 | $1.90 \mathrm{E}-05$ |
| 144 | NELL2 | 4753 | A_23_P10025_riset1 | $2.00 \mathrm{E}-05$ |
| 145 | LCN2 | 3934 | A_23_P169437_riset1 | $2.04 \mathrm{E}-05$ |
| 146 | TCF4 | 6925 | TCF4_riset2 | $2.04 \mathrm{E}-05$ |
| 147 | MARCKSL1 | 65108 | A_23_P310_riset1 | $2.12 \mathrm{E}-05$ |
| 148 | PSMA1 | 5682 | MIL_PPPID402610840_riset2 | $2.12 \mathrm{E}-05$ |
| 149 | TCF7 | 6932 | A_23_P7582_riset1 | $2.22 \mathrm{E}-05$ |
| 150 | HLX | 3142 | A_23_P126263_riset1 | $2.35 \mathrm{E}-05$ |
| 151 | EGR1 | 1958 | A_23_P214080_riset1 | $2.38 \mathrm{E}-05$ |
| 152 | IL23A | 51561 | A_23_P76078_riset1 | $2.41 \mathrm{E}-05$ |
| 153 | AF471475 | - | A_23_P259763_riset1 | $2.55 \mathrm{E}-05$ |
| 154 | CCR4 | 1233 | A_23_P72989_riset1 | $2.58 \mathrm{E}-05$ |
| 155 | HNRPH1 | 3187 | A_24_P320254_riset1 | $2.60 \mathrm{E}-05$ |
| 156 | $\begin{gathered} \hline \text { HCG_198446 } \\ \text { 8;LOC388524 } \\ ; \text { RPSA } \\ \hline \end{gathered}$ | 388524;389672;3921 | MIL_PPPID399806188_riset1 | $2.69 \mathrm{E}-05$ |
| 157 | MT1E | 4493 | MIL_PPPID399806219_riset1 | $2.76 \mathrm{E}-05$ |
| 158 | CCL23 | 6368 | A_24_P133905_riset1 | $2.78 \mathrm{E}-05$ |
| 159 | PSCD1 | 9267 | A_23_P83781_riset1 | $2.80 \mathrm{E}-05$ |
| 160 | CTSD | 1509 | A_23_P52556_riset1 | $2.84 \mathrm{E}-05$ |


| 161 | SLC26A8 | 116369 | A_23_P30950_riset1 | $2.86 \mathrm{E}-05$ |
| :---: | :---: | :---: | :---: | :---: |
| 162 | PDLIM7 | 9260 | A_24_P41882_riset1 | $2.88 \mathrm{E}-05$ |
| 163 | CASD1 | 64921 | A_24_P69379_riset1 | $2.89 \mathrm{E}-05$ |
| 164 | BEX5 | 340542 | A_32_P69849_riset1 | $2.94 \mathrm{E}-05$ |
| 165 | $\begin{gathered} \hline \text { ENST0000032 } \\ 2032 \end{gathered}$ | - | A_23_P61042_riset1 | $2.95 \mathrm{E}-05$ |
| 166 | SLC29A1 | 2030 | A_23_P133694_riset1 | $2.98 \mathrm{E}-05$ |
| 167 | HSPE1 | 3336 | A_23_P56922_riset1 | $3.00 \mathrm{E}-05$ |
| 168 | KLRB1 | 3820 | A_32_P807121_riset1 | $3.04 \mathrm{E}-05$ |
| 169 | SLC41A1 | 254428 | A_24_P122732_riset1 | $3.12 \mathrm{E}-05$ |
| 170 | FZD5 | 7855 | A_24_P148503_riset1 | $3.46 \mathrm{E}-05$ |
| 171 | AK094477 | - | A_24_P213622_riset1 | $3.46 \mathrm{E}-05$ |
| 172 | ETAA1 | 54465 | A_23_P51117_riset1 | $3.56 \mathrm{E}-05$ |
| 173 | CA433167 | - | A_32_P101002_riset1 | $3.64 \mathrm{E}-05$ |
| 174 | STAG3 | 10734 | A_23_P145657_riset1 | $3.66 \mathrm{E}-05$ |
| 175 | C6ORF105 | 84830 | A_23_P156826_riset1 | $3.76 \mathrm{E}-05$ |
| 176 | BEX4 | 56271 | A_23_P114391_riset1 | $3.84 \mathrm{E}-05$ |
| 177 | PPWD1 | 23398 | A_23_P110433_riset1 | $3.93 \mathrm{E}-05$ |
| 178 | RNASE2 | 6036 | A_23_P151638_riset1 | $4.22 \mathrm{E}-05$ |
| 179 | INHBA | 3624 | A_23_P122924_riset1 | $4.32 \mathrm{E}-05$ |
| 180 | SPRY1 | 10252 | A_23_P144476_riset1 | $4.48 \mathrm{E}-05$ |
| 181 | THC2349739 | - | A_32_P26422_riset1 | $4.55 \mathrm{E}-05$ |
| 182 | RECK | 8434 | A_23_P83028_riset1 | $4.56 \mathrm{E}-05$ |
| 183 | ARID5B | 84159 | A_32_P18440_riset1 | $4.82 \mathrm{E}-05$ |
| 184 | RPS27A | 6233 | MIL_PPPID397416175_riset1 | $4.96 \mathrm{E}-05$ |
| 185 | ATXN3 | 4287 | A_23_P129031_riset1 | $4.96 \mathrm{E}-05$ |
| 186 | ELA2 | 1991 | A_23_P130961_riset1 | $5.10 \mathrm{E}-05$ |
| 187 | DENND1A | 57706 | A_32_P23854_riset1 | 5.12E-05 |
| 188 | CELSR1 | 9620 | A_32_P157471_rev_riset1 | $5.13 \mathrm{E}-05$ |
| 189 | DDC | 1644 | A_23_P145644_riset1 | $5.18 \mathrm{E}-05$ |
| 190 | RPL35;LOC3 90876;LOC44 0737;HCG_19 83332 | 390876 | A_24_P187023_riset1 | 5.20E-05 |
| 191 | MAN1A1 | 4121 | A_23_P156425_riset1 | 5.31E-05 |
| 192 | COL17A1 | 1308 | A_23_P52323_riset1 | $5.31 \mathrm{E}-05$ |
| 193 | HSPA8 | 3312 | A_32_P13728_riset1 | $5.31 \mathrm{E}-05$ |


| 194 | CXCL9 | 4283 | CXCL9_riset2_piqor | 5.37E-05 |
| :---: | :---: | :---: | :---: | :---: |
| 195 | FADS3 | 3995 | A_23_P64399_riset1 | $5.38 \mathrm{E}-05$ |
| 196 | PDHX | 8050 | A_23_P36266_riset1 | $5.40 \mathrm{E}-05$ |
| 197 | C12ORF57 | 113246 | A_23_P350551_riset1 | $5.64 \mathrm{E}-05$ |
| 198 | NFAM1 | 150372 | A_23_P17911_riset1 | $5.69 \mathrm{E}-05$ |
| 199 | OXCT1 | 5019 | A_32_P63848_riset1 | $5.71 \mathrm{E}-05$ |
| 200 | F7 | 2155 | A_32_P719148_riset1 | 5.97E-05 |
| 201 | HRH4 | 59340 | A_23_P386310_riset1 | $5.98 \mathrm{E}-05$ |
| 202 | TNKS | 8658 | A_32_P144596_riset1 | $5.99 \mathrm{E}-05$ |
| 203 | CD52 | 1043 | A_23_P85800_riset1 | $6.02 \mathrm{E}-05$ |
| 204 | CD2 | 914 | A_23_P161076_riset1 | $6.05 \mathrm{E}-05$ |
| 205 | CD40 | 958 | A_23_P57036_riset1 | $6.10 \mathrm{E}-05$ |
| 206 | TCF3 | 6929 | A_24_P365365_riset1 | $6.10 \mathrm{E}-05$ |
| 207 | LCK | 3932 | LCK_riset2 | $6.13 \mathrm{E}-05$ |
| 208 | PFKFB3 | 5209 | A_24_P261259_riset1 | $6.32 \mathrm{E}-05$ |
| 209 | SFRS10 | 6434 | A_24_P145911_riset1 | 6.37E-05 |
| 210 | NMD3 | 51068 | A_23_P32861_riset1 | $6.46 \mathrm{E}-05$ |
| 211 | MEFV | 4210 | A_23_P140967_riset1 | $6.48 \mathrm{E}-05$ |
| 212 | LIMA1 | 51474 | A_23_P151267_riset1 | $6.56 \mathrm{E}-05$ |
| 213 | GZMK | 3003 | A_23_P156216_riset1 | $6.61 \mathrm{E}-05$ |
| 214 | ASPH | 444 | A_24_P295245_riset1 | $6.61 \mathrm{E}-05$ |
| 215 | MS4A6A | 64231 | A_23_P203376_riset1 | $6.85 \mathrm{E}-05$ |
| 216 | FLJ14186;LO C388312;LOC 388572;LOC4 41124;LOC64 2788;LOC646 301;LOC6464 34;LOC65305 6;LOC728100 ;LOC728417; LOC728728;L OC728790;LO C729021;LOC 729028;LOC7 29737;LOC73 0953;LOC731 275 | $\begin{aligned} & 388312 ; 388572 ; 4011 \\ & 49 ; 441124 ; 642788 ; 64 \\ & 6301 ; 646434 ; 653056 ; \\ & 728100 ; 728417 ; 7287 \\ & 28 ; 728790 ; 729021 ; 72 \\ & 9028 ; 729737 ; 730953 ; \\ & \text { 731275 } \end{aligned}$ | A_32_P28158_riset1 | $6.90 \mathrm{E}-05$ |
| 217 | CCDC18 | 343099 | A_23_P51805_riset1 | $7.04 \mathrm{E}-05$ |
| 218 | AIM2 | 9447 | A_32_P44394_riset1 | $7.32 \mathrm{E}-05$ |
| 219 | LOC440731 | 440731 | A_32_P212373_riset1 | $7.41 \mathrm{E}-05$ |


| 220 | AKR1B1 | 231 | MIL_PPPID394308032_riset1 | $7.54 \mathrm{E}-05$ |
| :---: | :---: | :---: | :---: | :---: |
| 221 | THC2393621 | - | A_32_P165753_riset1 | $7.54 \mathrm{E}-05$ |
| 222 | PTHR1 | 5745 | A_23_P167027_riset1 | $7.59 \mathrm{E}-05$ |
| 223 | ZNF14 | 7561 | A_23_P101811_riset1 | $7.67 \mathrm{E}-05$ |
| 224 | ERG | 2078 | A_23_P57323_riset1 | $7.72 \mathrm{E}-05$ |
| 225 | IRF4 | 3662 | A_23_P214361_riset1 | $7.72 \mathrm{E}-05$ |
| 226 | TANK | 10010 | TANK_riset2 | $7.85 \mathrm{E}-05$ |
| 227 | TRIM4 | 89122 | A_23_P500601_riset1 | $7.85 \mathrm{E}-05$ |
| 228 | AMFR | 267 | A_23_P141005_riset1 | $7.89 \mathrm{E}-05$ |
| 229 | HLTF | 6596 | A_24_P277155_riset1 | $7.89 \mathrm{E}-05$ |
| 230 | CD6 | 923 | A_23_P311875_riset1 | $8.02 \mathrm{E}-05$ |
| 231 | ANXA3 | 306 | A_23_P121716_riset1 | $8.27 \mathrm{E}-05$ |
| 232 | C6ORF108 | 10591 | A_23_P167951_riset1 | $8.27 \mathrm{E}-05$ |
| 233 | CLC | 1178 | A_23_P101683_riset1 | $8.31 \mathrm{E}-05$ |
| 234 | AUTS2 | 26053 | A_32_P809435_riset1 | $8.35 \mathrm{E}-05$ |
| 249 | A_23_P39349 | A_24_P402588_riset1 | $9.80 \mathrm{E}-05$ |  |
| 235 | ZNF549 | 256051 | A_23_P399146_riset1 | $8.47 \mathrm{E}-05$ |
| 236 | DYSF | BCL11A | A_23_P393495_riset1 | $9.76 \mathrm{E}-05$ |
| 247 | TKTL1 | 8277 | A_23_P108301_riset1 | $9.66 \mathrm{E}-05$ |
| 237 | NR3C2 | 4306 | A_P259901_riset1 | $8.47 \mathrm{E}-05$ |
| 238 | MAOB | 4129 | A_23_P392470_riset2 | $8.51 \mathrm{E}-05$ |
| 240 | IL28RA | DNMT1 | 163702 | A_23_P85008_riset1 |


| 252 | FLJ14186;LO <br> C441124;LOC <br> 646434;LOC6 <br> 53056;LOC72 <br> 8417;LOC728 <br> 728;LOC7290 <br> 21;LOC72902 <br> 8;LOC730953 <br> ;LOC731275 | $\begin{gathered} 388312 ; 388572 ; 4011 \\ 49 ; 441124 ; 642788 ; 64 \\ 6301 ; 646434 ; 653056 ; \\ 728100 ; 728417 ; 7287 \\ 28 ; 728790 ; 729021 ; 72 \\ 9028 ; 729737 ; 730953 ; \\ 731275 \end{gathered}$ | A_32_P28158_riset1 | $9.87 \mathrm{E}-05$ |
| :---: | :---: | :---: | :---: | :---: |
| 253 | RASGRP1 | 10125 | A_23_P124642_riset1 | $9.87 \mathrm{E}-05$ |
| 254 | PPP3CC | 5533 | PPP3CC_riset2 | $9.90 \mathrm{E}-05$ |
| 255 | EIF2C4 | 192670 | A_23_P23171_riset1 | $9.90 \mathrm{E}-05$ |
| 256 | MTX3 | 345778 | MIL_PPPID394307960_riset1 | $9.94 \mathrm{E}-05$ |
| 257 | DDEF1IT1 | 29065 | A_24_P360499_riset1 | 9.97E-05 |
| 258 | $\begin{array}{\|c\|} \hline \text { LOC10012912 } \\ 2 \\ \hline \end{array}$ | 100129122 | A_32_P231493_riset1 | $1.01 \mathrm{E}-04$ |
| 259 | PDE2A | 5138 | A_23_P401106_riset1 | $1.05 \mathrm{E}-04$ |
| 260 | ITGAM | 3684 | A_23_P124108_riset1 | $1.06 \mathrm{E}-04$ |
| 261 | MIZF | 25988 | A_23_P13176_riset1 | $1.07 \mathrm{E}-04$ |
| 262 | SET | 6418 | MIL_PPPID400032825_riset1 | $1.07 \mathrm{E}-04$ |
| 263 | RBBP9 | 10741 | A_23_P257532_riset1 | $1.10 \mathrm{E}-04$ |
| 264 | SLC26A8 | 116369 | A_23_P30950_riset1 | $1.11 \mathrm{E}-04$ |
| 265 | $\begin{array}{\|c} \hline \text { A_24_P11048 } \\ 7 \\ \hline \end{array}$ | - | A_24_P110487_riset1 | $1.12 \mathrm{E}-04$ |
| 266 | IL10RA | 3587 | A_24_P107303_riset1 | 1.12E-04 |
| 267 | FLJ22662 | 79887 | A_23_P87709_riset1 | $1.15 \mathrm{E}-04$ |
| 268 | SPI1 | 6688 | A_23_P115998_riset1 | $1.15 \mathrm{E}-04$ |
| 269 | THC2296737 | - | A_24_P698128_riset1 | $1.15 \mathrm{E}-04$ |
| 270 | LMNA | 4000 | A_24_P162718_riset1 | $1.15 \mathrm{E}-04$ |
| 271 | FCER1A | 2205 | A_23_P103765_riset1 | $1.16 \mathrm{E}-04$ |
| 272 | GCLM | 2730 | A_23_P103996_riset1 | $1.17 \mathrm{E}-04$ |
| 273 | INTS10 | 55174 | A_23_P157607_riset1 | $1.18 \mathrm{E}-04$ |
| 274 | GPX7 | 2882 | A_23_P73972_riset1 | $1.18 \mathrm{E}-04$ |
| 275 | CD40LG | 959 | A_23_P62220_riset1 | $1.19 \mathrm{E}-04$ |
| 276 | TACSTD2 | 4070 | A_23_P149529_riset1 | $1.19 \mathrm{E}-04$ |
| 277 | KLF7 | 8609 | A_23_P67980_riset1 | $1.20 \mathrm{E}-04$ |
| 278 | THC2317292 | - | A_32_P5148_riset1 | $1.20 \mathrm{E}-04$ |
| 279 | FCER1G | 2207 | A_24_P679984_riset1 | $1.23 \mathrm{E}-04$ |
| 280 | SNHG5 | 387066 | A_23_P361085_riset1 | $1.23 \mathrm{E}-04$ |
| 281 | CTSF | 8722 | A_23_P24433_riset1 | $1.24 \mathrm{E}-04$ |


| 282 | UPF3A | 65110 | A 32 P202778 riset1 | $1.24 \mathrm{E}-04$ |
| :---: | :---: | :---: | :---: | :---: |
| 283 | CD81 | 975 | A_23_P13423_riset1 | $1.25 \mathrm{E}-04$ |
| 284 | CCDC88A | 55704 | A_24_P20120_riset1 | $1.27 \mathrm{E}-04$ |
| 285 | DAD1 | 1603 | A_24_P47870_riset1 | $1.27 \mathrm{E}-04$ |
| 286 | EIF3E | 3646 | A_24_P206427_riset1 | $1.27 \mathrm{E}-04$ |
| 287 | RPL14 | 9045 | A_23_P18294_riset1 | $1.29 \mathrm{E}-04$ |
| 288 | HS3ST3B1 | 9953 | A_24_P23625_riset1 | $1.30 \mathrm{E}-04$ |
| 289 | ANKFY1 | 51479 | A_24_P151834_riset1 | $1.30 \mathrm{E}-04$ |
| 290 | LYPD1 | 116372 | A_32_P101031_riset1 | $1.30 \mathrm{E}-04$ |
| 291 | DSE | 29940 | A_23_P19226_riset1 | $1.31 \mathrm{E}-04$ |
| 292 | CD3D | 915 | MIL_PPPID394307868_riset1 | $1.32 \mathrm{E}-04$ |
| 293 | TMEM106B | 54664 | A_32_P353072_riset1 | $1.34 \mathrm{E}-04$ |
| 294 | CYFIP2 | 26999 | A_23_P167509_riset1 | $1.35 \mathrm{E}-04$ |
| 295 | LIN7A | 8825 | A_23_P99253_riset1 | $1.36 \mathrm{E}-04$ |
| 296 | ANK3 | 288 | A_32_P33304_riset1 | $1.37 \mathrm{E}-04$ |
| 297 | RPL23 | 9349 | A_23_P26713_riset1 | $1.39 \mathrm{E}-04$ |
| 298 | $\begin{gathered} \hline \text { PTPLAD1;LO } \\ \text { C } 732402 \\ \hline \end{gathered}$ | 51495;732402 | A_23_P99927_riset1 | $1.40 \mathrm{E}-04$ |
| 299 | LYCAT | 253558 | A_32_P92505_riset1 | $1.40 \mathrm{E}-04$ |
| 300 | MAD2L1 | 4085 | A_23_P92441_riset1 | $1.41 \mathrm{E}-04$ |
| 301 | FCRL5 | 83416 | A_23_P201211_riset1 | $1.41 \mathrm{E}-04$ |
| 302 | PITPNM1 | 9600 | PITPNM1_riset2 | $1.43 \mathrm{E}-04$ |
| 303 | C1QB | 713 | A_23_P137366_riset1 | $1.43 \mathrm{E}-04$ |
| 304 | RPL15 | 6138 | A_23_P253200_riset1 | $1.43 \mathrm{E}-04$ |
| 305 | DDR1 | 780 | A_24_P123601_riset1 | $1.48 \mathrm{E}-04$ |
| 306 | SERPINA1 | 5265 | A_23_P218111_riset1 | $1.59 \mathrm{E}-04$ |
| 307 | COX6A1 | 1337 | COX6A1_riset2 | $1.60 \mathrm{E}-04$ |
| 308 | RASGRP4 | 115727 | A_23_P431310_riset1 | $1.60 \mathrm{E}-04$ |
| 309 | PCTK1 | 5127 | A_24_P233663_riset1 | $1.67 \mathrm{E}-04$ |
| 310 | THAP2 | 83591 | A_24_P350437_riset1 | $1.74 \mathrm{E}-04$ |
| 311 | CTSB | 1508 | MIL_PPPID394453458_riset1 | $1.78 \mathrm{E}-04$ |
| 312 | TRA@ | 6955 | A_23_P258504_riset1 | $1.78 \mathrm{E}-04$ |
| 313 | ATP8A2 | 51761 | A_23_P258612_riset1 | $1.81 \mathrm{E}-04$ |
| 314 | UBE2T | 29089 | A_23_P115482_riset1 | $1.81 \mathrm{E}-04$ |
| 315 | LTF | 4057 | MIL_PPPID397416163_riset1 | $1.81 \mathrm{E}-04$ |
| 316 | AKAP2 | 11217;445815 | AKAP2_riset2 | $1.83 \mathrm{E}-04$ |


| 317 | THUMPD1 | 55623 | A_24_P90878_riset1 | $1.86 \mathrm{E}-04$ |
| :---: | :---: | :---: | :---: | :---: |
| 318 | FCGR1A | 2209 | A_23_P63395_riset1 | $1.89 \mathrm{E}-04$ |
| 319 | RETN | 56729 | A_23_P119222_riset1 | $1.92 \mathrm{E}-04$ |
| 320 | NUDCD2 | 134492 | A_23_P360245_riset1 | $1.93 \mathrm{E}-04$ |
| 321 | LOC645638 | 645638 | A_24_P691826_riset1 | $1.94 \mathrm{E}-04$ |
| 322 | PTPRCAP | 5790 | A_23_P98173_riset1 | $1.96 \mathrm{E}-04$ |
| 323 | C14ORF106 | 55320 | A_23_P106162_riset1 | $1.97 \mathrm{E}-04$ |
| 324 | AF314543 | - | A_24_P196307_riset1 | $1.99 \mathrm{E}-04$ |
| 325 | $\begin{gathered} \text { A_24_P85018 } \\ 7 \end{gathered}$ | - | A_24_P850187_riset1 | $2.01 \mathrm{E}-04$ |
| 326 | CHIT1 | 1118 | A_23_P126278_riset1 | $2.01 \mathrm{E}-04$ |
| 327 | PDE8B | 8622 | A_24_P197537_riset1 | $2.01 \mathrm{E}-04$ |
| 328 | HSPA9 | 3313 | A_23_P213973_riset1 | $2.02 \mathrm{E}-04$ |
| 329 | SH2D1B | 117157 | A_32_P324533_riset1 | $2.02 \mathrm{E}-04$ |
| 330 | MEF2A | 4205 | A_24_P1731_riset1 | $2.04 \mathrm{E}-04$ |
| 331 | TMTC3 | 160418 | A_24_P944222_riset1 | $2.04 \mathrm{E}-04$ |
| 332 | MIRN155 | 114614 | A_32_P108156_riset1 | $2.07 \mathrm{E}-04$ |
| 333 | GALNT14 | 79623 | A_23_P67847_riset1 | $2.10 \mathrm{E}-04$ |
| 334 | PPIA | 5478 | MIL_PPPID404158893_riset2 | $2.10 \mathrm{E}-04$ |
| 335 | BCKDHB | 594 | A_24_P239664_riset1 | $2.12 \mathrm{E}-04$ |
| 336 | SFRS2 | 6427 | A_23_P77776_riset1 | $2.12 \mathrm{E}-04$ |
| 337 | GALNT4 | 8693 | A_24_P942370_riset1 | $2.12 \mathrm{E}-04$ |
| 338 | SATB1 | 6304 | SATB1_riset2 | 2.13E-04 |
| 339 | PRKCE | 5581 | A_23_P250564_riset1 | $2.14 \mathrm{E}-04$ |
| 340 | ZNF17 | 7565 | A_32_P401723_riset1 | $2.16 \mathrm{E}-04$ |
| 341 | PRIM1 | 5557 | A_23_P25019_riset1 | $2.16 \mathrm{E}-04$ |
| 342 | PRKCH | 5583 | PRKCH_riset2 | $2.17 \mathrm{E}-04$ |
| 343 | MAP3K7IP3 | 257397 | A_23_P305033_riset1 | $2.18 \mathrm{E}-04$ |
| 344 | FAU | 2197 | A_23_P127438_riset1 | $2.19 \mathrm{E}-04$ |
| 345 | FLT3 | 2322 | MIL_PPPID394308044_riset1 | $2.20 \mathrm{E}-04$ |
| 346 | PLCL2 | 23228 | A_23_P80594_riset1 | $2.22 \mathrm{E}-04$ |
| 347 | HSPD1 | 3329 | A_32_P25273_riset2 | $2.24 \mathrm{E}-04$ |
| 348 | ACTN4 | 81 | A_23_P101655_riset1 | $2.25 \mathrm{E}-04$ |
| 349 | TXNDC9 | 10190 | A_23_P154330_riset1 | $2.27 \mathrm{E}-04$ |
| 350 | THC2432515 | - | A_32_P184268_riset1 | $2.29 \mathrm{E}-04$ |
| 351 | ZWILCH | 55055 | A_32_P129306_riset1 | $2.32 \mathrm{E}-04$ |


| 352 | SH2D1B | 117157 | A 32 P324533 riset1 | 2.32E-04 |
| :---: | :---: | :---: | :---: | :---: |
| 353 | CAMP | 820 | A_23_P253791_riset1 | $2.34 \mathrm{E}-04$ |
| 354 | $\begin{gathered} \text { TUBB;TUBB } \\ 2 \mathrm{~A} \end{gathered}$ | 203068;7280 | A_23_P19291_riset1 | $2.34 \mathrm{E}-04$ |
| 355 | AKAP1 | 8165 | AKAP1_riset2 | $2.35 \mathrm{E}-04$ |
| 356 | DTNBP1 | 84062 | A_24_P145316_riset1 | $2.36 \mathrm{E}-04$ |
| 357 | ADD3 | 120 | A_24_P90097_riset1 | $2.36 \mathrm{E}-04$ |
| 358 | ZNF573 | 126231 | A_23_P339079_riset1 | $2.38 \mathrm{E}-04$ |
| 359 | CHST2 | 9435 | CHST2_riset2_piqor | $2.41 \mathrm{E}-04$ |
| 360 | ARG1 | 383 | A_23_P111321_riset1 | $2.44 \mathrm{E}-04$ |
| 361 | SSFA2 | 6744 | A_24_P924040_riset1 | $2.52 \mathrm{E}-04$ |
| 362 | DHX9 | 1660 | A_23_P97749_riset1 | $2.54 \mathrm{E}-04$ |
| 363 | UBE2CBP | 90025 | A_24_P626931_riset1 | $2.56 \mathrm{E}-04$ |
| 364 | DEFA4 | 1669 | A_23_P326080_riset1 | $2.58 \mathrm{E}-04$ |
| 365 | HLA-DRA | 3122 | A_32_P87697_riset1 | $2.64 \mathrm{E}-04$ |
| 366 | DNTT | 1791 | DNTT_riset2 | $2.65 \mathrm{E}-04$ |
| 367 | ZDHHC3 | 51304 | A_24_P342880_riset1 | $2.68 \mathrm{E}-04$ |
| 368 | RHBDD1 | 84236 | A_24_P134834_riset1 | $2.69 \mathrm{E}-04$ |
| 369 | IL7R | 3575 | A_23_P404494_riset1 | $2.69 \mathrm{E}-04$ |
| 370 | SFT2D3 | 84826 | A_23_P5566_riset1 | $2.72 \mathrm{E}-04$ |
| 371 | KLRG1 | 10219 | A_23_P64898_riset1 | $2.75 \mathrm{E}-04$ |
| 372 | MSR1 | 4481 | MIL_PPPID397416287_riset1 | $2.77 \mathrm{E}-04$ |
| 373 | ABI2 | 10152 | A_24_P933418_riset1 | $2.77 \mathrm{E}-04$ |
| 374 | NDFIP2 | 54602 | A_24_P264909_riset1 | $2.78 \mathrm{E}-04$ |
| 375 | IFT80 | 57560 | A_23_P316150_riset1 | $2.79 \mathrm{E}-04$ |
| 376 | BST1 | 683 | A_23_P7325_riset1 | $2.80 \mathrm{E}-04$ |
| 377 | HLA-DQA2 | 3118 | A_23_P42302_riset1 | $2.81 \mathrm{E}-04$ |
| 378 | VSTM3 | 201633 | A_23_P80528_riset1 | $2.86 \mathrm{E}-04$ |
| 379 | CCDC123 | 84902 | A_24_P145229_riset1 | $2.89 \mathrm{E}-04$ |
| 380 | AMIGO1 | 57463 | A_24_P302506_riset1 | $2.93 \mathrm{E}-04$ |
| 381 | NDUFB5 | 4711 | A_23_P57848_riset1 | $2.96 \mathrm{E}-04$ |
| 382 | PIP4K2A | 5305 | A_23_P104344_riset1 | $2.97 \mathrm{E}-04$ |
| 383 | BZRAP1 | 9256 | A_24_P113131_riset1 | $3.01 \mathrm{E}-04$ |
| 384 | FURIN | 5045 | A_23_P3361_riset1 | $3.06 \mathrm{E}-04$ |
| 385 | GNG7 | 2788 | A_32_P136295_riset1 | $3.08 \mathrm{E}-04$ |
| 386 | DOK3 | 79930 | A_23_P133506_riset1 | $3.09 \mathrm{E}-04$ |


| 387 | KIAA0888 | 26049 | A_23_P423074_riset1 | $3.11 \mathrm{E}-04$ |
| :---: | :---: | :---: | :---: | :---: |
| 388 | DHRS12 | 79758 | A_23_P205200_riset1 | 3.15E-04 |
| 389 | SLPI | 6590 | A_23_P91230_riset1 | $3.23 \mathrm{E}-04$ |
| 390 | GLDC | 2731 | A_23_P123596_riset1 | $3.25 \mathrm{E}-04$ |
| 391 | RSL1D1 | 26156 | A_24_P778836_riset1 | $3.35 \mathrm{E}-04$ |
| 392 | PTMA | 5757 | A_32_P746413_riset1 | 3.38E-04 |
| 393 | CDK4 | 1019 | A_23_P24997_riset1 | $3.40 \mathrm{E}-04$ |
| 394 | BC033983 | - | A_24_P810084_riset1 | $3.44 \mathrm{E}-04$ |
| 395 | STAT4 | 6775 | STAT4_riset2_piqor | $3.49 \mathrm{E}-04$ |
| 396 | FAT | 2195 | A_32_P368940_riset1 | $3.58 \mathrm{E}-04$ |
| 397 | ZNF264 | 9422 | MIL_PPPID394453377_riset1 | $3.62 \mathrm{E}-04$ |
| 398 | PILRB | 29990 | A_23_P19829_riset1 | $3.62 \mathrm{E}-04$ |
| 399 | EVI2B | 2124 | A_23_P66694_riset1 | $3.63 \mathrm{E}-04$ |
| 400 | C5ORF28 | 64417 | A_23_P121875_riset1 | $3.68 \mathrm{E}-04$ |
| 401 | $\begin{gathered} \hline \text { A_23_P39960 } \\ 4 \\ \hline \end{gathered}$ | - | A_23_P399604_riset1 | $3.73 \mathrm{E}-04$ |
| 402 | $\begin{gathered} \hline \text { FAM108A1;F } \\ \text { AM108A2;FA } \\ \text { M108A3 } \\ \hline \end{gathered}$ | $\begin{gathered} 653401 ; 728917 ; 8192 \\ 6 \end{gathered}$ | MIL_PPPID399806187_riset1 | 3.82E-04 |
| 403 | RHOBTB3 | 22836 | A_23_P92710_riset1 | $3.83 \mathrm{E}-04$ |
| 404 | PLCG1 | 5335 | MIL_PPPID397416315_riset1 | $3.86 \mathrm{E}-04$ |
| 405 | SLC7A8 | 23428 | A_23_P205489_riset1 | $3.90 \mathrm{E}-04$ |
| 406 | PPARA | 5465 | A_24_P570049_riset1 | $3.90 \mathrm{E}-04$ |
| 407 | PBX1 | 5087 | A_23_P62948_riset1 | $3.93 \mathrm{E}-04$ |
| 408 | RPS27L | 51065 | A_23_P14734_riset1 | $3.95 \mathrm{E}-04$ |
| 409 | C8ORF60 | 619426 | A_24_P59387_riset1 | 4.02E-04 |
| 410 | OLAH | 55301 | A_23_P161458_riset1 | $4.04 \mathrm{E}-04$ |
| 411 | MKI67IP | 84365 | A_23_P50897_riset1 | $4.08 \mathrm{E}-04$ |
| 412 | C16ORF63 | 123811 | A_23_P390744_riset1 | $4.09 \mathrm{E}-04$ |
| 413 | PEX3 | 8504 | A_23_P259328_riset1 | $4.12 \mathrm{E}-04$ |
| 414 | FLJ21272 | 80100 | A_23_P11922_riset1 | $4.15 \mathrm{E}-04$ |
| 415 | TOP2B | 7155 | A_23_P121095_riset1 | $4.15 \mathrm{E}-04$ |
| 416 | ICAM2 | 3384 | A_23_P152655_riset1 | $4.25 \mathrm{E}-04$ |
| 417 | WWP2 | 11060 | WWP2_1_riset2 | $4.27 \mathrm{E}-04$ |
| 418 | SMAD3 | 4088 | A_23_P48936_riset1 | $4.29 \mathrm{E}-04$ |
| 419 | QRSL1 | 55278 | A_24_P63799_riset1 | $4.31 \mathrm{E}-04$ |
| 420 | APOB48R | 55911 | A_23_P54770_riset1 | $4.37 \mathrm{E}-04$ |


| 421 | TNRC8 | 57690 | A_23_P15765_riset1 | $4.37 \mathrm{E}-04$ |
| :---: | :---: | :---: | :---: | :---: |
| 422 | SLC39A8 | 64116 | A_23_P41424_riset1 | $4.37 \mathrm{E}-04$ |
| 423 | MAPK14 | 1432 | MAPK14_1_riset2 | $4.38 \mathrm{E}-04$ |
| 424 | EFCAB2 | 84288 | A_23_P149476_riset1 | $4.45 \mathrm{E}-04$ |
| 425 | PRKCD | 5580 | PRKCD_riset2 | $4.46 \mathrm{E}-04$ |
| 426 | WDR21A | 26094 | A_23_P370035_riset1 | $4.47 \mathrm{E}-04$ |
| 427 | DBI | 1622 | A_23_P79199_riset1 | $4.48 \mathrm{E}-04$ |
| 428 | B3GNT5 | 84002 | A_23_P18372_riset1 | $4.50 \mathrm{E}-04$ |
| 429 | C5ORF39 | 389289 | A_23_P431591_riset1 | $4.56 \mathrm{E}-04$ |
| 430 | EMR4 | 326342 | MIL_PPPID399200170_riset1 | $4.57 \mathrm{E}-04$ |
| 431 | ASF1A | 25842 | MIL_PPPID394307924_riset1 | $4.62 \mathrm{E}-04$ |
| 432 | FLJ36840 | 645524 | A_24_P59471_riset1 | $4.63 \mathrm{E}-04$ |
| 433 | PDCD6 | 10016 | A_23_P218997_riset1 | $4.64 \mathrm{E}-04$ |
| 434 | SRXN1 | 140809 | A_23_P320113_riset1 | 4.67E-04 |
| 435 | RP2 | 6102 | A_23_P22433_riset1 | $4.71 \mathrm{E}-04$ |
| 436 | C1QBP | 708 | A_23_P370434_riset1 | $4.72 \mathrm{E}-04$ |
| 437 | FLJ32866 | 731424 | MIL_PPPID400032869_riset1 | 4.73E-04 |
| 438 | $\begin{gathered} \hline \text { CCRL2;LOC7 } \\ 27811 \\ \hline \end{gathered}$ | 727811;9034 | A_24_P97405_riset1 | 4.73E-04 |
| 439 | RHCE;RHD | 6006;6007 | MIL_PPPID399806229_riset1 | $4.87 \mathrm{E}-04$ |
| 440 | MTA3 | 57504 | A_23_P411431_riset1 | 4.90E-04 |
| 441 | CST7 | 8530 | A_23_P68601_riset1 | $4.91 \mathrm{E}-04$ |
| 442 | CCT2 | 10576 | A_23_P105392_riset1 | 4.94E-04 |
| 443 | XBP1 | 7494 | A_23_P120845_riset1 | 4.97E-04 |
| 444 | ATP5F1 | 515 | A_23_P46275_riset1 | 4.98E-04 |
| 445 | EVI5 | 7813 | A_24_P96593_riset1 | $5.09 \mathrm{E}-04$ |
| 446 | LEPROT | 54741 | A_24_P148094_riset1 | $5.09 \mathrm{E}-04$ |
| 447 | FGD2 | 221472 | A_23_P300852_riset1 | 5.18E-04 |
| 448 | WHDC1L1 | 339005 | A_24_P118489_riset1 | 5.18E-04 |
| 449 | AKAP8L | 26993 | A_23_P153767_riset1 | $5.20 \mathrm{E}-04$ |
| 450 | VSIG4 | 11326 | A_23_P217269_riset1 | $5.20 \mathrm{E}-04$ |
| 451 | BZW1 | 9689 | MIL_PPPID399200334_riset1 | $5.20 \mathrm{E}-04$ |
| 452 | CREBL2 | 1389 | A_24_P56194_riset1 | $5.22 \mathrm{E}-04$ |
| 453 | GRN | 2896 | A_23_P49708_riset1 | $5.28 \mathrm{E}-04$ |
| 454 | PCGF6 | 84108 | A_23_P115703_riset1 | $5.29 \mathrm{E}-04$ |
| 455 | LMO2 | 4005 | A_23_P53126_riset1 | $5.30 \mathrm{E}-04$ |


| 456 | IQCK | 124152 | A_23_P324523_riset1 | 5.32E-04 |
| :---: | :---: | :---: | :---: | :---: |
| 457 | KIF1C | 10749 | KIF1C_riset2 | $5.33 \mathrm{E}-04$ |
| 458 | KIF3C | 3797 | A_23_P120325_riset1 | 5.37E-04 |
| 459 | PLAU | 5328 | A_23_P24104_riset1 | $5.45 \mathrm{E}-04$ |
| 460 | FYN | 2534 | MIL_PPPID402610592_riset2 | 5.46E-04 |
| 461 | HEATR1 | 55127 | A_23_P103628_riset1 | 5.52E-04 |
| 462 | AF113698 | - | A_24_P341646_riset1 | $5.52 \mathrm{E}-04$ |
| 463 | TCIRG1 | 10312 | TCIRG1_riset2 | 5.58E-04 |
| 464 | CLCF1 | 23529 | A_23_P138760_riset1 | 5.62E-04 |
| 465 | KLF1 | 10661 | A_32_P135555_riset1 | $5.64 \mathrm{E}-04$ |
| 466 | MGC24039 | 160518 | A_23_P379746_riset1 | $5.74 \mathrm{E}-04$ |
| 467 | NFE2 | 4778 | NFE2_riset2 | $5.76 \mathrm{E}-04$ |
| 468 | PFKM | 5213 | A_24_P98914_riset1 | $5.78 \mathrm{E}-04$ |
| 469 | PLCL1 | 5334 | A_24_P294199_riset1 | $5.80 \mathrm{E}-04$ |
| 470 | CCR8 | 1237 | A_23_P211699_riset1 | 5.82E-04 |
| 471 | CKB | 1152 | A_23_P25674_riset1 | 5.90E-04 |
| 472 | FLJ30277 | - | A_24_P162128_riset1 | 5.93E-04 |
| 473 | C200RF103 | 24141 | A_23_P40295_riset1 | 6.04E-04 |
| 474 | LTB | 4050 | A_23_P93348_riset1 | $6.07 \mathrm{E}-04$ |
| 475 | CHST11 | 50515 | A_23_P139919_riset1 | $6.10 \mathrm{E}-04$ |
| 476 | CEACAM1 | 634 | A_24_P382319_riset1 | $6.10 \mathrm{E}-04$ |
| 477 | CALML4 | 91860 | MIL_PPPID394453361_riset1 | $6.11 \mathrm{E}-04$ |
| 478 | RBMS1 | 5937 | MIL_PPPID394307820_riset1 | 6.12E-04 |
| 479 | $\begin{gathered} \hline \text { TFB1M;TIA } \\ \text { M2 } \\ \hline \end{gathered}$ | 26230;51106 | A_23_P93499_riset1 | 6.17E-04 |
| 480 | LOC388210 | 388210 | MIL_PPPID400032853_riset1 | $6.20 \mathrm{E}-04$ |
| 481 | MCM3 | 4172 | A_23_P7873_riset2 | 6.22E-04 |
| 482 | IGHA1 | - | A_23_P136026_riset1 | $6.30 \mathrm{E}-04$ |
| 483 | IGLV3-19 | 28797 | A_24_P161764_riset1 | 6.30E-04 |
| 484 | C1ORF142 | 116841 | A_23_P393607_riset1 | $6.35 \mathrm{E}-04$ |
| 485 | FANCE | 2178 | A_23_P42335_riset1 | 6.36E-04 |
| 486 | AK5 | 26289 | A_24_P342632_riset1 | $6.38 \mathrm{E}-04$ |
| 487 | NAP1L1 | 4673 | A_32_P59262_rev_riset1 | $6.39 \mathrm{E}-04$ |
| 488 | DDX58 | 23586 | A_23_P20814_riset1 | $6.42 \mathrm{E}-04$ |
| 489 | IRAK2 | 3656 | IRAK2_riset2 | $6.43 \mathrm{E}-04$ |
| 490 | GARNL1 | 253959 | A_23_P151565_riset1 | $6.43 \mathrm{E}-04$ |


| 491 | NARS2 | 79731 | A_23_P24960_riset1 | 6.44E-04 |
| :---: | :---: | :---: | :---: | :---: |
| 492 | CSF2RB | 1439 | A_23_P120899_riset1 | $6.47 \mathrm{E}-04$ |
| 493 | CASP5 | 838 | CASP5_riset2 | $6.47 \mathrm{E}-04$ |
| 494 | DIMT1L | 27292 | A_23_P58529_riset1 | $6.48 \mathrm{E}-04$ |
| 495 | GNB4 | 59345 | A_32_P171313_riset1 | $6.54 \mathrm{E}-04$ |
| 496 | TNFAIP6 | 7130 | A_23_P165624_riset1 | $6.55 \mathrm{E}-04$ |
| 497 | IL1RN | 3557 | A_23_P209990_riset1 | $6.58 \mathrm{E}-04$ |
| 498 | DFNB59 | 494513 | A_24_P630490_riset1 | $6.62 \mathrm{E}-04$ |
| 499 | EXOSC1 | 51013 | A_32_P126686_riset1 | $6.71 \mathrm{E}-04$ |
| 500 | SLC25A4 | 291 | A_24_P206047_riset1 | $6.74 \mathrm{E}-04$ |
| 501 | $\begin{gathered} \hline \text { A_24_P49291 } \\ 9 \end{gathered}$ | - | A_24_P492919_riset1 | 6.76E-04 |
| 502 | CARD11 | 84433 | A_23_P82324_riset1 | $6.77 \mathrm{E}-04$ |
| 503 | C1ORF217 | 84719 | A_23_P23234_riset1 | $6.77 \mathrm{E}-04$ |
| 504 | SLC25A37 | 51312 | A_32_P197026_riset1 | $6.78 \mathrm{E}-04$ |
| 505 | PSMC6 | 5706 | A_24_P381625_riset1 | $6.80 \mathrm{E}-04$ |
| 506 | NFIA | 4774 | A_32_P131998_riset1 | $6.82 \mathrm{E}-04$ |
| 507 | TM2D1 | 83941 | A_23_P148959_riset1 | $6.83 \mathrm{E}-04$ |
| 508 | ATR | 545 | A_23_P136058_riset1 | $6.86 \mathrm{E}-04$ |
| 509 | VCPIP1 | 80124 | A_32_P74366_riset1 | $6.87 \mathrm{E}-04$ |
| 510 | WDR45L | 56270 | A_23_P207020_riset1 | $6.88 \mathrm{E}-04$ |
| 511 | ATG5 | 9474 | A_24_P175059_riset1 | $6.91 \mathrm{E}-04$ |
| 512 | NUCKS 1 | 64710 | A_24_P919789_riset1 | $6.92 \mathrm{E}-04$ |
| 513 | LTB4R | 1241 | A_23_P151791_riset1 | $6.92 \mathrm{E}-04$ |
| 514 | POLR1D | 51082 | MIL_PPPID399200298_riset1 | 6.94E-04 |
| 515 | PIGK | 10026 | A_24_P379512_riset1 | $7.06 \mathrm{E}-04$ |
| 516 | SIP1 | 8487 | A_23_P88194_riset1 | 7.13E-04 |
| 517 | PRICKLE1 | 144165 | A_23_P408285_riset1 | 7.16E-04 |
| 518 | ARHGEF9 | 23229 | A_24_P254551_riset1 | $7.20 \mathrm{E}-04$ |
| 519 | MGC29891 | 126626 | A_24_P191207_riset1 | $7.21 \mathrm{E}-04$ |
| 520 | AQP1 | 358 | A_23_P19894_riset1 | $7.22 \mathrm{E}-04$ |
| 521 | CCDC90B | 60492 | A_23_P162127_riset1 | $7.25 \mathrm{E}-04$ |
| 522 | SYT11 | 23208 | A_24_P139899_riset1 | 7.26E-04 |
| 523 | LOC440354 | 440354 | A_24_P213487_riset1 | 7.31E-04 |
| 524 | TRD@ | 6964 | MIL_PPPID399200174_riset1 | 7.36E-04 |
| 525 | KIF21A | 55605 | A_24_P366315_riset1 | $7.41 \mathrm{E}-04$ |


| 526 | MOBKL2A | 126308 | MOBKL2A_riset2 | 7.44E-04 |
| :---: | :---: | :---: | :---: | :---: |
| 527 | LRBA | 987 | A_24_P360078_riset1 | $7.48 \mathrm{E}-04$ |
| 528 | AK095738 | - | A_32_P20221_riset1 | 7.54E-04 |
| 529 | CENPQ | 55166 | A_23_P70328_riset1 | $7.58 \mathrm{E}-04$ |
| 530 | CXCL16 | 58191 | CXCL16_riset2 | 7.63E-04 |
| 531 | USP47 | 55031 | A_23_P403588_riset1 | 7.64E-04 |
| 532 | TGFBR3 | 7049 | A_23_P200780_riset1 | $7.70 \mathrm{E}-04$ |
| 533 | CD96 | 10225 | A_23_P44154_riset1 | $7.70 \mathrm{E}-04$ |
| 534 | PTK2B | 2185 | PTK2B_riset2 | 7.73E-04 |
| 535 | CDC42BPA | 8476 | A_24_P944299_riset1 | 7.76E-04 |
| 536 | C21ORF34 | 388815 | A_24_P229536_riset1 | $7.77 \mathrm{E}-04$ |
| 537 | N-PAC | 84656 | N-PAC_riset2 | $7.83 \mathrm{E}-04$ |
| 538 | $\begin{gathered} \hline \text { TMSB4X;TM } \\ \text { SL3 } \\ \hline \end{gathered}$ | 7114;7117 | MIL_PPPID399806171_riset1 | 7.93E-04 |
| 539 | $\begin{gathered} \hline \text { A_24_P29730 } \\ 2 \end{gathered}$ | - | A_24_P297302_riset1 | 7.93E-04 |
| 540 | LTBP3 | 4054 | A_32_P72340_riset1 | 7.95E-04 |
| 541 | MNAT1 | 4331 | A_23_P32615_riset1 | 8.02E-04 |
| 542 | DNAJC18 | 202052 | A_32_P149251_riset1 | 8.03E-04 |
| 543 | PRNP | 5621 | A_23_P109143_riset1 | $8.04 \mathrm{E}-04$ |
| 544 | BCL2 | 596 | MIL_PPPID394453506_riset1 | $8.04 \mathrm{E}-04$ |
| 545 | IL1R2 | 7850 | A_23_P79398_riset1 | 8.05E-04 |
| 546 | ARHGEF12 | 23365 | A_24_P175783_riset1 | $8.10 \mathrm{E}-04$ |
| 547 | SRRD;TFIP11 | 24144;402055 | A_32_P135382_riset1 | 8.12E-04 |
| 548 | RASGEF1A | 221002 | A_23_P391344_riset1 | 8.17E-04 |
| 549 | GPRASP1 | 9737 | A_32_P769161_riset1 | $8.20 \mathrm{E}-04$ |
| 550 | UCP3 | 7352 | A_23_P203601_riset1 | $8.21 \mathrm{E}-04$ |
| 551 | GNAQ | 2776 | A_23_P39990_riset1 | 8.26E-04 |
| 552 | DHX8 | 1659 | A_23_P124224_riset1 | 8.44E-04 |
| 553 | FAM29A | 54801 | A_32_P3290_riset1 | $8.46 \mathrm{E}-04$ |
| 554 | ABCA1 | 19 | A_24_P289265_riset1 | $8.47 \mathrm{E}-04$ |
| 555 | PCM1 | 5108 | A_24_P555510_riset1 | 8.54E-04 |
| 556 | TBCD | 6904 | A_24_P275873_riset1 | $8.54 \mathrm{E}-04$ |
| 557 | AGMAT | 79814 | A_24_P936171_riset1 | $8.60 \mathrm{E}-04$ |
| 558 | IFITM2 | 10581 | IFITM2_riset2 | 8.61E-04 |
| 559 | PSMB4 | 5692 | A_23_P761_riset1 | 8.62E-04 |


| 560 | ITGAE | 3682 | A_23_P218378_riset1 | 8.64E-04 |
| :---: | :---: | :---: | :---: | :---: |
| 561 | $\begin{array}{\|c} \hline \text { A_24_P94231 } \\ 2 \end{array}$ | - | A_24_P942312_riset1 | 8.65E-04 |
| 562 | ARPC4 | 10093 | A_24_P20383_riset1 | 8.70E-04 |
| 563 | $\begin{gathered} \hline \text { MAFG;LOC6 } \\ 44132 \end{gathered}$ | 4097;644132 | A_23_P78209_riset1 | 8.73E-04 |
| 564 | GABARAPL1 | 23710 | A_23_P162640_riset1 | $8.76 \mathrm{E}-04$ |
| 565 | ELP2 | 55250 | A_23_P78438_riset1 | $8.83 \mathrm{E}-04$ |
| 566 | ACSL1 | 2180 | MIL_PPPID394307996_riset1 | $8.92 \mathrm{E}-04$ |
| 567 | LOC441641 | 441641 | A_24_P307443_riset1 | $9.07 \mathrm{E}-04$ |
| 568 | C19ORF43 | 79002 | A_23_P164821_riset1 | $9.08 \mathrm{E}-04$ |
| 569 | TSPAN5 | 10098 | A_23_P323930_riset1 | $9.08 \mathrm{E}-04$ |
| 570 | RORA | 6095 | RORA_riset2 | $9.09 \mathrm{E}-04$ |
| 571 | TRAF7 | 84231 | TRAF7_riset2 | $9.14 \mathrm{E}-04$ |
| 572 | TLR1 | 7096 | TLR1_riset2 | $9.21 \mathrm{E}-04$ |
| 573 | CD5 | 921 | A_24_P364221_riset1 | $9.23 \mathrm{E}-04$ |
| 574 | TUFT1 | 7286 | A_32_P141184_rev_riset1 | $9.23 \mathrm{E}-04$ |
| 575 | CCR6 | 1235 | A_24_P234921_riset1 | $9.30 \mathrm{E}-04$ |
| 576 | GCC2 | 9648 | A_23_P384085_riset1 | $9.55 \mathrm{E}-04$ |
| 577 | ACOT2 | 10965 | A_23_P3111_riset1 | $9.62 \mathrm{E}-04$ |
| 578 | C1ORF26 | 54823 | A_23_P96931_riset1 | $9.67 \mathrm{E}-04$ |
| 579 | PCNA | 5111 | A_23_P28886_riset1 | $9.69 \mathrm{E}-04$ |
| 580 | IL2RB | 3560 | A_24_P203000_riset1 | $9.86 \mathrm{E}-04$ |
| 581 | $\begin{gathered} \hline \text { CCDC98;MR } \\ \text { PS18C } \\ \hline \end{gathered}$ | 55297 | A_24_P372959_riset1 | $9.89 \mathrm{E}-04$ |
| 582 | GATA3 | 2625 | A_23_P75056_riset1 | $9.91 \mathrm{E}-04$ |
| 583 | ALDH4A1 | 8659 | A_32_P192970_riset1 | $9.93 \mathrm{E}-04$ |
| 584 | AI378923 | - | A_24_P833024_riset1 | $9.99 \mathrm{E}-04$ |
| 585 | APEX1 | 328 | A_23_P151649_riset1 | $1.01 \mathrm{E}-03$ |
| 586 | ZNF547 | 284306 | A_23_P333592_riset1 | $1.01 \mathrm{E}-03$ |
| 587 | MAL | 4118 | MIL_PPPID394307800_riset1 | $1.02 \mathrm{E}-03$ |
| 588 | FN1 | 2335 | A_24_P119745_riset1 | $1.02 \mathrm{E}-03$ |
| 589 | KIF3A | 11127 | A_23_P122027_riset1 | $1.04 \mathrm{E}-03$ |
| 590 | FAIM | 55179 | A_23_P253932_riset1 | $1.04 \mathrm{E}-03$ |
| 591 | CAD | 790 | A_23_P40049_riset1 | $1.04 \mathrm{E}-03$ |
| 592 | SSR4 | 6748 | A_23_P259172_riset1 | $1.04 \mathrm{E}-03$ |
| 593 | UCKL1 | 54963 | A_23_P17326_riset1 | $1.05 \mathrm{E}-03$ |


| 594 | C14ORF129 | 51527 | A_24_P292710_riset1 | $1.06 \mathrm{E}-03$ |
| :---: | :---: | :---: | :---: | :---: |
| 595 | GLS | 2744 | A_23_P39766_riset1 | $1.06 \mathrm{E}-03$ |
| 596 | COX6C | 1345 | A_23_P8900_riset1 | $1.06 \mathrm{E}-03$ |
| 597 | NGFRAP1 | 27018 | A_23_P45524_riset1 | $1.08 \mathrm{E}-03$ |
| 598 | ITGAX | 3687 | A_24_P344251_riset1 | $1.11 \mathrm{E}-03$ |
| 599 | ALS2CR13 | 150864 | A_32_P195401_riset1 | $1.11 \mathrm{E}-03$ |
| 600 | CA4 | 762 | A_23_P4096_riset1 | $1.11 \mathrm{E}-03$ |
| 601 | ABCB1 | 5243 | A_23_P82526_riset1 | $1.11 \mathrm{E}-03$ |
| 602 | SOD1 | 6647 | A_23_P154840_riset2 | $1.11 \mathrm{E}-03$ |
| 603 | PIP4K2A | 5305 | A_23_P104344_riset1 | $1.12 \mathrm{E}-03$ |
| 604 | AF263545 | - | A_24_P926507_riset1 | $1.12 \mathrm{E}-03$ |
| 605 | ZNF804A | 91752 | A_32_P316136_riset1 | $1.12 \mathrm{E}-03$ |
| 606 | TACSTD1 | 4072 | A_23_P91081_riset1 | $1.12 \mathrm{E}-03$ |
| 607 | CLEC5A | 23601 | A_23_P71165_riset1 | $1.12 \mathrm{E}-03$ |
| 608 | ID3 | 3399 | A_23_P137381_riset1 | $1.13 \mathrm{E}-03$ |
| 609 | $\begin{gathered} \text { A_23_P14797 } \\ 0 \end{gathered}$ | - | A_23_P147970_riset1 | $1.13 \mathrm{E}-03$ |
| 610 | MT2A | 4502 | A_23_P252413_riset1 | $1.14 \mathrm{E}-03$ |
| 611 | ZDHHC4 | 55146 | A_23_P157147_riset1 | $1.14 \mathrm{E}-03$ |
| 612 | TLOC1 | 7095 | A_23_P357856_riset1 | $1.15 \mathrm{E}-03$ |
| 613 | C5ORF37 | 134359 | A_32_P209079_riset1 | $1.16 \mathrm{E}-03$ |
| 614 | PGM5 | 5239 | A_24_P120907_riset1 | $1.16 \mathrm{E}-03$ |
| 615 | MTERFD2 | 130916 | A_32_P431601_riset1 | $1.17 \mathrm{E}-03$ |
| 616 | GTL3 | 29105 | A_23_P3514_riset1 | $1.17 \mathrm{E}-03$ |
| 617 | AK094334 | - | A_24_P933514_riset1 | $1.17 \mathrm{E}-03$ |
| 618 | CCR5 | 1234 | A_23_P412321_riset1 | $1.18 \mathrm{E}-03$ |
| 619 | RBM3 | 5935 | RBM3_riset2 | $1.19 \mathrm{E}-03$ |
| 620 | AK095831 | - | A_24_P639671_riset1 | $1.19 \mathrm{E}-03$ |
| 621 | AF116673 | - | A_23_P327134_riset1 | $1.21 \mathrm{E}-03$ |
| 622 | LOC162632 | 162632 | A_24_P566764_riset1 | $1.21 \mathrm{E}-03$ |
| 623 | BASP1 | 10409 | A_23_P213386_riset1 | $1.21 \mathrm{E}-03$ |
| 624 | MIER1 | 57708 | A_24_P230916_riset1 | $1.23 \mathrm{E}-03$ |
| 625 | TAF1B | 9014 | A_23_P165891_riset1 | $1.24 \mathrm{E}-03$ |
| 626 | HSPH1 | 10808 | A_23_P88119_riset2 | $1.24 \mathrm{E}-03$ |
| 627 | GCSH | 2653 | A_23_P117933_riset1 | $1.24 \mathrm{E}-03$ |
| 628 | PTPN11 | 5781 | A_32_P61757_riset1 | $1.24 \mathrm{E}-03$ |


| 629 | NOSIP | 51070 | NOSIP_riset2 | $1.25 \mathrm{E}-03$ |
| :---: | :---: | :---: | :---: | :---: |
| 630 | BCL6 | 604 | BCL6_riset2 | $1.25 \mathrm{E}-03$ |
| 631 | LOC644538 | 644538 | A_32_P48842_riset1 | $1.28 \mathrm{E}-03$ |
| 632 | NEDD9 | 4739 | A_24_P883577_riset1 | $1.29 \mathrm{E}-03$ |
| 633 | UCHL5 | 51377 | A_23_P148798_riset1 | $1.31 \mathrm{E}-03$ |
| 634 | LOC390306 | - | A_24_P392842_riset1 | $1.32 \mathrm{E}-03$ |
| 635 | BCKDHB | 594 | A_24_P239664_riset1 | $1.32 \mathrm{E}-03$ |
| 636 | NUDT16 | 131870 | A_23_P310560_riset1 | $1.33 \mathrm{E}-03$ |
| 637 | CD163 | 9332 | A_23_P33723_riset1 | $1.33 \mathrm{E}-03$ |
| 638 | DNAJC19 | 131118 | A_23_P121396_riset1 | $1.33 \mathrm{E}-03$ |
| 639 | ADH1A | 124 | A_23_P58359_riset1 | $1.34 \mathrm{E}-03$ |
| 640 | DNAJC16 | 23341 | A_23_P358009_riset1 | $1.34 \mathrm{E}-03$ |
| 641 | CXCR3 | 2833 | A_23_P114299_riset1 | $1.35 \mathrm{E}-03$ |
| 642 | PIN4 | 5303 | A_23_P315345_riset1 | $1.35 \mathrm{E}-03$ |
| 643 | ATP6V1G1 | 9550 | A_23_P20882_riset1 | $1.36 \mathrm{E}-03$ |
| 644 | M-RIP | 23164 | MIL_PPPID394453401_riset1 | $1.37 \mathrm{E}-03$ |
| 645 | PRKAB2 | 5565 | A_24_P105564_riset1 | $1.37 \mathrm{E}-03$ |
| 646 | PPAP2A | 8611 | A_23_P70060_riset1 | $1.41 \mathrm{E}-03$ |
| 647 | HRH2 | 3274 | HRH2_riset2 | $1.42 \mathrm{E}-03$ |
| 648 | CRIP3 | 401262 | A_23_P156562_riset1 | $1.42 \mathrm{E}-03$ |
| 649 | LOC284262 | 283788 | A_24_P497437_riset1 | $1.42 \mathrm{E}-03$ |
| 650 | NPIP;LOC339 $047 ;$ LOC6427 $78 ;$ LOC64279 9 | $\begin{gathered} 339047 ; 642778 ; 6427 \\ 99 ; 9284 \end{gathered}$ | A_32_P189974_riset1 | $1.42 \mathrm{E}-03$ |
| 651 | TGFBR1 | 7046 | MIL_PPPID397416295_riset1 | $1.43 \mathrm{E}-03$ |
| 652 | TGFB1 | 7040 | A_23_P412335_riset1 | $1.43 \mathrm{E}-03$ |
| 653 | HPCAL4 | 51440 | A_24_P139665_riset1 | $1.44 \mathrm{E}-03$ |
| 654 | LIMK1 | 3984 | LIMK1_riset2 | $1.44 \mathrm{E}-03$ |
| 655 | NDUFA4 | 4697 | A_23_P145777_riset1 | $1.45 \mathrm{E}-03$ |
| 656 | IL24 | 11009 | A_23_P51951_riset1 | $1.45 \mathrm{E}-03$ |
| 657 | EIF1 | 10209 | A_32_P53049_riset1 | $1.45 \mathrm{E}-03$ |
| 658 | AW270158 | 0 | A_24_P389612_riset1 | $1.47 \mathrm{E}-03$ |
| 659 | TSHZ3 | 57616 | A_23_P361014_riset1 | $1.47 \mathrm{E}-03$ |
| 660 | $\begin{gathered} \hline \text { FCGR2A;FC } \\ \text { GR2C } \\ \hline \end{gathered}$ | 2212;9103 | A_23_P85716_riset1 | $1.48 \mathrm{E}-03$ |
| 661 | BC028022 | - | A_32_P159574_riset1 | $1.48 \mathrm{E}-03$ |


| 662 | MMP8 | 4317 | A_23_P24493_riset1 | $1.48 \mathrm{E}-03$ |
| :---: | :---: | :---: | :---: | :---: |
| 663 | AQP3 | 360 | A_23_P112481_riset1 | $1.49 \mathrm{E}-03$ |
| 664 | PLEK2 | 26499 | A_23_P151506_riset1 | $1.50 \mathrm{E}-03$ |
| 665 | LOC644186 | 643837 | A_32_P196036_riset1 | $1.52 \mathrm{E}-03$ |
| 666 | MANSC1 | 54682 | A_23_P162211_riset1 | $1.53 \mathrm{E}-03$ |
| 667 | MMP9 | 4318 | A_23_P40174_riset1 | $1.54 \mathrm{E}-03$ |
| 668 | SLC10A4 | 201780 | A_23_P314811_riset1 | $1.54 \mathrm{E}-03$ |
| 669 | KIF14 | 9928 | A_23_P149668_riset1 | $1.54 \mathrm{E}-03$ |
| 670 | ORAI3 | 93129 | ORAI3_riset2 | $1.55 \mathrm{E}-03$ |
| 671 | PSMD7 | 5713 | A_23_P106741_riset1 | $1.55 \mathrm{E}-03$ |
| 672 | $\begin{gathered} \hline \text { ZNF227;ZNF } \\ 235 \end{gathered}$ | 7770;9310 | A_23_P208325_riset1 | $1.56 \mathrm{E}-03$ |
| 673 | REEP3 | 221035 | A_23_P75028_riset1 | $1.56 \mathrm{E}-03$ |
| 674 | PDCD2 | 5134 | A_23_P145153_riset1 | $1.57 \mathrm{E}-03$ |
| 675 | RPAP3 | 79657 | A_23_P2683_riset1 | $1.57 \mathrm{E}-03$ |
| 676 | $\begin{gathered} \text { LOC643641;S } \\ \text { SPO } \end{gathered}$ | - | A_24_P795230_riset1 | $1.57 \mathrm{E}-03$ |
| 677 | CHMP1A | 5119 | MIL_PPPID394307932_riset1 | $1.58 \mathrm{E}-03$ |
| 678 | RBL2 | 5934 | A_24_P416159_riset1 | $1.58 \mathrm{E}-03$ |
| 679 | EPRS | 2058 | A_23_P97632_riset1 | $1.58 \mathrm{E}-03$ |
| 680 | TNFRSF25 | 8718 | TNFRSF25_riset2 | $1.59 \mathrm{E}-03$ |
| 681 | LY9 | 4063 | MIL_PPPID397416255_riset1 | $1.60 \mathrm{E}-03$ |
| 682 | BCS1L | 617 | A_23_P154086_riset1 | $1.60 \mathrm{E}-03$ |
| 683 | IGBP1 | 3476 | A_23_P171249_riset1 | $1.60 \mathrm{E}-03$ |
| 684 | RBM3 | 5935 | RBM3_riset2 | $1.62 \mathrm{E}-03$ |
| 685 | CFLAR | 8837 | CFLAR_riset2_piqor | $1.62 \mathrm{E}-03$ |
| 686 | ABCC4 | 10257 | A_24_P16913_riset1 | $1.62 \mathrm{E}-03$ |
| 687 | ZRANB3 | 84083 | A_23_P412059_riset1 | $1.62 \mathrm{E}-03$ |
| 688 | FAM152A | 51029 | A_23_P201445_riset1 | $1.62 \mathrm{E}-03$ |
| 689 | JDP2 | 122953 | A_23_P117582_riset1 | $1.63 \mathrm{E}-03$ |
| 690 | AFF3 | 3899 | A_23_P373464_riset1 | $1.64 \mathrm{E}-03$ |
| 691 | CENPM | 79019 | A_24_P399888_riset1 | $1.64 \mathrm{E}-03$ |
| 692 | LOC342892 | 342892 | A_24_P450596_riset1 | $1.65 \mathrm{E}-03$ |
| 693 | MICAL2 | 9645 | A_23_P24843_riset1 | $1.65 \mathrm{E}-03$ |
| 694 | SPATA6 | 54558 | A_23_P327483_riset1 | $1.66 \mathrm{E}-03$ |
| 695 | LILRB2 | 10288 | LILRB2_riset2 | $1.66 \mathrm{E}-03$ |


| 696 | CCDC46 | 201134 | A_32_P391586_riset1 | $1.67 \mathrm{E}-03$ |
| :---: | :---: | :---: | :---: | :---: |
| 697 | TTC27 | 55622 | A_23_P131227_riset1 | $1.68 \mathrm{E}-03$ |
| 698 | PDGFB | 5155 | PDGFB_riset2_piqor | $1.69 \mathrm{E}-03$ |
| 699 | ZAP70 | 7535 | ZAP70_riset2_piqor | $1.69 \mathrm{E}-03$ |
| 700 | BCL2L13 | 23786 | BCL2L13_riset2 | $1.71 \mathrm{E}-03$ |
| 701 | LOC731062 | 730130 | A_24_P695306_riset1 | $1.71 \mathrm{E}-03$ |
| 702 | DEPDC5 | 9681 | A_23_P91680_riset1 | $1.72 \mathrm{E}-03$ |
| 703 | THC2385462 | - | A_32_P137819_riset1 | $1.72 \mathrm{E}-03$ |
| 704 | CKS1B | 1163 | A_23_P45917_riset1 | $1.72 \mathrm{E}-03$ |
| 705 | CDAMTS7;L <br> OC388194;LO <br> $000406 ; \mathrm{LOC}$ | $11173 ; 390660 ; 38819$ | $4 ; 400406 ; 400419 ; 441$ | A_32_P786651_riset1 |


| 727 | POLRMT | 5442 | A_23_P131096_riset1 | $1.82 \mathrm{E}-03$ |
| :---: | :---: | :---: | :---: | :---: |
| 728 | OMD | 4958 | A_23_P94397_riset1 | $1.83 \mathrm{E}-03$ |
| 729 | KIR3DX1 | 90011 | A_23_P398943_riset1 | $1.83 \mathrm{E}-03$ |
| 730 | TMED10 | 10972 | A_24_P917833_riset1 | $1.83 \mathrm{E}-03$ |
| 731 | FA2H | 79152 | A_23_P49448_riset1 | $1.84 \mathrm{E}-03$ |
| 732 | MXD1 | 4084 | A_23_P408094_riset1 | $1.85 \mathrm{E}-03$ |
| 733 | ITSN2 | 50618 | MIL_PPPID399200362_riset1 | $1.85 \mathrm{E}-03$ |
| 734 | POLG2 | 11232 | A_23_P26905_riset1 | $1.86 \mathrm{E}-03$ |
| 735 | BACE2 | 25825 | A_23_P154875_riset1 | $1.86 \mathrm{E}-03$ |
| 736 | SLC8A1 | 6546 | A_32_P147078_riset1 | $1.87 \mathrm{E}-03$ |
| 737 | L3MBTL3 | 84456 | A_32_P67533_riset1 | $1.87 \mathrm{E}-03$ |
| 738 | ENTPD5 | 957 | A_23_P117580_riset1 | $1.88 \mathrm{E}-03$ |
| 739 | KLHDC1 | 122773 | A_23_P422766_riset1 | $1.88 \mathrm{E}-03$ |
| 740 | CCR3 | 1232 | A_23_P250302_riset1 | $1.89 \mathrm{E}-03$ |
| 741 | STARD9 | 57519 | A_32_P130641_riset1 | $1.91 \mathrm{E}-03$ |
| 742 | C190RF18 | 147685 | A_23_P303803_riset1 | $1.91 \mathrm{E}-03$ |
| 743 | VPS11 | 55823 | A_32_P28351_riset1 | $1.92 \mathrm{E}-03$ |
| 744 | POLR3H | 171568 | A_24_P322847_riset1 | $1.93 \mathrm{E}-03$ |
| 745 | SLC38A2 | 54407 | A_24_P295963_riset1 | $1.93 \mathrm{E}-03$ |
| 746 | MRPS22 | 56945 | A_32_P32503_riset1 | $1.94 \mathrm{E}-03$ |
| 747 | ENST0000037 7226 | - | A_24_P494425_riset1 | $1.95 \mathrm{E}-03$ |
| 748 | LUC7L2 | 51631 | A_23_P59787_riset1 | $1.97 \mathrm{E}-03$ |
| 749 | IL1R1 | 3554 | A_24_P200023_riset1 | $1.98 \mathrm{E}-03$ |
| 750 | MYO1B | 4430 | A_23_P361049_riset1 | $1.98 \mathrm{E}-03$ |
| 751 | IGF1 | 3479 | A_24_P398572_riset1 | $1.98 \mathrm{E}-03$ |
| 752 | ERRFI1 | 54206 | A_23_P46470_riset1 | $2.00 \mathrm{E}-03$ |
| 753 | ABAT | 18 | A_24_P330684_riset1 | $2.01 \mathrm{E}-03$ |
| 754 | C8ORF13 | 83648 | A_23_P334955_riset1 | $2.01 \mathrm{E}-03$ |
| 755 | RAP1A | 5906 | A_23_P51746_riset1 | $2.01 \mathrm{E}-03$ |
| 756 | RNF19B | 127544 | A_23_P321388_riset1 | $2.02 \mathrm{E}-03$ |
| 757 | PTPLAD2 | 401494 | A_32_P101313_riset1 | $2.02 \mathrm{E}-03$ |
| 758 | ZNF24 | 7572 | A_23_P208041_riset1 | $2.03 \mathrm{E}-03$ |
| 759 | RCAN2 | 10231 | MIL_PPPID394307944_riset1 | $2.04 \mathrm{E}-03$ |
| 760 | BX111338 | - | A_32_P210284_riset1 | $2.04 \mathrm{E}-03$ |
| 761 | C9ORF19 | 152007 | A_32_P164477_rev_riset1 | $2.05 \mathrm{E}-03$ |


| 762 | KDELC2 | 143888 | MIL_PPPID399200238_riset1 | $2.05 \mathrm{E}-03$ |
| :---: | :---: | :---: | :---: | :---: |
| 763 | SLC7A11 | 23657 | A_32_P42684_riset1 | $2.05 \mathrm{E}-03$ |
| 764 | NLRC5 | 84166 | A_23_P253295_riset1 | $2.06 \mathrm{E}-03$ |
| 765 | C5AR1 | 728 | A_23_P303058_riset1 | $2.07 \mathrm{E}-03$ |
| 766 | VCAM1 | 7412 | A_23_P34345_riset1 | $2.09 \mathrm{E}-03$ |
| 767 | DDX51 | 317781 | MIL_PPPID399200214_riset1 | $2.10 \mathrm{E}-03$ |
| 768 | HOMER1 | 9456 | A_23_P41917_riset1 | $2.11 \mathrm{E}-03$ |
| 769 | ZNF75A | 7627 | A_23_P129587_riset1 | $2.11 \mathrm{E}-03$ |
| 770 | ZNF181 | 339318 | A_23_P50735_riset1 | $2.11 \mathrm{E}-03$ |
| 771 | IKZF1 | 10320 | MIL_PPPID399200138_riset1 | $2.13 \mathrm{E}-03$ |
| 772 | TRAF5 | 7188 | TRAF5_riset2 | $2.13 \mathrm{E}-03$ |
| 773 | ARHGEF11 | 9826 | A_23_P426809_riset1 | $2.14 \mathrm{E}-03$ |
| 774 | KRR1 | 11103 | A_23_P2216_riset1 | $2.15 \mathrm{E}-03$ |
| 775 | RACGAP1 | 29127 | A_23_P65110_riset1 | $2.17 \mathrm{E}-03$ |
| 776 | RDH5 | 5959 | A_24_P218814_riset1 | $2.17 \mathrm{E}-03$ |
| 777 | PDSS2 | 57107 | A_23_P134167_riset1 | $2.18 \mathrm{E}-03$ |
| 778 | SIRPA | 140885 | A_24_P267619_riset1 | $2.18 \mathrm{E}-03$ |
| 779 | NLRC4 | 58484 | A_23_P119835_riset1 | $2.18 \mathrm{E}-03$ |
| 780 | CTNNAL1 | 8727 | A_23_P157795_riset1 | $2.18 \mathrm{E}-03$ |
| 781 | $\begin{gathered} \text { A_32_P12452 } \\ 1 \\ \hline \end{gathered}$ | - | A_32_P124521_riset1 | $2.18 \mathrm{E}-03$ |
| 782 | TRIM13 | 10206 | A_23_P99360_riset1 | $2.19 \mathrm{E}-03$ |
| 783 | GEMIN7 | 79760 | A_23_P89910_riset1 | $2.19 \mathrm{E}-03$ |
| 784 | RNF24 | 11237 | A_23_P120533_riset1 | $2.20 \mathrm{E}-03$ |
| 785 | FLJ35626 | - | MIL_PPPID400032821_riset1 | $2.20 \mathrm{E}-03$ |
| 786 | TP63 | 8626 | A_23_P327380_riset1 | $2.20 \mathrm{E}-03$ |
| 787 | ALDH7A1 | 501 | A_23_P70233_riset1 | $2.21 \mathrm{E}-03$ |
| 788 | C2ORF61 | 285051 | A_32_P776863_riset1 | $2.21 \mathrm{E}-03$ |
| 789 | TIMP1 | 7076 | A_23_P62106_riset1 | $2.22 \mathrm{E}-03$ |
| 790 | TMEM97 | 27346 | A_24_P190168_riset1 | $2.23 \mathrm{E}-03$ |
| 791 | IPO9 | 55705 | A_32_P323557_riset1 | $2.23 \mathrm{E}-03$ |
| 792 | CREG1 | 8804 | A_23_P85742_riset1 | $2.25 \mathrm{E}-03$ |
| 793 | IL18RAP | 8807 | IL18RAP_riset2 | $2.25 \mathrm{E}-03$ |
| 794 | IL15RA | 3601 | MIL_PPPID394307896_riset1 | $2.25 \mathrm{E}-03$ |
| 795 | SLC25A6 | 293 | A_23_P33752_riset1 | $2.25 \mathrm{E}-03$ |
| 796 | ACSS1 | 84532 | A_23_P120594_riset1 | $2.25 \mathrm{E}-03$ |


| 797 | HMGN4 | 10473 | A_23_P19389_riset1 | 2.26E-03 |
| :---: | :---: | :---: | :---: | :---: |
| 798 | SH3BP5 | 9467 | A_23_P143964_riset1 | $2.26 \mathrm{E}-03$ |
| 799 | REPS1 | 85021 | A_23_P70748_riset1 | $2.27 \mathrm{E}-03$ |
| 800 | COPE | 11316 | A_23_P209089_riset1 | $2.27 \mathrm{E}-03$ |
| 801 | MTCO1 | 140539 | MTCO1_riset2 | $2.28 \mathrm{E}-03$ |
| 802 | TFEC | 22797 | A_32_P184390_riset1 | $2.30 \mathrm{E}-03$ |
| 803 | AMBP | 259 | A_23_P363754_riset1 | $2.30 \mathrm{E}-03$ |
| 804 | CD7 | 924 | A_23_P118862_riset1 | $2.31 \mathrm{E}-03$ |
| 805 | FAM120C | 54954 | A_32_P67623_riset1 | $2.31 \mathrm{E}-03$ |
| 806 | PSMB1 | 5689 | A_24_P233570_riset2 | $2.32 \mathrm{E}-03$ |
| 807 | EPO | 2056 | A_23_P145664_riset1 | $2.33 \mathrm{E}-03$ |
| 808 | SRPK3 | 26576 | A_23_P114381_riset1 | $2.34 \mathrm{E}-03$ |
| 809 | ATP1A1 | 476 | A_23_P1075_riset1 | $2.35 \mathrm{E}-03$ |
| 810 | ANG | 283 | A_23_P428738_riset1 | $2.35 \mathrm{E}-03$ |
| 811 | UBA52 | 7311 | MIL_PPPID397416235_riset1 | $2.36 \mathrm{E}-03$ |
| 812 | RAB7L1 | 8934 | A_24_P234094_riset1 | $2.36 \mathrm{E}-03$ |
| 813 | INSM1 | 3642 | A_23_P109184_riset1 | $2.36 \mathrm{E}-03$ |
| 814 | DOCK5 | 80005 | A_23_P60089_riset1 | $2.36 \mathrm{E}-03$ |
| 815 | KLRF1 | 51348 | A_32_P158966_riset1 | $2.37 \mathrm{E}-03$ |
| 816 | $\begin{gathered} \text { A_24_P76032 } \\ 4 \end{gathered}$ | - | A_24_P760324_riset1 | $2.37 \mathrm{E}-03$ |
| 817 | GPR64 | 10149 | A_23_P253692_riset1 | $2.38 \mathrm{E}-03$ |
| 818 | WDR54 | 84058 | A_23_P68072_riset1 | $2.39 \mathrm{E}-03$ |
| 819 | LOC201725 | 201725 | A_23_P54720_riset1 | $2.39 \mathrm{E}-03$ |
| 820 | CD82 | 3732 | CD82_riset2 | $2.40 \mathrm{E}-03$ |
| 821 | HRB | 3267 | MIL_PPPID394453365_riset1 | $2.41 \mathrm{E}-03$ |
| 822 | SULT1C2 | 6819 | MIL_PPPID394307976_riset1 | $2.41 \mathrm{E}-03$ |
| 823 | NBEAL1 | 65065 | A_32_P433912_riset1 | $2.42 \mathrm{E}-03$ |
| 824 | PPM1B | 5495 | A_23_P209269_riset1 | $2.42 \mathrm{E}-03$ |
| 825 | TRAF2 | 7186 | TRAF2_riset2 | $2.43 \mathrm{E}-03$ |
| 826 | SIRPA | 140885 | A_24_P267619_riset1 | $2.43 \mathrm{E}-03$ |
| 827 | BCL2L2 | 599 | A_23_P418373_riset1 | $2.44 \mathrm{E}-03$ |
| 828 | HCG9 | 10255 | A_23_P251021_riset1 | $2.46 \mathrm{E}-03$ |
| 829 | NSUN5 | 55695 | A_23_P251505_riset1 | $2.47 \mathrm{E}-03$ |
| 830 | HERPUD1 | 9709 | A_23_P54846_riset1 | $2.48 \mathrm{E}-03$ |
| 831 | SOCS3 | 9021 | A_23_P207058_riset1 | $2.48 \mathrm{E}-03$ |


| 832 | TRAF6 | 7189 | TRAF6_riset2 | $2.48 \mathrm{E}-03$ |
| :---: | :---: | :---: | :---: | :---: |
| 833 | GPR120 | 338557 | A_24_P129588_riset1 | $2.50 \mathrm{E}-03$ |
| 834 | PCCA | 5095 | MIL_PPPID400032837_riset1 | $2.50 \mathrm{E}-03$ |
| 835 | HOXB6 | 3216 | A_23_P66682_riset1 | $2.54 \mathrm{E}-03$ |
| 836 | TPST2 | 8459 | A_23_P132226_riset1 | $2.54 \mathrm{E}-03$ |
| 837 | CENPJ | 55835 | A_32_P219116_riset1 | $2.55 \mathrm{E}-03$ |
| 838 | IL7 | 3574 | A_23_P8961_riset1 | $2.55 \mathrm{E}-03$ |
| 839 | CD37 | 951 | A_24_P82749_riset1 | $2.55 \mathrm{E}-03$ |
| 840 | PROCR | 10544 | A_23_P80040_riset1 | $2.56 \mathrm{E}-03$ |
| 841 | TMEM30B | 161291 | A_32_P129752_riset1 | $2.56 \mathrm{E}-03$ |
| 842 | ADAM28 | 10863 | A_23_P10356_riset1 | $2.57 \mathrm{E}-03$ |
| 843 | CNN1 | 1264 | A_23_P16239_riset1 | $2.57 \mathrm{E}-03$ |
| 844 | GCLC | 2729 | A_23_P145114_riset1 | $2.57 \mathrm{E}-03$ |
| 845 | AA789123 | - | A_32_P485325_riset1 | $2.58 \mathrm{E}-03$ |
| 846 | FYCO1 | 79443 | A_23_P212339_riset1 | $2.59 \mathrm{E}-03$ |
| 847 | NFATC3 | 4775 | A_24_P373312_riset1 | $2.60 \mathrm{E}-03$ |
| 848 | ZNF606 | 80095 | A_23_P4628_riset1 | $2.60 \mathrm{E}-03$ |
| 849 | MARVELD3 | 91862 | A_23_P376372_riset1 | $2.60 \mathrm{E}-03$ |
| 850 | WNK1 | 65125 | A_24_P51127_riset1 | $2.60 \mathrm{E}-03$ |
| 851 | GUSB | 2990 | GUSB_riset2 | $2.62 \mathrm{E}-03$ |
| 852 | IL1RN | 3557 | A_23_P209990_riset1 | $2.62 \mathrm{E}-03$ |
| 853 | CHI3L2 | 1117 | A_23_P12082_riset1 | $2.62 \mathrm{E}-03$ |
| 854 | PTPN18 | 26469 | A_24_P80135_riset1 | $2.62 \mathrm{E}-03$ |
| 855 | SLC14A1 | 6563 | A_23_P38757_riset1 | $2.63 \mathrm{E}-03$ |
| 856 | LHFPL1 | 340596 | A_23_P327499_riset1 | $2.66 \mathrm{E}-03$ |
| 857 | LONRF1 | 91694 | A_32_P194032_riset1 | $2.67 \mathrm{E}-03$ |
| 858 | DEPDC1 | 55635 | A_24_P25872_riset1 | $2.70 \mathrm{E}-03$ |
| 859 | PPP1R15A | 23645 | A_23_P90172_riset1 | $2.71 \mathrm{E}-03$ |
| 860 | ICA1L | 130026 | MIL_PPPID399200186_riset1 | $2.72 \mathrm{E}-03$ |
| 861 | PBK | 55872 | A_23_P82699_riset1 | $2.74 \mathrm{E}-03$ |
| 862 | AL036662 | - | MIL_PPPID400032800_riset1 | $2.75 \mathrm{E}-03$ |
| 863 | SV2C | 22987 | MIL_PPPID399200154_riset1 | $2.76 \mathrm{E}-03$ |
| 864 | BM806490 | - | A_32_P18448_riset1 | $2.76 \mathrm{E}-03$ |
| 865 | ASS1 | 445 | A_23_P31922_riset1 | $2.76 \mathrm{E}-03$ |
| 866 | PPP2R5C | 5527 | MIL_PPPID397416279_riset1 | $2.77 \mathrm{E}-03$ |


| 867 | KIAA1754 | 85450 | A_23_P340333_riset1 | $2.78 \mathrm{E}-03$ |
| :---: | :---: | :---: | :---: | :---: |
| 868 | FUT7 | 2529 | A_23_P170534_riset1 | $2.79 \mathrm{E}-03$ |
| 869 | LOC205251 | 202051 | A_24_P220897_riset1 | $2.79 \mathrm{E}-03$ |
| 870 | HMGN3 | 9324 | A_23_P134047_riset1 | $2.80 \mathrm{E}-03$ |
| 871 | B3GNT1 | 11041 | A_23_P86900_riset1 | $2.80 \mathrm{E}-03$ |
| 872 | DDX17 | 10521 | MIL_PPPID399200270_riset1 | $2.81 \mathrm{E}-03$ |
| 873 | NECAP2 | 55707 | A_23_P97296_riset1 | $2.82 \mathrm{E}-03$ |
| 874 | PPM1A | 5494 | A_24_P407323_riset1 | $2.82 \mathrm{E}-03$ |
| 875 | CRK | 1398 | CRK_riset2 | $2.82 \mathrm{E}-03$ |
| 876 | LEUTX | 342900 | A_24_P796321_riset1 | $2.83 \mathrm{E}-03$ |
| 877 | ENPP2 | 5168 | A_23_P94333_riset1 | $2.83 \mathrm{E}-03$ |
| 878 | ZFP14 | 57677 | A_24_P186342_riset1 | $2.84 \mathrm{E}-03$ |
| 879 | ZNF789 | 285989 | A_32_P542928_riset1 | $2.84 \mathrm{E}-03$ |
| 880 | MITF | 4286 | A_23_P426663_riset1 | $2.85 \mathrm{E}-03$ |
| 881 | HGD | 3081 | A_23_P250164_riset1 | $2.85 \mathrm{E}-03$ |
| 882 | C17ORF39 | 79018 | A_23_P164427_riset1 | $2.89 \mathrm{E}-03$ |
| 883 | NUSAP1 | 51203 | A_24_P416079_riset2 | $2.89 \mathrm{E}-03$ |
| 884 | HOXB3 | 3213 | A_24_P399220_riset1 | $2.94 \mathrm{E}-03$ |
| 885 | STAMBPL1 | 57559 | A_23_P385322_riset1 | $2.95 \mathrm{E}-03$ |
| 886 | ADA | 100 | A_23_P210482_riset1 | $2.97 \mathrm{E}-03$ |
| 887 | GZMM | 3004 | A_23_P130835_riset1 | $3.01 \mathrm{E}-03$ |
| 888 | PPIC | 5480 | A_23_P84018_riset1 | $3.02 \mathrm{E}-03$ |
| 889 | ALDH5A1 | 7915 | A_24_P923353_riset1 | $3.04 \mathrm{E}-03$ |
| 890 | ATF4 | 468 | ATF4_riset2_piqor | $3.05 \mathrm{E}-03$ |
| 891 | C1ORF19 | 116461 | A_23_P104022_riset1 | $3.05 \mathrm{E}-03$ |
| 892 | SP100 | 6672 | MIL_PPPID397416199_riset1 | $3.07 \mathrm{E}-03$ |
| 893 | SLC26A2 | 1836 | A_23_P250951_riset1 | $3.08 \mathrm{E}-03$ |
| 894 | RBBP6 | 5930 | A_23_P363206_riset1 | $3.09 \mathrm{E}-03$ |
| 895 | CD180 | 4064 | A_23_P257815_riset1 | $3.09 \mathrm{E}-03$ |
| 896 | CCL5 | 6352 | A_23_P152837_riset1 | $3.09 \mathrm{E}-03$ |
| 897 | IL18 | 3606 | A_23_P104798_riset1 | $3.10 \mathrm{E}-03$ |
| 898 | PLSCR1 | 5359 | A_23_P69109_riset1 | $3.11 \mathrm{E}-03$ |
| 899 | SEH1L | 81929 | A_24_P407930_riset1 | $3.12 \mathrm{E}-03$ |
| 900 | POLR1B | 84172 | MIL_PPPID394307972_riset1 | 3.16E-03 |
| 901 | RTN4IP1 | 84816 | A_23_P122775_riset1 | $3.17 \mathrm{E}-03$ |


| 902 | HLCS | 3141 | A 23 P304991 riset1 | $3.17 \mathrm{E}-03$ |
| :---: | :---: | :---: | :---: | :---: |
| 903 | FAHD1 | 81889 | MIL_PPPID394453514_riset1 | $3.17 \mathrm{E}-03$ |
| 904 | STK24 | 8428 | MIL_PPPID399200194_riset1 | $3.17 \mathrm{E}-03$ |
| 905 | KIAA1618 | 57714 | A_24_P350124_riset1 | $3.18 \mathrm{E}-03$ |
| 906 | W86478 | - | MIL_PPPID400032829_riset1 | $3.19 \mathrm{E}-03$ |
| 907 | AF088076 | - | A_24_P828496_riset1 | $3.19 \mathrm{E}-03$ |
| 908 | ITGA2B | 3674 | A_23_P77971_riset1 | $3.20 \mathrm{E}-03$ |
| 909 | GTPBP4 | 23560 | A_23_P12874_riset1 | $3.21 \mathrm{E}-03$ |
| 910 | C6ORF62 | 81688 | A_23_P422222_riset1 | $3.22 \mathrm{E}-03$ |
| 911 | AK124263 | - | A_24_P538708_riset1 | $3.26 \mathrm{E}-03$ |
| 912 | ARMETL1 | 441549 | A_24_P93309_riset1 | $3.27 \mathrm{E}-03$ |
| 913 | HLTF_intron retention_betw een exon25 a nd_exon $2 \overline{6}$ | 6596 | MIL_PPPID394307747_riset1 | $3.28 \mathrm{E}-03$ |
| 914 | T79183 | - | A_24_P536974_riset1 | $3.29 \mathrm{E}-03$ |
| 915 | ZNF12 | 7559 | A_23_P31335_riset1 | $3.29 \mathrm{E}-03$ |
| 916 | ICAM1 | 3383 | A_23_P153320_riset1 | $3.30 \mathrm{E}-03$ |
| 917 | PSMD14 | 10213 | A_23_P165691_riset1 | $3.30 \mathrm{E}-03$ |
| 918 | AK024681 | - | A_24_P513262_riset1 | $3.31 \mathrm{E}-03$ |
| 919 | HSP90AA1 | 3320 | A_23_P162866_riset2 | $3.31 \mathrm{E}-03$ |
| 920 | EEF1D | 1936 | MIL_PPPID399806184_riset1 | $3.37 \mathrm{E}-03$ |
| 921 | MTCO3 | 4514 | MTCO3_riset2 | $3.38 \mathrm{E}-03$ |
| 922 | C6ORF166 | 55122 | A_23_P428819_riset1 | $3.39 \mathrm{E}-03$ |
| 923 | MT1E | 4493 | MIL_PPPID399806219_riset1 | $3.41 \mathrm{E}-03$ |
| 924 | ABCD3 | 5825 | A_23_P74790_riset1 | $3.41 \mathrm{E}-03$ |
| 925 | ZNF229 | 7772 | A_23_P130509_riset1 | $3.42 \mathrm{E}-03$ |
| 926 | CARD6 | 84674 | A_23_P41854_riset1 | $3.43 \mathrm{E}-03$ |
| 927 | GZMB | 3002 | A_23_P117602_riset1 | $3.43 \mathrm{E}-03$ |
| 928 | COL6A2 | 1292 | MIL_PPPID394307828_riset1 | $3.44 \mathrm{E}-03$ |
| 929 | IL2RA | 3559 | A_23_P127288_riset1 | $3.45 \mathrm{E}-03$ |
| 930 | IL1RL2 | 8808 | A_23_P56604_riset1 | $3.45 \mathrm{E}-03$ |
| 931 | PAICS | 10606 | A_24_P200427_riset1 | $3.46 \mathrm{E}-03$ |
| 932 | HNRNPR | 10236 | A_23_P45726_riset1 | $3.48 \mathrm{E}-03$ |
| 933 | LOC642897 | 642897 | A_24_P84401_riset1 | $3.48 \mathrm{E}-03$ |
| 934 | TOLLIP | 54472 | TOLLIP_riset2 | $3.49 \mathrm{E}-03$ |


| 935 | $\begin{gathered} \text { HCG_198546 } \\ \hline 9 \end{gathered}$ | 388524;389672;3921 | MIL_PPPID399806188_riset1 | $3.49 \mathrm{E}-03$ |
| :---: | :---: | :---: | :---: | :---: |
| 936 | MGST1 | 4257 | A_23_P36658_riset1 | $3.49 \mathrm{E}-03$ |
| 937 | ACACB | 32 | A_23_P87791_riset1 | $3.50 \mathrm{E}-03$ |
| 938 | GGPS1 | 9453 | MIL_PPPID394308008_riset1 | $3.50 \mathrm{E}-03$ |
| 939 | RUNX1 | 861 | A_24_P96403_riset1 | $3.51 \mathrm{E}-03$ |
| 940 | PSMA3 | 5684 | MIL_PPPID402610696_riset2 | $3.53 \mathrm{E}-03$ |
| 941 | SRM | 6723 | A_23_P74269_riset1 | $3.54 \mathrm{E}-03$ |
| 942 | SDCCAG3 | 10807 | A_23_P258272_riset1 | $3.55 \mathrm{E}-03$ |
| 943 | POLR3B | 55703 | A_23_P87732_riset1 | $3.56 \mathrm{E}-03$ |
| 944 | PDLIM5 | 10611 | A_24_P24263_riset1 | $3.57 \mathrm{E}-03$ |
| 945 | CEP110 | 11064 | A_23_P43580_riset1 | $3.57 \mathrm{E}-03$ |
| 946 | AI218358 | - | A_32_P60429_riset1 | $3.58 \mathrm{E}-03$ |
| 947 | IL11RA | 3590 | A_23_P71867_riset1 | $3.59 \mathrm{E}-03$ |
| 948 | C1QA | 712 | C1QA_riset2_piqor | $3.59 \mathrm{E}-03$ |
| 949 | VIPR1 | 7433 | A_24_P105933_riset1 | $3.61 \mathrm{E}-03$ |
| 950 | DSC2 | 1824 | A_23_P4494_riset1 | $3.62 \mathrm{E}-03$ |
| 951 | FARP2 | 9855 | A_24_P268474_riset1 | $3.63 \mathrm{E}-03$ |
| 952 | S100A11 | 6282 | A_23_P126594_riset1 | $3.64 \mathrm{E}-03$ |
| 953 | EIF2C2 | 27161 | A_23_P112159_riset1 | $3.66 \mathrm{E}-03$ |
| 954 | ACSS2 | 55902 | MIL_PPPID394307920_riset1 | $3.66 \mathrm{E}-03$ |
| 955 | QPCT | 25797 | A_24_P71468_riset1 | $3.68 \mathrm{E}-03$ |
| 956 | FN1 | 2335 | A_24_P119745_riset1 | $3.69 \mathrm{E}-03$ |
| 957 | TBC1D23 | 55773 | A_23_P121489_riset1 | $3.70 \mathrm{E}-03$ |
| 958 | PTF1A | 256297 | A_23_P428329_riset1 | $3.70 \mathrm{E}-03$ |
| 959 | CLCN5 | 1184 | CLCN5_riset2 | $3.71 \mathrm{E}-03$ |
| 960 | HPRT1 | 3251 | HPRT_riset2_rtpcr | $3.72 \mathrm{E}-03$ |
| 961 | FAM26F | 441168 | A_23_P7827_riset1 | $3.74 \mathrm{E}-03$ |
| 962 | BC007917 | - | A_24_P300610_riset1 | $3.74 \mathrm{E}-03$ |
| 963 | KIAA1524 | 57650 | A_24_P351466_riset1 | $3.74 \mathrm{E}-03$ |
| 964 | AP2B1 | 163 | A_24_P253827_riset1 | $3.75 \mathrm{E}-03$ |
| 965 | RGS12 | 6002 | A_24_P33705_riset1 | $3.77 \mathrm{E}-03$ |
| 966 | FOXO4 | 4303 | FOXO4_riset2_piqor | $3.78 \mathrm{E}-03$ |
| 967 | SMAD7 | 4092 | A_23_P55518_riset1 | $3.79 \mathrm{E}-03$ |
| 968 | INS | 3630 | A_23_P1981_riset1 | $3.80 \mathrm{E}-03$ |
| 969 | RFX5 | 5993 | A_24_P20032_riset1 | $3.81 \mathrm{E}-03$ |


| 970 | AVP | 551 | A_23_P109133_riset1 | 3.84E-03 |
| :---: | :---: | :---: | :---: | :---: |
| 971 | SCYL2 | 55681 | A_23_P204550_riset1 | $3.84 \mathrm{E}-03$ |
| 972 | ABCA1 | 19 | A_24_P289265_riset1 | 3.84E-03 |
| 973 | ZNF175 | 7728 | A_24_P916266_riset1 | $3.85 \mathrm{E}-03$ |
| 974 | HLA-DMB | 3109 | A_23_P389924_riset1 | $3.86 \mathrm{E}-03$ |
| 975 | TGFB3 | 7043 | A_23_P88404_riset1 | $3.86 \mathrm{E}-03$ |
| 976 | ARSB | 411 | MIL_PPPID394453526_riset1 | $3.86 \mathrm{E}-03$ |
| 977 | HLA-DMA | 3108 | A_23_P42304_riset1 | $3.87 \mathrm{E}-03$ |
| 978 | C3ORF68 | 152100 | A_24_P408740_riset1 | $3.88 \mathrm{E}-03$ |
| 979 | GDF6 | 392255 | A_32_P140489_riset1 | 3.89E-03 |
| 980 | BCL3 | 602 | A_23_P4662_riset1 | $3.90 \mathrm{E}-03$ |
| 981 | FYTTD1 | 84248 | A_23_P80827_riset1 | $3.91 \mathrm{E}-03$ |
| 982 | LOC126917 | 121906 | A_32_P537218_riset1 | $3.91 \mathrm{E}-03$ |
| 983 | IL2RG | 3561 | A_23_P148464_riset1 | 3.92E-03 |
| 984 | TXNRD3 | 114112 | A_32_P170925_riset1 | 3.92E-03 |
| 985 | LIG4 | 3981 | A_23_P25581_riset1 | $3.94 \mathrm{E}-03$ |
| 986 | RUNX3 | 864 | A_23_P51231_riset1 | 3.94E-03 |
| 987 | TRIP6 | 7205 | A_23_P252128_riset1 | $3.97 \mathrm{E}-03$ |
| 988 | CSK | 1445 | CSK_riset2 | $3.97 \mathrm{E}-03$ |
| 989 | ANPEP | 290 | A_23_P88621_riset1 | $3.97 \mathrm{E}-03$ |
| 990 | CLEC11A | 6320 | A_23_P153489_riset1 | $4.04 \mathrm{E}-03$ |
| 991 | MAK10 | 60560 | A_24_P309264_riset1 | $4.05 \mathrm{E}-03$ |
| 992 | DIRC2 | 84925 | A_23_P80778_riset1 | $4.06 \mathrm{E}-03$ |
| 993 | F2 | 2147 | A_32_P514031_riset1 | 4.06E-03 |
| 994 | PEX1 | 5189 | A_23_P20045_riset1 | $4.07 \mathrm{E}-03$ |
| 995 | $\begin{gathered} \text { MYT1;PCMT } \\ \text { D2 } \\ \hline \end{gathered}$ | 4661;55251 | A_23_P210829_riset1 | 4.07E-03 |
| 996 | CASP8 | 841 | CASP8_riset2 | $4.07 \mathrm{E}-03$ |
| 997 | CMIP | 80790 | A_23_P371239_riset1 | 4.08E-03 |
| 998 | WDR23 | 80344 | A_24_P326957_riset1 | $4.08 \mathrm{E}-03$ |
| 999 | CFLAR | 8837 | CFLAR_riset2_piqor | 4.09E-03 |
| 1000 | TOX | 9760 | A_24_P226755_riset1 | $4.10 \mathrm{E}-03$ |
| 1001 | LTBR | 4055 | A_23_P53557_riset1 | 4.12E-03 |
| 1002 | AK021551 | - | A_24_P621853_riset1 | 4.13E-03 |
| 1003 | MAK | 4117 | A_24_P363278_riset1 | $4.13 \mathrm{E}-03$ |
| 1004 | PTPN7 | 5778 | PTPN7_riset2 | 4.15E-03 |


| 1005 | THC2317952 | - | A_32_P164393_riset1 | $4.18 \mathrm{E}-03$ |
| :---: | :---: | :---: | :---: | :---: |
| 1006 | LGMN | 5641 | A_23_P25994_riset1 | 4.19E-03 |
| 1007 | PPP1R3F | 89801 | A_23_P125541_riset1 | $4.23 \mathrm{E}-03$ |
| 1008 | TIMP1 | 7076 | A_23_P62106_riset1 | $4.23 \mathrm{E}-03$ |
| 1009 | RCAN2 | 10231 | MIL_PPPID394307944_riset1 | $4.23 \mathrm{E}-03$ |
| 1010 | GSTA2 | 2939 | MIL_PPPID399806224_riset1 | $4.24 \mathrm{E}-03$ |
| 1011 | SMARCC2 | 6601 | A_23_P128073_riset1 | $4.25 \mathrm{E}-03$ |
| 1012 | ARRDC3 | 57561 | A_24_P414553_riset1 | $4.26 \mathrm{E}-03$ |
| 1013 | MCEE | 84693 | A_23_P56654_riset1 | $4.26 \mathrm{E}-03$ |
| 1014 | GBP2 | 2634 | A_23_P85693_riset1 | $4.29 \mathrm{E}-03$ |
| 1015 | FLT3LG | 2323 | A_23_P78742_riset1 | $4.31 \mathrm{E}-03$ |
| 1016 | NRD1 | 4898 | A_24_P746650_riset1 | $4.32 \mathrm{E}-03$ |
| 1017 | UFM1 | 51569 | A_23_P99465_riset1 | $4.32 \mathrm{E}-03$ |
| 1018 | SURF6 | 6838 | A_24_P21447_riset1 | $4.33 \mathrm{E}-03$ |
| 1019 | CNTN5 | 53942 | A_23_P503059_riset1 | $4.34 \mathrm{E}-03$ |
| 1020 | CSF2RA | 1438 | A_23_P136174_riset1 | $4.34 \mathrm{E}-03$ |
| 1021 | IGF2 | 3481 | MIL_PPPID397416219_riset1 | $4.35 \mathrm{E}-03$ |
| 1022 | F8 | 2157 | A_24_P314451_riset1 | $4.36 \mathrm{E}-03$ |
| 1023 | BIN2 | 51411 | A_23_P162386_riset1 | $4.38 \mathrm{E}-03$ |
| 1024 | COPS4 | 51138 | COPS4_riset2 | $4.39 \mathrm{E}-03$ |
| 1025 | VDAC3 | 7419 | A_23_P60069_riset1 | $4.40 \mathrm{E}-03$ |
| 1026 | AK000992 | - | A_32_P29083_riset1 | $4.40 \mathrm{E}-03$ |
| 1027 | S100A8 | 6279 | A_23_P434809_riset1 | $4.41 \mathrm{E}-03$ |
| 1028 | GPR174 | 84636 | A_23_P11070_riset1 | $4.42 \mathrm{E}-03$ |
| 1029 | TNFSF10 | 8743 | A_23_P121253_riset1 | $4.42 \mathrm{E}-03$ |
| 1030 | HOXB5 | 3215 | A_23_P363316_riset1 | $4.43 \mathrm{E}-03$ |
| 1031 | TLR8 | 51311 | A_23_P73837_riset1 | $4.43 \mathrm{E}-03$ |
| 1032 | CUGBP1 | 10658 | A_23_P318396_riset1 | $4.46 \mathrm{E}-03$ |
| 1033 | ENTPD1 | 953 | MIL_PPPID394453405_riset1 | $4.48 \mathrm{E}-03$ |
| 1034 | FBLN1 | 2192 | A_23_P433016_riset1 | $4.48 \mathrm{E}-03$ |
| 1035 | FOXJ1 | 2302 | A_23_P348636_riset1 | $4.48 \mathrm{E}-03$ |
| 1036 | PGM2L1 | 283209 | A_32_P122703_riset1 | $4.49 \mathrm{E}-03$ |
| 1037 | FLJ14213 | 79899 | A_23_P116512_riset1 | $4.54 \mathrm{E}-03$ |
| 1038 | MAPK1IP1L | 93487 | A_24_P107674_riset1 | $4.57 \mathrm{E}-03$ |
| 1039 | $\begin{gathered} \hline \text { RNF4;LOC64 } \\ 4006 \\ \hline \end{gathered}$ | 6047;644006 | MIL_PPPID397416195_riset1 | $4.57 \mathrm{E}-03$ |


| 1040 | FASTKD1 | 79675 | A_23_P307624_riset1 | 4.58E-03 |
| :---: | :---: | :---: | :---: | :---: |
| 1041 | C100RF2 | 56652 | A_24_P258073_riset1 | $4.58 \mathrm{E}-03$ |
| 1042 | SF3B1 | 23451 | A_32_P31633_riset1 | $4.58 \mathrm{E}-03$ |
| 1043 | IL17RA | 23765 | IL17RA_riset2 | $4.59 \mathrm{E}-03$ |
| 1044 | THC2315602 | - | A_32_P65067_riset1 | $4.59 \mathrm{E}-03$ |
| 1045 | GGTLA4 | 92086 | A_23_P57199_riset1 | $4.60 \mathrm{E}-03$ |
| 1046 | C1ORF21 | 81563 | A_24_P173754_riset1 | $4.60 \mathrm{E}-03$ |
| 1047 | $\begin{array}{r} \hline \text { MCM3AP;M } \\ \text { CM3APAS } \end{array}$ | 114044;8888 | A_23_P120744_riset1 | $4.61 \mathrm{E}-03$ |
| 1048 | MAP2K6 | 5608 | A_23_P207445_riset1 | $4.61 \mathrm{E}-03$ |
| 1049 | GEMIN4 | 50628 | A_23_P66867_riset1 | $4.63 \mathrm{E}-03$ |
| 1050 | CNKSR3 | 154043 | A_23_P134085_riset1 | $4.66 \mathrm{E}-03$ |
| 1051 | $\begin{gathered} \hline \text { TTTY8;LOC1 } \\ 00101118 \\ \hline \end{gathered}$ | 100101118;84673 | A_23_P45592_riset1 | 4.7E-03 |
| 1052 | C11ORF48 | 79081 | A_23_P1944_riset1 | $4.7 \mathrm{E}-03$ |
| 1053 | C200RF117 | 140710 | A_23_P5936_riset1 | $4.7 \mathrm{E}-03$ |
| 1054 | MXD4 | 10608 | A_24_P234732_riset1 | $4.7 \mathrm{E}-03$ |
| 1055 | EDG4 | 9170 | A_23_P101829_riset1 | $4.7 \mathrm{E}-03$ |
| 1056 | SC5DL | 6309 | A_32_P41026_riset1 | $4.7 \mathrm{E}-03$ |
| 1057 | TRAT1 | 50852 | A_23_P212568_riset1 | $4.7 \mathrm{E}-03$ |
| 1058 | PEX5 | 5830 | A_23_P48246_riset1 | $4.7 \mathrm{E}-03$ |
| 1059 | A_24_P24415 | - | A_24_P24415_riset1 | $4.7 \mathrm{E}-03$ |
| 1060 | SREBF1 | 6720 | SREBF1_riset2 | $4.7 \mathrm{E}-03$ |
| 1061 | NOP5/NOP58 | 51602 | A_23_P154447_riset1 | $4.7 \mathrm{E}-03$ |
| 1062 | FPRL1 | 2358 | A_23_P55649_riset1 | $4.8 \mathrm{E}-03$ |
| 1063 | CRAT | 1384 | A_23_P32199_riset1 | $4.8 \mathrm{E}-03$ |
| 1064 | PRO2964 | 55415 | A_23_P430156_riset1 | 4.8E-03 |
| 1065 | FLJ14327 | 79972 | A_23_P377935_riset1 | 4.8E-03 |
| 1066 | OBFC1 | 79991 | A_23_P46852_riset1 | $4.8 \mathrm{E}-03$ |
| 1067 | TESK1 | 7016 | A_23_P169178_riset1 | $4.8 \mathrm{E}-03$ |
| 1068 | CD86 | 942 | A_24_P131589_riset1 | 4.8E-03 |
| 1069 | C21ORF33 | 8209 | A_23_P109333_riset1 | 4.9E-03 |
| 1070 | BE348404 | - | A_32_P396516_riset1 | $4.9 \mathrm{E}-03$ |
| 1071 | THC2375612 | - | A_32_P144999_riset1 | $4.9 \mathrm{E}-03$ |
| 1072 | MYC | 4609 | MIL_PPPID404158649_riset2 | $4.9 \mathrm{E}-03$ |
| 1073 | THC2404892 | - | A_32_P200120_riset1 | $4.9 \mathrm{E}-03$ |


| 1074 | RET | 5979 | MIL_PPPID397416187_riset1 | 4.9E-03 |
| :---: | :---: | :---: | :---: | :---: |
| 1075 | ZFP2 | 80108 | A_23_P133359_riset1 | 4.9E-03 |
| 1076 | IRAK1 | 3654 | IRAK1_riset2 | 5.0E-03 |
| 1077 | TNIK | 23043 | A_24_P350576_riset1 | 5.0E-03 |
| 1078 | PLA2G4C | 8605 | A_23_P50508_riset1 | 5.0E-03 |
| 1079 | LGALS3 | 3958 | A_23_P128919_riset2 | 5.0E-03 |
| 1080 | FBP2 | 8789 | A_23_P94472_riset1 | 5.1E-03 |
| 1081 | TINF2 | 26277 | A_23_P77020_riset1 | 5.1E-03 |
| 1082 | KIDINS220 | 57498 | A_24_P97145_riset1 | 5.1E-03 |
| 1083 | RAP1GDS1 | 5910 | A_23_P58207_riset1 | 5.1E-03 |
| 1084 | MAP4K5 | 11183 | A_23_P205646_riset1 | 5.1E-03 |
| 1085 | KLRC1 | 3821 | A_23_P139654_riset1 | 5.1E-03 |
| 1086 | SLC11A1 | 6556 | A_32_P436132_riset1 | 5.1E-03 |
| 1087 | AUTS2 | 26053 | A_32_P809435_riset1 | 5.2E-03 |
| 1088 | SNRPC | 6631 | A_23_P59192_riset1 | 5.2E-03 |
| 1089 | ZBTB32 | 27033 | A_23_P131024_riset1 | 5.2E-03 |
| 1090 | C22ORF16 | 400916 | MIL_PPPID399200262_riset1 | 5.2E-03 |
| 1091 | THC2376224 | - | A_23_P165541_riset1 | 5.2E-03 |
| 1092 | PHLDB2 | 90102 | A_24_P240166_riset1 | 5.2E-03 |
| 1093 | STOML2 | 30968 | A_23_P256497_riset1 | 5.2E-03 |
| 1094 | KIAA0776 | 23376 | A_23_P30956_riset1 | 5.2E-03 |
| 1095 | SDC1 | 6382 | SDC1_riset2 | 5.2E-03 |
| 1096 | TYW1 | 55253 | A_24_P883109_riset1 | 5.2E-03 |
| 1097 | EPOR | 2057 | A_23_P381954_riset1 | 5.2E-03 |
| 1098 | DPYS | 1807 | A_23_P20303_riset1 | 5.3E-03 |
| 1099 | FKBP1B | 2281 | A_23_P142631_riset1 | 5.3E-03 |
| 1100 | LOC400566 | 400566 | A_24_P624439_riset1 | 5.3E-03 |
| 1101 | LILRB1 | 10859 | LILRB1_riset2 | 5.3E-03 |
| 1102 | LGALS8 | 3964 | LGALS8_riset2 | 5.3E-03 |
| 1103 | CLEC3B | 7123 | A_23_P69497_riset1 | 5.3E-03 |
| 1104 | IQCE | 23288 | A_24_P266285_riset1 | 5.3E-03 |
| 1105 | NFE2L2 | 4780 | A_23_P5761_riset1 | 5.3E-03 |
| 1106 | $\begin{gathered} \hline \text { CDCA3;LOC } \\ 285636 \\ \hline \end{gathered}$ | 285636;83461 | A_23_P416801_riset1 | 5.3E-03 |
| 1107 | EPSTI1 | 94240 | A_23_P105794_riset1 | 5.4E-03 |
| 1108 | C11ORF24 | 53838 | A_23_P12911_riset1 | 5.4E-03 |


| 1109 | BCCIP | 56647 | A_24_P30206_riset1 | 5.4E-03 |
| :---: | :---: | :---: | :---: | :---: |
| 1110 | R3HDM1 | 23518 | A_23_P380998_riset1 | 5.4E-03 |
| 1111 | SRRM2 | 23524 | A_24_P50988_riset1 | 5.4E-03 |
| 1112 | UBD | 10537 | A_23_P81898_riset1 | 5.4E-03 |
| 1113 | NPTN | 27020 | A_23_P37598_riset1 | 5.5E-03 |
| 1114 | FNBP4 | 23360 | A_23_P395595_riset1 | 5.5E-03 |
| 1115 | SLC30A4 | 7782 | A_32_P21255_riset1 | 5.5E-03 |
| 1116 | TBRG1 | 84897 | A_23_P98463_riset1 | 5.5E-03 |
| 1117 | $\begin{gathered} \hline \text { LHCGR;C6O } \\ \text { RF62 } \\ \hline \end{gathered}$ | 3973;81688 | A_24_P209204_riset1 | 5.5E-03 |
| 1118 | HSPB7 | 27129 | A_23_P103703_riset1 | 5.5E-03 |
| 1119 | KRT72 | 140807 | A_32_P48825_riset2 | 5.5E-03 |
| 1120 | PEX7 | 5191 | A_23_P93543_riset1 | 5.5E-03 |
| 1121 | GSN | 2934 | A_23_P255884_riset1 | 5.5E-03 |
| 1122 | AK3L1 | 205 | MIL_PPPID394453462_riset1 | 5.6E-03 |
| 1123 | ITGA9 | 3680 | ITGA9_riset2 | 5.6E-03 |
| 1124 | RNASET2 | 8635 | A_24_P360269_riset1 | 5.6E-03 |
| 1125 | OSTF1 | 26578 | OSTF1_riset2_piqor | 5.6E-03 |
| 1126 | FBXW8 | 26259 | A_24_P44279_riset1 | 5.6E-03 |
| 1127 | SKI | 6497 | SKI_riset2 | 5.6E-03 |
| 1128 | PDCD7 | 10081 | A_24_P159181_riset1 | 5.6E-03 |
| 1129 | ARHGAP17 | 55114 | A_23_P15113_riset1 | 5.6E-03 |
| 1130 | KIAA0586 | 9786 | A_23_P106127_riset1 | $5.7 \mathrm{E}-03$ |
| 1131 | ITGAL | 3683 | A_23_P206806_riset1 | 5.7E-03 |
| 1132 | RPS4Y1 | 6192 | A_23_P259314_riset1 | 5.7E-03 |
| 1133 | ECHS1 | 1892 | A_23_P104362_riset1 | 5.7E-03 |
| 1134 | SLC2A9 | 56606 | A_24_P563745_riset1 | 5.7E-03 |
| 1135 | HSPA4 | 3308 | A_24_P377269_riset1 | 5.7E-03 |
| 1136 | COL7A1 | 1294 | COL7A1_riset2 | 5.7E-03 |
| 1137 | CBLB | 868 | A_23_P212715_riset1 | 5.7E-03 |
| 1138 | YPEL1 | 29799 | A_32_P88120_riset1 | 5.7E-03 |
| 1139 | C21ORF122 | 728039 | A_23_P143514_riset1 | 5.7E-03 |
| 1140 | FANCG | 2189 | A_23_P71644_riset1 | 5.8E-03 |
| 1141 | RASSF7 | 8045 | A_23_P52589_riset1 | 5.8E-03 |
| 1142 | OTUD7A | 161725 | A_23_P3413_riset1 | 5.8E-03 |
| 1143 | KIAA1109 | 84162 | A_23_P147869_riset1 | 5.8E-03 |


| 1144 | MRAS | 22808 | A_24_P88850_riset1 | 5.8E-03 |
| :---: | :---: | :---: | :---: | :---: |
| 1145 | $\begin{gathered} \hline \text { IGF2;INS- } \\ \text { IGF2 } \\ \hline \end{gathered}$ | 3481;723961 | A_23_P150609_riset1 | 5.8E-03 |
| 1146 | TNFSF13B | 10673 | A_23_P14174_riset1 | 5.8E-03 |
| 1147 | S100A9 | 6280 | A_23_P23044_riset1 | 5.9E-03 |
| 1148 | LGR6 | 59352 | A_23_P23834_riset1 | 5.9E-03 |
| 1149 | PLK4 | 10733 | A_23_P155968_riset1 | 5.9E-03 |
| 1150 | STAT1 | 6772 | MIL_PPPID394307872_riset1 | 5.9E-03 |
| 1151 | PLEKHA4 | 57664 | A_24_P408047_riset1 | 5.9E-03 |
| 1152 | MFI2 | 4241 | MFI2_riset2_piqor | 6.0E-03 |
| 1153 | MBNL1 | 4154 | A_23_P357811_riset1 | 6.1E-03 |
| 1154 | MORF4L1 | 10933 | A_24_P398898_riset1 | 6.1E-03 |
| 1155 | FABP4 | 2167 | A_23_P8820_riset1 | 6.1E-03 |
| 1156 | CD200R1 | 131450 | MIL_PPPID399200246_riset1 | 6.1E-03 |
| 1157 | UTP15 | 84135 | A_23_P213441_riset1 | 6.1E-03 |
| 1158 | IFNA4 | 3441 | IFNA4_riset2 | 6.1E-03 |
| 1159 | FCRL3 | 115352 | A_23_P358438_riset1 | 6.1E-03 |
| 1160 | ARL11 | 115761 | A_32_P902957_riset1 | 6.2E-03 |
| 1161 | NFIL3 | 4783 | A_23_P32253_riset1 | 6.2E-03 |
| 1162 | ITGB7 | 3695 | ITGB7_riset2_piqor | 6.2E-03 |
| 1163 | BCL2L1 | 598 | A_23_P210886_riset1 | 6.2E-03 |
| 1164 | CFL2 | 1073 | A_24_P373152_riset1 | 6.2E-03 |
| 1165 | TRAK2 | 66008 | A_23_P209426_riset1 | 6.2E-03 |
| 1166 | MGC24103 | 158295 | A_23_P373100_riset1 | 6.2E-03 |
| 1167 | MXI1 | 4601 | MIL_PPPID394307804_riset1 | 6.3E-03 |
| 1168 | CASP6 | 839 | CASP6_riset2 | 6.3E-03 |
| 1169 | SRGAP2P1 | 653464 | A_24_P357869_riset1 | 6.3E-03 |
| 1170 | WFDC2 | 10406 | A_23_P218675_riset1 | 6.3E-03 |
| 1171 | ZSCAN18 | 65982 | A_23_P55682_riset1 | 6.3E-03 |
| 1172 | GOT1 | 2805 | A_24_P81473_riset1 | 6.3E-03 |
| 1173 | UBQLN4 | 56893 | A_24_P239266_riset1 | 6.3E-03 |
| 1174 | MLL5 | 55904 | A_24_P411863_riset1 | 6.3E-03 |
| 1175 | AF038184 | - | A_24_P566831_riset1 | 6.3E-03 |
| 1176 | H22954 | - | A_32_P165504_riset1 | 6.3E-03 |
| 1177 | AK022086 | - | A_24_P510047_riset1 | 6.3E-03 |
| 1178 | CITED4 | 163732 | A_32_P209230_riset1 | 6.3E-03 |


| 1179 | NSUN5C | 260294 | A 23 P82412 riset1 | 6.3E-03 |
| :---: | :---: | :---: | :---: | :---: |
| 1180 | FKBP9:FKBP 9 L | 11328;360132 | MIL_PPPID399200338_riset1 | 6.4E-03 |
| 1181 | $\begin{gathered} \hline \text { LOC646301;L } \\ \text { OC728417;LO } \\ \text { C728728;LOC } \\ 729021 \\ \hline \end{gathered}$ | 645984 | A_24_P93720_riset1 | 6.4E-03 |
| 1182 | GPR92 | 57121 | A_23_P204375_riset1 | 6.4E-03 |
| 1183 | $\begin{gathered} \hline \text { LOC642441;L } \\ \text { OC727820;LO } \\ \text { C730256;LOC } \\ 730257 \\ \hline \end{gathered}$ | 642413;644496 | A_24_P321184_riset1 | 6.4E-03 |
| 1184 | EPS8 | 2059 | A_23_P136347_riset1 | 6.4E-03 |
| 1185 | LOC646762 | 646762 | A_24_P911310_riset1 | 6.5E-03 |
| 1186 | JMJD3 | 23135 | A_24_P942630_riset1 | 6.5E-03 |
| 1187 | PFKL | 5211 | A_23_P29079_riset1 | 6.5E-03 |
| 1188 | SPTB | 6710 | A_32_P134968_riset1 | 6.5E-03 |
| 1189 | EIF2S1 | 1965 | A_24_P356015_riset1 | 6.5E-03 |
| 1190 | PTX3 | 5806 | A_23_P121064_riset1 | 6.5E-03 |
| 1191 | THC2375527 | - | A_32_P110225_riset1 | 6.5E-03 |
| 1192 | DGAT2 | 84649 | A_24_P295791_riset1 | 6.6E-03 |
| 1193 | C13ORF33 | 84935 | A_23_P99515_riset1 | 6.6E-03 |
| 1194 | ACAT1 | 38 | A_23_P24515_riset1 | 6.6E-03 |
| 1195 | MYBL1 | 4603 | A_24_P367227_riset1 | 6.6E-03 |
| 1196 | WFDC1 | 58189 | A_23_P106617_riset1 | 6.6E-03 |
| 1197 | KLHDC4 | 122773 | A_23_P422766_riset1 | 6.6E-03 |
| 1198 | MUC8 | 4590 | MUC8_riset2_piqor | 6.7E-03 |
| 1199 | AKR1C1 | 1645 | MIL_PPPID399806218_riset1 | 6.7E-03 |
| 1200 | ADM | 133 | A_23_P127948_riset1 | 6.7E-03 |
| 1201 | DGKA | 1606 | DGKA_riset2 | 6.7E-03 |
| 1202 | KIAA1377 | 57562 | A_32_P58614_riset1 | 6.7E-03 |
| 1203 | NFATC1 | 4772 | NFATC1_2_riset2 | 6.7E-03 |
| 1204 | BRD2 | 6046 | A_24_P307014_riset1 | 6.7E-03 |
| 1205 | AF116651 | - | A_23_P77192_riset1 | 6.8E-03 |
| 1206 | PDCD7 | 10081 | A_24_P159181_riset1 | 6.8E-03 |
| 1207 | CLEC5A | 23601 | A_23_P71165_riset1 | 6.8E-03 |
| 1208 | DSTN | 11034 | A_23_P408095_riset1 | 6.8E-03 |
| 1209 | GLT25D2 | 23127 | A_32_P86365_rev_riset1 | 6.8E-03 |
| 1210 | GLT25D2 | 23127 | A_32_P86365_rev_riset1 | 6.8E-03 |


| 1211 | ASB7 | 140460 | A_23_P117743_riset1 | $6.8 \mathrm{E}-03$ |
| :---: | :---: | :---: | :---: | :---: |
| 1212 | GPR114 | 221188 | A_23_P206290_riset1 | 6.8E-03 |
| 1213 | INDO | 3620 | A_23_P112026_riset1 | 6.8E-03 |
| 1214 | SHKBP1 | 92799 | A_23_P130560_riset1 | 6.8E-03 |
| 1215 | CLEC4C | 170482 | CLEC4C_riset2 | 6.9E-03 |
| 1216 | SSH1 | 54434 | A_23_P429560_riset1 | 6.9E-03 |
| 1217 | SFRP1 | 6422 | A_23_P10127_riset1 | 6.9E-03 |
| 1218 | SAE1 | 10055 | A_23_P16337_riset1 | 6.9E-03 |
| 1219 | FASLG | 356 | A_23_P369815_riset1 | 6.9E-03 |
| 1220 | PDS5B | 23047 | A_23_P48387_riset1 | 6.9E-03 |
| 1221 | TM7SF3 | 51768 | A_23_P47857_riset1 | 6.9E-03 |
| 1222 | WNT5A | 7474 | A_32_P61903_riset1 | 6.9E-03 |
| 1223 | IL4R | 3566 | IL4R_2_riset2 | 6.9E-03 |
| 1224 | BEST1 | 7439 | A_23_P104992_riset1 | 7.0E-03 |
| 1225 | LOC643008 | 643008 | A_32_P445010_riset1 | 7.0E-03 |
| 1226 | LITAF | 9516 | A_23_P3532_riset1 | 7.1E-03 |
| 1227 | TPR | 7175 | MIL_PPPID394453417_riset1 | 7.1E-03 |
| 1228 | PBX3 | 5090 | A_23_P71821_riset1 | 7.1E-03 |
| 1229 | ACTA2 | 59 | A_23_P150053_riset1 | 7.1E-03 |
| 1230 | PREPL | 9581 | A_24_P943193_riset1 | 7.1E-03 |
| 1231 | CNOT2 | 4848 | CNOT2_riset2 | 7.1E-03 |
| 1232 | AK001118 | - | A_32_P145385_riset1 | 7.1E-03 |
| 1233 | PITPNC1 | 26207 | A_23_P84189_riset1 | 7.2E-03 |
| 1234 | CASP3 | 836 | CASP3_riset2 | 7.2E-03 |
| 1235 | MIF | 4282 | A_23_P91619_riset1 | 7.2E-03 |
| 1236 | C1QA | 712 | C1QA_riset2_piqor | 7.2E-03 |
| 1237 | C14ORF130 | 55148 | A_23_P205393_riset1 | 7.3E-03 |
| 1238 | CLSTN3 | 9746 | A_23_P53724_riset1 | 7.3E-03 |
| 1239 | BMPR2 | 659 | MIL_PPPID400032861_riset1 | 7.3E-03 |
| 1240 | C2ORF39 | 92749 | A_23_P308722_riset1 | 7.3E-03 |
| 1241 | PDCD5 | 9141 | A_23_P50608_riset1 | 7.3E-03 |
| 1242 | C15ORF42 | 90381 | A_32_P109296_riset1 | 7.4E-03 |
| 1243 | IER3 | 8870 | A_23_P42257_riset1 | 7.4E-03 |
| 1244 | HES1 | 3280 | A_23_P17998_riset1 | 7.4E-03 |
| 1245 | PIM1 | 5292 | PIM1_riset2 | 7.4E-03 |


| 1246 | RIMS3 | 9783 | A_23_P319583_riset1 | 7.4E-03 |
| :---: | :---: | :---: | :---: | :---: |
| 1247 | HDLBP | 3069 | MIL_PPPID397416151_riset1 | 7.5E-03 |
| 1248 | A_24_P92411 | - | A_24_P924118_riset1 | 7.5E-03 |
| 1249 | RABGAP1 | 23637 | A_24_P252575_riset1 | 7.6E-03 |
| 1250 | STAT3 | 6774 | A_23_P100790_riset1 | 7.6E-03 |
| 1251 | CARD10 | 29775 | A_23_P434890_riset1 | 7.6E-03 |
| 1252 | FNDC5 | 252995 | A_23_P420326_riset1 | 7.6E-03 |
| 1253 | PIK3R1 | 5295 | PIK3R1_riset2 | 7.6E-03 |
| 1254 | IL5RA | 3568 | A_23_P500676_riset1 | 7.6E-03 |
| 1255 | CPNE8 | 144402 | A_24_P56240_riset1 | 7.6E-03 |
| 1256 | SAA1 | 6288 | MIL_PPPID399806220_riset1 | 7.6E-03 |
| 1257 | PIR | 8544 | A_23_P137035_riset1 | 7.7E-03 |
| 1258 | AK021824 | - | A_32_P220233_riset1 | 7.7E-03 |
| 1259 | CUEDC1 | 55917 | A_23_P318420_riset1 | 7.7E-03 |
| 1260 | NOTCH4 | 4855 | A_23_P365614_riset1 | 7.8E-03 |
| 1261 | RAB32 | 10981 | A_24_P303480_riset1 | 7.8E-03 |
| 1262 | OSBPL6 | 114880 | A_23_P108823_riset1 | 7.9E-03 |
| 1263 | CD33 | 945 | A_24_P301655_riset1 | 7.9E-03 |
| 1264 | AMMECR1 | 9949 | A_32_P201773_riset1 | 7.9E-03 |
| 1265 | ELF5 | 2001 | A_23_P13465_riset1 | 7.9E-03 |
| 1266 | GP9 | 2815 | GP9_riset2 | 7.9E-03 |
| 1267 | NFATC2IP | 84901 | NFATC2IP_riset2 | 7.9E-03 |
| 1268 | NFAT5 | 10725 | NFAT5_riset2 | 7.9E-03 |
| 1269 | AF085913 | - | A_24_P927166_riset1 | 7.9E-03 |
| 1270 | DKFZP547E0 87;LOC23117 ;LOC440345; LOC440354;L OC595101;LO C641298;LOC 653786;LOC7 30099 | 91695 | A_24_P365679_riset1 | 8.0E-03 |
| 1271 | ITGA8 | 8516 | ITGA8_riset2_piqor | 8.0E-03 |
| 1272 | BNIP3L | 665 | BNIP3L_riset2_piqor | 8.0E-03 |
| 1273 | THC2385437 | - | A_32_P49054_riset1 | 8.0E-03 |
| 1274 | DKFZP547E0 <br> 87;LOC23117 <br> ;LOC440345; <br> LOC653786 | $\begin{gathered} 23117 ; 283846 ; 44034 \\ 5 ; 653786 \end{gathered}$ | A_24_P290163_riset1 | 8.1E-03 |
| 1275 | NOLA1 | 54433 | A_23_P58280_riset1 | 8.1E-03 |


| 1276 | SLC40A1 | 30061 | SLC40A1_riset2 | 8.1E-03 |
| :---: | :---: | :---: | :---: | :---: |
| 1277 | IL10 | 3586 | A_23_P126735_riset1 | 8.1E-03 |
| 1278 | ST3GAL6 | 10402 | A_23_P250800_riset1 | 8.1E-03 |
| 1279 | GK5 | 256356 | A_24_P362805_riset1 | 8.1E-03 |
| 1280 | FRZB | 2487 | FRZB_riset2_piqor | 8.1E-03 |
| 1281 | FUK | 197258 | A_23_P429461_riset1 | 8.2E-03 |
| 1282 | GNPTAB | 79158 | A_24_P281975_riset1 | 8.2E-03 |
| 1283 | FFAR2 | 2867 | A_23_P397391_riset1 | 8.3E-03 |
| 1284 | PYHIN1 | 149628 | A_23_P365834_riset1 | 8.3E-03 |
| 1285 | SLC16A7 | 9194 | A_32_P130630_riset1 | 8.3E-03 |
| 1286 | C2ORF37 | 80067 | A_23_P5481_riset1 | 8.3E-03 |
| 1287 | ITGB7 | 3695 | ITGB7_riset2_piqor | 8.3E-03 |
| 1288 | NR4A1 | 3164 | A_23_P128230_riset1 | $8.4 \mathrm{E}-03$ |
| 1289 | SLFN12 | 55106 | A_23_P118532_riset1 | $8.4 \mathrm{E}-03$ |
| 1290 | KANK2 | 25959 | A_23_P50426_riset1 | 8.4E-03 |
| 1291 | IL1B | 3553 | IL1B_riset2_piqor | 8.4E-03 |
| 1292 | IWS1 | 55677 | A_23_P165566_riset1 | $8.5 \mathrm{E}-03$ |
| 1293 | SMAD3 | 4088 | A_23_P48936_riset1 | $8.5 \mathrm{E}-03$ |
| 1294 | NCOA1 | 8648 | NCOA1_riset2_piqor | $8.5 \mathrm{E}-03$ |
| 1295 | TRAF1 | 7185 | TRAF1_riset2 | 8.5E-03 |
| 1296 | UMOD | 7369 | A_23_P158775_riset1 | 8.5E-03 |
| 1297 | $\begin{gathered} \hline \text { TRIM34;TRI } \\ \text { M6-TRIM34 } \\ \hline \end{gathered}$ | 445372;53840 | A_23_P124190_riset1 | $8.5 \mathrm{E}-03$ |
| 1298 | $\begin{gathered} \text { AKR1C1;AK } \\ \text { R1C2 } \\ \hline \end{gathered}$ | 1645;1646 | A_24_P220947_riset1 | 8.6E-03 |
| 1299 | RASSF4 | 83937 | A_24_P295590_riset1 | 8.6E-03 |
| 1300 | ADH6 | 130 | A_24_P25550_riset1 | 8.6E-03 |
| 1301 | CHCHD1 | 118487 | A_32_P51082_rev_riset1 | 8.6E-03 |
| 1302 | APBB1IP | 54518 | A_23_P401700_riset1 | 8.7E-03 |
| 1303 | TNFRSF21 | 27242 | A_23_P30666_riset1 | 8.7E-03 |
| 1304 | MYBL1 | 4603 | A_24_P367227_riset1 | 8.7E-03 |
| 1305 | T75585 | - | A_24_P536974_riset1 | 8.7E-03 |
| 1306 | RAB40C | 57799 | A_24_P333357_riset1 | 8.8E-03 |
| 1307 | GTF2A2 | 2958 | MIL_PPPID400032817_riset1 | $8.8 \mathrm{E}-03$ |
| 1308 | MCPH1 | 79648 | A_23_P84350_riset1 | 8.8E-03 |
| 1309 | PDILT | 204474 | A_24_P70906_riset1 | 8.8E-03 |


| 1310 | APOM | 55937 | A_23_P42265_riset1 | 8.8E-03 |
| :---: | :---: | :---: | :---: | :---: |
| 1311 | GPR123 | 84435 | A_32_P232437_riset1 | 8.8E-03 |
| 1312 | STAT4 | 6775 | STAT4_riset2_piqor | 8.8E-03 |
| 1313 | B3GAT1 | 27087 | A_23_P1833_riset1 | 8.9E-03 |
| 1314 | SH3PXD2B | 285590 | A_32_P24585_riset1 | 8.9E-03 |
| 1315 | TNFRSF9 | 3604 | A_23_P51936_riset1 | 9.0E-03 |
| 1316 | GRB2 | 2885 | GRB2_riset2_piqor | 9.0E-03 |
| 1317 | CLIC3 | 9022 | A_23_P254654_riset1 | 9.0E-03 |
| 1318 | LYL1 | 4066 | A_23_P5281_riset1 | 9.0E-03 |
| 1319 | SLC11A1 | 6556 | A_32_P436132_riset1 | 9.0E-03 |
| 1320 | CREBL2 | 1389 | A_24_P56194_riset1 | 9.1E-03 |
| 1321 | IL17D | 53342 | IL17D_riset2 | 9.1E-03 |
| 1322 | KIF5A | 3798 | A_24_P227375_riset1 | 9.1E-03 |
| 1323 | $\begin{gathered} \hline \text { OCLN;LOC64 } \\ 7859 \end{gathered}$ | 4950;647859 | A_24_P102053_riset1 | 9.1E-03 |
| 1324 | $\begin{gathered} \hline \text { TRIM43;LOC } \\ \text { 643445;LOC6 } \\ 53192 \end{gathered}$ | $\begin{gathered} 129868 ; 643445 ; 6531 \\ 92 \end{gathered}$ | A_23_P17173_riset1 | 9.1E-03 |
| 1325 | ENTPD1 | 953 | MIL_PPPID394453405_riset1 | 9.1E-03 |
| 1326 | PPIL6 | 285755 | A_23_P111361_riset1 | 9.1E-03 |
| 1327 | CCDC37 | 348807 | A_23_P426153_riset1 | 9.1E-03 |
| 1328 | JUP | 3728 | A_23_P501822_riset1 | 9.1E-03 |
| 1329 | ZFPL1 | 7542 | A_23_P98232_riset1 | 9.1E-03 |
| 1330 | SNX4 | 8723 | A_23_P72568_riset1 | 9.2E-03 |
| 1331 | HMGB1 | 3146 | A_23_P99980_riset1 | 9.2E-03 |
| 1332 | APOL6 | 80830 | A_24_P941167_riset1 | 9.2E-03 |
| 1333 | COPS2 | 9318 | COPS2_riset2 | 9.3E-03 |
| 1334 | IL1RAP | 3556 | A_23_P336554_riset1 | 9.3E-03 |
| 1335 | SNAP23 | 8773 | A_23_P206177_riset1 | 9.3E-03 |
| 1336 | HLA-DRA | 3122 | A_32_P87697_riset1 | 9.4E-03 |
| 1337 | TAF2 | 6873 | A_24_P385119_riset1 | $9.4 \mathrm{E}-03$ |
| 1338 | $\begin{gathered} \hline \text { LOC10012948 } \\ \text { 4_as } \\ \hline \end{gathered}$ | 100129484 | A_32_P36905_riset1 | $9.4 \mathrm{E}-03$ |
| 1339 | MMP25 | 64386 | MMP25_riset2 | 9.4E-03 |
| 1340 | FARS2 | 10667 | A_23_P33720_riset1 | 9.4E-03 |
| 1341 | COPS6 | 10980 | A_23_P8432_riset1 | 9.4E-03 |
| 1342 | BTBD7 | 55727 | A_24_P230808_riset1 | 9.4E-03 |
| 1343 | HNRNPU | 3192 | A_32_P51894_riset1 | $9.4 \mathrm{E}-03$ |


| 1344 | DUSP18 | 150290 | A_24_P83118_riset1 | 9.4E-03 |
| :---: | :---: | :---: | :---: | :---: |
| 1345 | GZMA | 3001 | MIL_PPPID394308024_riset1 | $9.4 \mathrm{E}-03$ |
| 1346 | RUNDC2A;R <br> UNDC2B;RU <br> NDC2C | $\begin{gathered} 400509 ; 440352 ; 8412 \\ 7 \end{gathered}$ | A_32_P66020_riset1 | 9.5E-03 |
| 1347 | RBBP9 | 10741 | A_23_P257532_riset1 | 9.5E-03 |
| 1348 | RENBP | 5973 | A_23_P137155_riset1 | $9.5 \mathrm{E}-03$ |
| 1349 | RAI16 | 64760 | A_23_P157620_riset1 | 9.5E-03 |
| 1350 | SLC9A10 | 285335 | A_24_P24770_riset1 | 9.5E-03 |
| 1351 | AK096134 | - | A_24_P715602_riset1 | 9.5E-03 |
| 1352 | DHRS13 | 147015 | A_23_P66719_riset1 | 9.5E-03 |
| 1353 | TEGT | 7009 | A_24_P355876_riset1 | $9.5 \mathrm{E}-03$ |
| 1354 | SEC23IP | 11196 | A_23_P202602_riset1 | 9.6E-03 |
| 1355 | EIF2C3 | 192669 | MIL_PPPID394307836_riset1 | 9.6E-03 |
| 1356 | LARS2 | 23395 | A_23_P212397_riset1 | 9.6E-03 |
| 1357 | FLJ13412 | - | A_32_P96188_riset2 | 9.6E-03 |
| 1358 | SERPINC1 | 462 | A_23_P114626_riset1 | 9.6E-03 |
| 1359 | LTA4H | 4048 | MIL_PPPID402610596_riset2 | 9.6E-03 |
| 1360 | CHEK1 | 1111 | A_23_P116123_riset1 | $9.7 \mathrm{E}-03$ |
| 1361 | LOC201175 | 201175 | A_23_P401626_riset1 | $9.7 \mathrm{E}-03$ |
| 1362 | USP24 | 23358 | USP24_riset2 | 9.7E-03 |
| 1363 | TIMP4 | 7079 | A_23_P69208_riset1 | $9.7 \mathrm{E}-03$ |
| 1364 | PPFIBP1 | 8496 | A_23_P47867_riset1 | 9.8E-03 |
| 1365 | CNN3 | 1266 | A_23_P138168_riset1 | 9.8E-03 |
| 1366 | CCND2 | 894 | A_24_P278747_riset1 | 9.8E-03 |
| 1367 | IQCB1 | 9657 | A_23_P84140_riset1 | 9.8E-03 |
| 1368 | NEK1 | 4750 | A_23_P124427_riset1 | 9.8E-03 |
| 1369 | HCK | 3055 | HCK_riset2 | 9.9E-03 |
| 1370 | FAM125B | 89853 | A_24_P941557_riset1 | 9.9E-03 |
| 1371 | LONRF1 | 91694 | A_32_P194032_riset1 | 9.9E-03 |
| 1372 | KRT18 | 3875 | A_23_P99320_riset1 | 9.9E-03 |
| 1373 | TMEM126B | 55863 | A_23_P2124_riset1 | 9.9E-03 |
| 1374 | PLB1;TDRD7 | 151056;23424 | A_24_P110926_riset1 | 9.9E-03 |
| 1375 | LYRM7 | 90624 | A_32_P18159_riset1 | 1.0E-02 |
| 1376 | FKBP15 | 23307 | A_32_P224149_riset1 | 1.0E-02 |
| 1377 | CES4 | 51716 | A_23_P374892_riset1 | 1.0E-02 |

Supplemental Table 4. List of probes with significant differential expression common to both training and test sets. List of 174 probes common to both training and test sets identified to have significant differential expression by study groups following four-class analysis. Ranked on p values by Kruskal-Wallis test with adjustment for False Discovery Rate (FDR) at 1\%.

| Common gene list |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Training set Rank | Gene Name | EntrezGene ID | Probe ID | Test set Rank |
| 1 | CD79B | 974 | A_23_P207201_riset1 | 12 |
| 2 | TCL1A | 8115 | A_23_P357717_riset1 | 1 |
| 3 | HS3ST1 | 9957 | A_23_P121657_riset1 | 3 |
| 4 | TCL1A | 8115 | MIL_PPPID394307780_riset1 | 2 |
| 5 | SH2D1B | 117157 | A_32_P324533_riset1 | 352 |
| 6 | MS4A1 | 931 | MIL_PPPID394453510_riset1 | 57 |
| 7 | TLR5 | 7100 | A_23_P85903_riset1 | 97 |
| 8 | FCLR1 | 115350 | A_32_P71876_riset1 | 52 |
| 9 | PNOC | 5368 | A_23_P253321_riset1 | 53 |
| 10 | SLC8A1 | 6546 | A_32_P147078_riset1 | 736 |
| 11 | FCRL2 | 79368 | A_23_P160751_riset1 | 43 |
| 12 | BLK | 640 | BLK_riset2 | 111 |
| 13 | PCDH9 | 5101 | A_24_P187218_riset1 | 9 |
| 14 | CD200 | 4345 | A_23_P121480_riset1 | 4 |
| 15 | THC2317432 | - | A_32_P124728_riset1 | 10 |
| 16 | BCL11A | 53335 | A_24_P402588_riset1 | 251 |
| 17 | TSPAN3 | 10099 | A_23_P14804_riset1 | 80 |
| 18 | CD79A | 973 | CD79A_riset2_piqor | 29 |
| 19 | CASP5 | 838 | CASP5_riset2 | 493 |
| 20 | FCRL5 | 83416 | A_23_P201211_riset1 | 301 |
| 21 | IL1RL2 | 8808 | A_23_P56604_riset1 | 930 |
| 22 | EBI2 | 1880 | A_23_P25566_riset1 | 82 |
| 23 | BLNK | 29760 | A_24_P64344_riset1 | 20 |
| 25 | RNF24 | 11237 | A_23_P120533_riset1 | 784 |
| 26 | DIMT1L | 27292 | A_23_P58529_riset1 | 494 |
| 27 | EPO | 2056 | A_23_P145664_riset1 | 807 |
| 28 | ZAK | 51776 | A_23_P318300_riset1 | 244 |
| 29 | CD40 | 958 | A_23_P57036_riset1 | 205 |
| 31 | IGHM | 3507 | A_24_P417352_riset1 | 13 |
| 33 | SH2D1B | 117157 | A_32_P324533_riset1 | 329 |
| 34 | AKR1C3 | 8644 | A_23_P138543_riset1 | 106 |
| 35 | CASD1 | 64921 | A_24_P69379_riset1 | 163 |


| 36 | FCRLA | 84824 | A_23_P46037_riset1 | 56 |
| :---: | :---: | :---: | :---: | :---: |
| 37 | BTLA | 151888 | MIL_PPPID399200354_riset1 | 28 |
| 39 | CLCN5 | 1184 | CLCN5_riset2 | 959 |
| 40 | LHFPL2 | 10184 | A_23_P255104_riset1 | 65 |
| 41 | ARG1 | 383 | A_23_P111321_riset1 | 360 |
| 42 | ANXA3 | 306 | A_23_P121716_riset1 | 231 |
| 43 | HLA-DOA | 3111 | A_32_P356316_riset1 | 74 |
| 44 | KLRF1 | 51348 | A_32_P158966_riset1 | 815 |
| 45 | CD22 | 933 | CD22_riset2 | 121 |
| 47 | PLXDC2 | 84898 | A_32_P187518_rev_riset1 | 60 |
| 48 | BCL7A | 605 | A_24_P203056_riset1 | 59 |
| 50 | ADAMTS4 | 9507 | A_23_P360754_riset1 | 5 |
| 54 | HLA-DOB | 3112 | A_23_P30736_riset1 | 128 |
| 55 | CD163 | 9332 | A_23_P33723_riset1 | 637 |
| 56 | FLJ32866 | 731424 | MIL_PPPID400032869_riset1 | 437 |
| 57 | EBF1 | 1879 | A_24_P156501_riset1 | 102 |
| 58 | GPR92 | 57121 | A_23_P204375_riset1 | 1182 |
| 60 | PEX3 | 8504 | A_23_P259328_riset1 | 413 |
| 62 | CD83 | 9308 | A_23_P70670_riset1 | 123 |
| 63 | GPR120 | 338557 | A_24_P129588_riset1 | 833 |
| 66 | ASPH | 444 | A_24_P295245_riset1 | 214 |
| 67 | MCTP1 | 79772 | A_24_P212481_riset1 | 19 |
| 68 | SORT1 | 6272 | A_24_P325520_riset1 | 83 |
| 70 | TMEM49 | 81671 | A_32_P9753_riset1 | 58 |
| 71 | MBOAT2 | 129642 | A_23_P370635_riset1 | 110 |
| 75 | SIRPA | 140885 | A_24_P267619_riset1 | 778 |
| 76 | PDHX | 8050 | A_23_P36266_riset1 | 196 |
| 77 | STAT3 | 6774 | A 23 P100790 riset1 | 1250 |
| 78 | SLPI | 6590 | A_23_P91230_riset1 | 389 |
| 81 | RET | 5979 | MIL_PPPID397416187_riset1 | 1074 |
| 82 | GPR84 | 53831 | A_23_P25155_riset1 | 125 |
| 83 | ITK | 3702 | ITK_riset2 | 99 |
| 84 | AIM2 | 9447 | A_32_P44394_riset1 | 218 |
| 87 | TNFAIP8 | 25816 | TNFAIP8_riset2 | 132 |
| 91 | KCNJ2 | 3759 | A_23_P329261_riset1 | 112 |
| 92 | BNIP3 | 664 | A_23_P138635_riset1 | 85 |
| 93 | GALNT14 | 79623 | A_23_P67847_riset1 | 333 |
| 94 | TGDS | 23483 | A_23_P65217_riset1 | 78 |
| 96 | DNAJC19 | 131118 | A_23_P121396_riset1 | 638 |
| 100 | THC2380706 | - | A_24_P214556_riset1 | 714 |
| 101 | C1ORF19 | 116461 | A_23_P104022_riset1 | 891 |
| 103 | LITAF | 9516 | A_23_P3532_riset1 | 1226 |
| 106 | SLC25A37 | 51312 | A_32_P197026_riset1 | 504 |
| 108 | EDG1 | 1901 | A_23_P160117_riset1 | 109 |


| 110 | TNFAIP6 | 7130 | A_23_P165624_riset1 | 496 |
| :---: | :---: | :---: | :---: | :---: |
| 112 | TMTC3 | 160418 | A_24_P944222_riset1 | 331 |
| 113 | MNAT1 | 4331 | A_23_P32615_riset1 | 541 |
| 114 | ZNF181 | 339318 | A_23_P50735_riset1 | 770 |
| 115 | MYC | 4609 | MIL_PPPID404158649_riset2 | 1072 |
| 116 | CLEC5A | 23601 | A_23_P71165_riset1 | 607 |
| 117 | GPX7 | 2882 | A_23_P73972_riset1 | 274 |
| 119 | PPIL3 | 53938 | A_23_P28213_riset1 | 131 |
| 120 | THUMPD1 | 55623 | A_24_P90878_riset1 | 317 |
| 121 | MAD2L1 | 4085 | A_23_P92441_riset1 | 300 |
| 122 | SPTLC2 | 9517 | A_24_P150486_riset1 | 66 |
| 123 | THAP2 | 83591 | A_24_P350437_riset1 | 310 |
| 125 | C8ORF60 | 619426 | A_24_P59387_riset1 | 409 |
| 126 | MXD1 | 4084 | A_23_P408094_riset1 | 732 |
| 130 | SEPT9 | 10801 | A_23_P106973_riset1 | 248 |
| 131 | PDCD6 | 10016 | A_23_P218997_riset1 | 433 |
| 133 | IL10RA | 3587 | A_24_P107303_riset1 | 266 |
| 134 | MAGEH1 | 28986 | A_23_P34144_riset1 | 98 |
| 136 | SLC25A37 | 51312 | A_32_P197026_riset1 | 119 |
| 137 | CARD6 | 84674 | A_23_P41854_riset1 | 926 |
| 138 | ZFP2 | 80108 | A_23_P133359_riset1 | 1075 |
| 139 | PTMA | 5757 | A_32_P746413_riset1 | 392 |
| 140 | BACE2 | 25825 | A_23_P154875_riset1 | 735 |
| 141 | CHST2 | 9435 | CHST2_riset2_piqor | 359 |
| 143 | BCKDHB | 594 | A_24_P239664_riset1 | 335 |
| 144 | MTX2 | 10651 | A_23_P120335_riset1 | 716 |
| 148 | CD7 | 924 | A_23_P118862_riset1 | 804 |
| 149 | ACOT2 | 10965 | A_23_P3111_riset1 | 577 |
| 153 | CD40LG | 959 | A_23_P62220_riset1 | 275 |
| 155 | FANK1 | 92565 | A_23_P115785_riset1 | 48 |
| 156 | DNMT1 | 1786 | A_23_P27490_riset1 | 240 |
| 157 | AK3L1 | 205 | MIL_PPPID394453462_riset1 | 1122 |
| 158 | RFC4 | 5984 | A_23_P18196_riset1 | 87 |
| 159 | BTG1 | 694 | A_23_P87560_riset1 | 17 |
| 160 | SPON1 | 10418 | A_32_P133072_riset1 | 103 |
| 162 | ATL3 | 25923 | A_23_P105028_riset1 | 51 |
| 165 | AFF3 | 3899 | A_23_P373464_riset1 | 690 |
| 166 | MCEE | 84693 | A_23_P56654_riset1 | 1013 |
| 167 | NLRC4 | 58484 | A_23_P119835_riset1 | 779 |
| 169 | DTX1 | 1840 | A_24_P290751_riset1 | 115 |
| 170 | TRIM4 | 89122 | A_23_P500601_riset1 | 227 |
| 171 | TMEM106B | 54664 | A_32_P353072_riset1 | 293 |
| 176 | FCAR | 2204 | A_24_P348265_riset1 | 241 |
| 178 | VCPIP1 | 80124 | A_32_P74366_riset1 | 509 |


| 179 | SATB1 | 6304 | SATB1_riset2 | 338 |
| :---: | :---: | :---: | :---: | :---: |
| 181 | PDLIM7 | 9260 | A_24_P41882_riset1 | 162 |
| 184 | IL23A | 51561 | A_23_P76078_riset1 | 152 |
| 187 | XBP1 | 7494 | A_23_P120845_riset1 | 443 |
| 188 | SOCS3 | 9021 | A_23_P207058_riset1 | 831 |
| 189 | SFRS10 | 6434 | A_24_P145911_riset1 | 209 |
| 190 | TNFSF10 | 8743 | A_23_P121253_riset1 | 1029 |
| 195 | RNASE2 | 6036 | A_23_P151638_riset1 | 178 |
| 196 | MAP2K6 | 5608 | A_23_P207445_riset1 | 1048 |
| 198 | LYRM7 | 90624 | A_32_P18159_riset1 | 1375 |
| 199 | AK124263 | - | A_24_P538708_riset1 | 911 |
| 200 | MYT1;PCMTD2 | 4661;55251 | A_23_P210829_riset1 | 995 |
| 201 | CD96 | 10225 | A_23_P44154_riset1 | 533 |
| 203 | PCGF6 | 84108 | A_23_P115703_riset1 | 454 |
| 204 | IGKV3-20 | 28912 | A_23_P21800_riset1 | 11 |
| 205 | CARD11 | 84433 | A_23_P82324_riset1 | 502 |
| 206 | IFT80 | 57560 | A_23_P316150_riset1 | 375 |
| 207 | SLAMF1 | 6504 | SLAMF1_riset2 | 62 |
| 208 | SIP1 | 8487 | A_23_P88194_riset1 | 516 |
| 209 | FAIM | 55179 | A_23_P253932_riset1 | 590 |
| 210 | NEK1 | 4750 | A_23_P124427_riset1 | 1368 |
| 211 | IL1R2 | 7850 | A_23_P79398_riset1 | 545 |
| 212 | HOXB2 | 3212 | A_23_P107283_riset1 | 142 |
| 214 | FLT3 | 2322 | MIL_PPPID394308044_riset1 | 345 |
| 216 | SLC26A8 | 116369 | A_23_P30950_riset1 | 264 |
| 219 | FCGR1A | 2209 | A_23_P63395_riset1 | 318 |
| 220 | LGALS8 | 3964 | LGALS8_riset2 | 1102 |
| 222 | CLIC3 | 9022 | A_23_P254654_riset1 | 1317 |
| 223 | BEX4 | 56271 | A_23_P114391_riset1 | 176 |
| 224 | SLC11A1 | 6556 | A_32_P436132_riset1 | 1086 |
| 225 | BMP2K | 55589 | A_24_P86240_riset1 | 27 |
| 226 | SFT2D3 | 84826 | A_23_P5566_riset1 | 370 |
| 227 | C5ORF28 | 64417 | A_23_P121875_riset1 | 400 |
| 230 | PHLDB2 | 90102 | A_24_P240166_riset1 | 1092 |
| 231 | A_23_P399604 | - | A_23_P399604_riset1 | 401 |
| 232 | GTL3 | 29105 | A_23_P3514_riset1 | 616 |
| 233 | ITSN2 | 50618 | MIL_PPPID399200362_riset1 | 733 |
| 234 | ARHGEF12 | 23365 | A_24_P175783_riset1 | 546 |
| 236 | MUC8 | 4590 | MUC8_riset2_piqor | 1198 |
| 238 | FLJ22662 | 79887 | A_23_P87709_riset1 | 267 |
| 239 | APEX1 | 328 | A_23_P151649_riset1 | 585 |
| 240 | RPS4Y1 | 6192 | A_23_P259314_riset1 | 1132 |
| 241 | LCK | 3932 | LCK_riset2 | 207 |
| 242 | LOC642897 | 642897 | A_24_P84401_riset1 | 933 |


| 244 | SLC26A8 | 116369 | A_23_P30950_riset1 | 161 |
| :---: | :---: | :---: | :---: | :---: |
| 246 | CD247 | 919 | A_23_P34676_riset1 | 16 |
| 247 | UPF3A | 65110 | A_32_P202778_riset1 | 282 |
| 248 | RGS1 | 5996 | A_23_P97141_riset1 | 22 |
| 249 | RBM3 | 5935 | RBM3_riset2 | 619 |
| 250 | POLR3H | 171568 | A_24_P322847_riset1 | 744 |
| 251 | RHOH | 399 | A_23_P58132_riset1 | 49 |
| 254 | LETMD1 | 25875 | A_23_P117037_riset1 | 137 |
| 257 | LDHB | 3945 | A_23_P53476_riset1 | 77 |
| 259 | TRA@ | 6955 | A_23_P258504_riset1 | 312 |

Supplemental Table 5. Median of log-fold change in expression of top 11 ranked probes with significant differential expression in patient groups of the training set. Median of log-fold change in expression (relative to median of all samples) of differentially expressed probes detected in patient groups of the training set, ranked on $1 \%$ FDR. Plots showing the fold expression for each patient group of the training and test sets, for all genes detected to be significantly differentially expressed available in online material. Stable; combined groups s-CNI, s-nCNI, s-LP.

| Rank | Probe | Entrez <br> Gene ID | Riset Probe ID | HC | Tol-DF | Stable | CR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{1}$ | CD79B | 974 | A_23_P207201_riset1 | 1.024 | 0.618 | -0.2375 | -0.319 |
| $\mathbf{2}$ | TCL1A | 8115 | A_23_P357717_riset1 | 1.6525 | 1.062 | -0.41 | 0.0965 |
| $\mathbf{3}$ | HS3ST1 | 9957 | A_23_P121657_riset1 | 1.161 | 0.995 | -0.8895 | -1.8945 |
| $\mathbf{4}$ | TCL1A | 8115 | MIL_PPPID394307780_riset1 | 1.645 | 0.994 | -0.38 | 0.121 |
| $\mathbf{5}$ | SH2D1B | 117157 | A_32_P324533_riset1 | 1.085 | 0.76 | -0.198 | -0.0445 |
| $\mathbf{6}$ | MS4A1 | 931 | MIL_PPPID394453510_riset1 | 0.9025 | 0.763 | -0.2725 | -0.108 |
| $\mathbf{7}$ | TLR5 | 7100 | A_23_P85903_riset1 | -0.7895 | -0.341 | 0.1265 | 0.36 |
| $\mathbf{8}$ | FCRL1 | 115350 | A_32_P71876_riset1 | 1.1145 | 0.517 | -1.2275 | -0.9745 |
| $\mathbf{9}$ | PNOC | 5368 | A_23_P253321_riset1 | 0.633 | 0.585 | -0.2725 | 0.0465 |
| $\mathbf{1 0}$ | SLC8A1 | 6546 | A_32_P147078_riset1 | -0.591 | -0.451 | 0.04 | 0.4665 |
| $\mathbf{1 1}$ | FCRL2 | 79368 | A_23_P160751_riset1 | -0.845 | -0.9725 | 1.067 | 0.554 |

Supplemental Table 6．Annotation enrichment of genes with significant differential expression common to the training and test sets．Listed genes are those with significant differential expression which are common to both the training and test sets，and identified to be significantly associated with the listed annotated pathways．Shaded columns indicate B cell related pathways．

|  | $\begin{aligned} & \overline{\mathbf{\delta}} \\ & \mathbf{0} \end{aligned}$ | $\begin{aligned} & \text { 드̃ } \\ & \text { N} \\ & \text { O } \\ & \underline{0} \end{aligned}$ |  | su！pey ełəәz yO1 pue عaכ to uo！łeןKıoчdsoud |  |  |  |  |  |  | $\begin{aligned} & \text { N } \\ & \text { ত든 } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{aligned} & \text { O} \\ & \stackrel{1}{\mathbf{O}} \\ & \stackrel{0}{\circ} \end{aligned}$ | $\begin{aligned} & \text { O} \\ & \text { U } \\ & \text { O} \\ & \text { Ọ } \end{aligned}$ | $\begin{aligned} & \underset{+}{\dot{1}} \\ & \underset{\sim}{\underset{~}{*}} \end{aligned}$ |  | $\begin{aligned} & \stackrel{0}{\dot{U}} \\ & \underset{\sim}{\dot{\sim}} \end{aligned}$ |  | $\begin{aligned} & \stackrel{N}{\underset{\sim}{W}} \\ & \stackrel{\infty}{\infty} \\ & \underset{\sim}{2} \end{aligned}$ | $\begin{aligned} & \text { N} \\ & \stackrel{\rightharpoonup}{W} \\ & \stackrel{\sim}{0} \\ & \text { in } \end{aligned}$ | $\begin{aligned} & \underset{\sim}{\underset{1}{2}} \\ & \underset{\sim}{\underset{~}{~}} \end{aligned}$ |  | $\begin{aligned} & \stackrel{\rightharpoonup}{\circ} \\ & \stackrel{山}{Ð} \\ & \underset{寸}{+} \end{aligned}$ |
| Count | 15 | 21 | 14 | 5 | 6 | 5 | 7 | 10 | 5 | 5 | 7 |
| Name |  |  |  |  |  |  |  |  |  |  |  |
| CD7 | X | X | X |  |  |  |  |  | X | X |  |
| TNFSF10 |  |  | X |  |  |  |  | X |  |  |  |
| CD200 | X | X | X |  |  |  |  |  |  |  |  |
| RNASE2 |  | X |  |  |  |  |  |  |  |  |  |
| FCRL2 |  | X |  |  |  |  |  |  |  |  | X |
| FCRL5 | X | X |  |  |  |  |  |  |  |  | X |
| CD79B | X | X |  |  |  |  |  | X |  |  |  |
| IGKV3－20 |  | X |  |  |  |  |  |  |  |  |  |
| HLA－DOB |  | X |  | X | X |  | X |  |  |  |  |
| CD247 |  |  | X | X | X |  | X |  | X |  |  |
| SH2D1B |  |  |  |  |  |  |  |  |  |  | X |
| TCL1A | X |  |  |  |  |  |  |  |  |  |  |
| ADAMTS4 |  |  |  |  |  |  |  |  |  |  | X |
| CD96 | X | X | X |  |  |  |  |  |  |  |  |
| FCRLA |  | X |  |  |  |  |  |  |  |  | X |
| IL1RL2 |  | X |  |  |  |  |  |  |  |  |  |
| CD40 | X |  | X |  |  |  |  | X |  |  |  |
| CD40LG |  |  | X |  |  |  |  |  |  |  |  |
| FCGR1A |  | X | X |  |  |  |  |  |  | X |  |
| CD83 | X | X | X |  |  |  |  |  | X |  |  |
| IL1R2 |  | X |  |  |  |  |  | X |  | X |  |
| CARD11 |  |  |  |  |  |  | X |  |  |  |  |
| BTG1 |  |  |  |  |  |  |  | X |  |  |  |


| MAD2L1 |  |  |  |  |  |  |  | X |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SIRPA |  | X | X |  |  |  |  |  |  |  |  |
| FCAR | X | X | X |  |  |  |  |  |  |  |  |
| HLA-DOA |  | X |  | X | X |  | X |  |  |  |  |
| AIM2 |  |  |  |  |  |  |  |  |  |  | X |
| BLK |  |  |  | X | X | X | X |  |  |  |  |
| CD22 | X | X |  |  |  |  |  | X |  | X |  |
| CD79A | X | X |  |  |  |  |  | X | X |  |  |
| ITK |  |  |  |  | X | X | X |  |  |  |  |
| LCK |  |  |  | X | X | X | X | X |  |  |  |
| FLT3 | X | X |  |  |  | X |  |  |  |  |  |
| MS4A1 | X |  | X |  |  |  |  |  | X | X |  |
| RET |  |  |  |  |  | X |  |  |  |  |  |
| BTLA | X | X | X |  |  |  |  |  |  |  |  |
| MYC |  |  |  |  |  |  |  | X |  |  |  |
| SLAMF1 | X |  | X |  |  |  |  |  |  |  | X |

