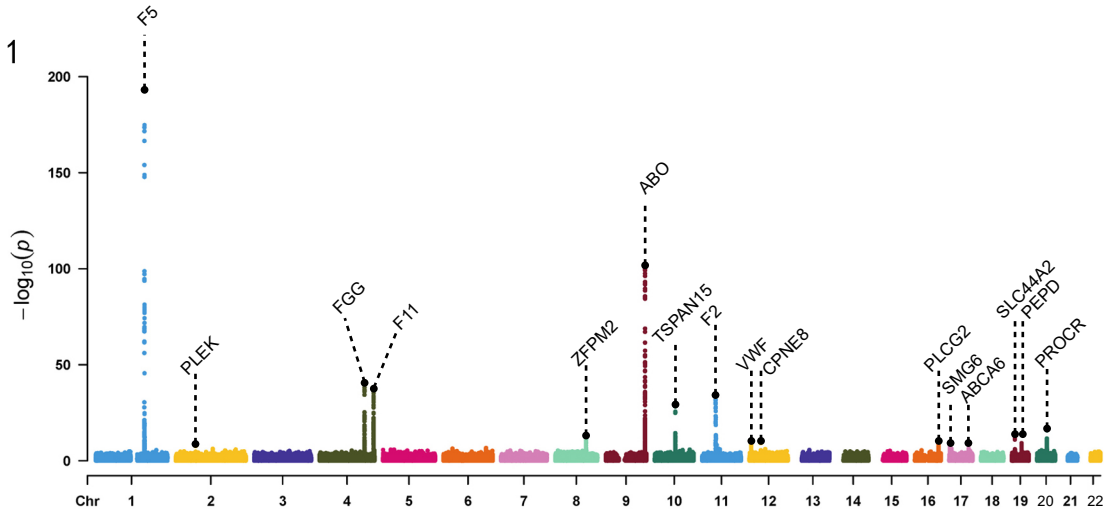


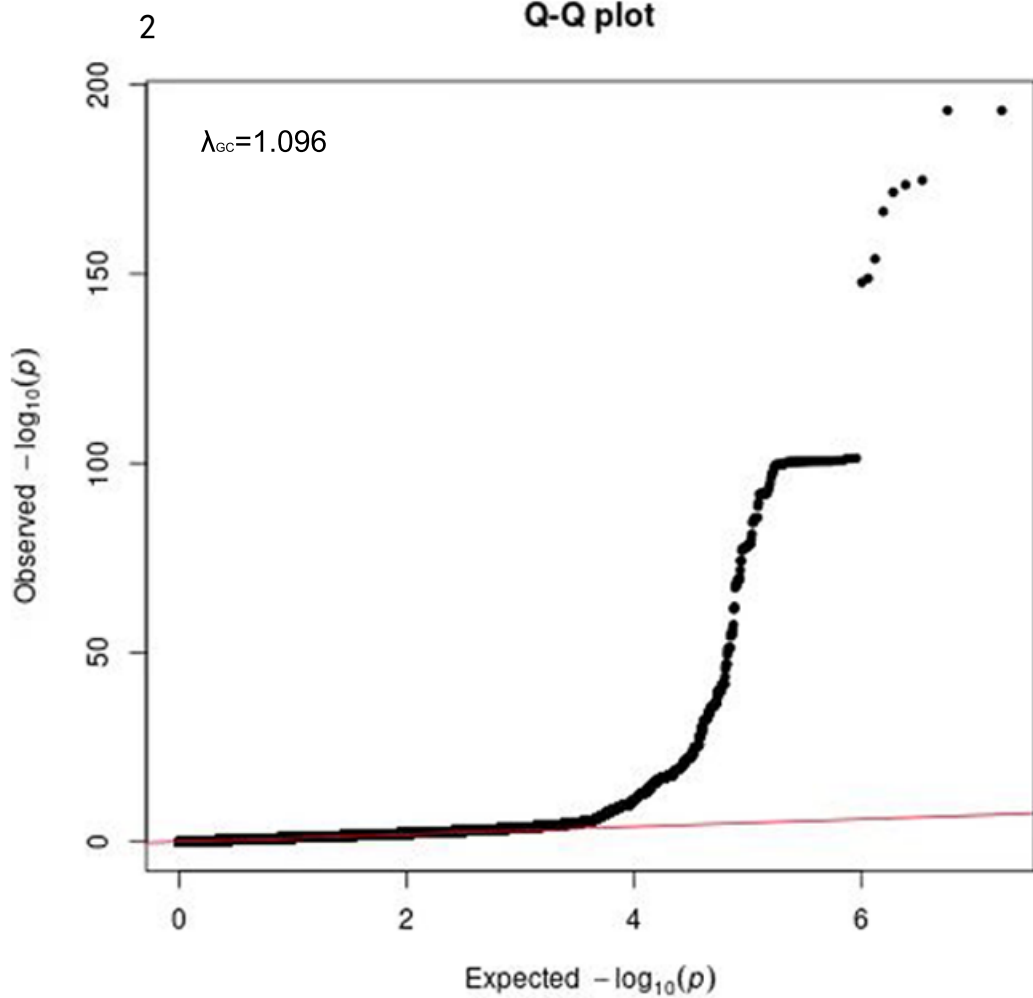
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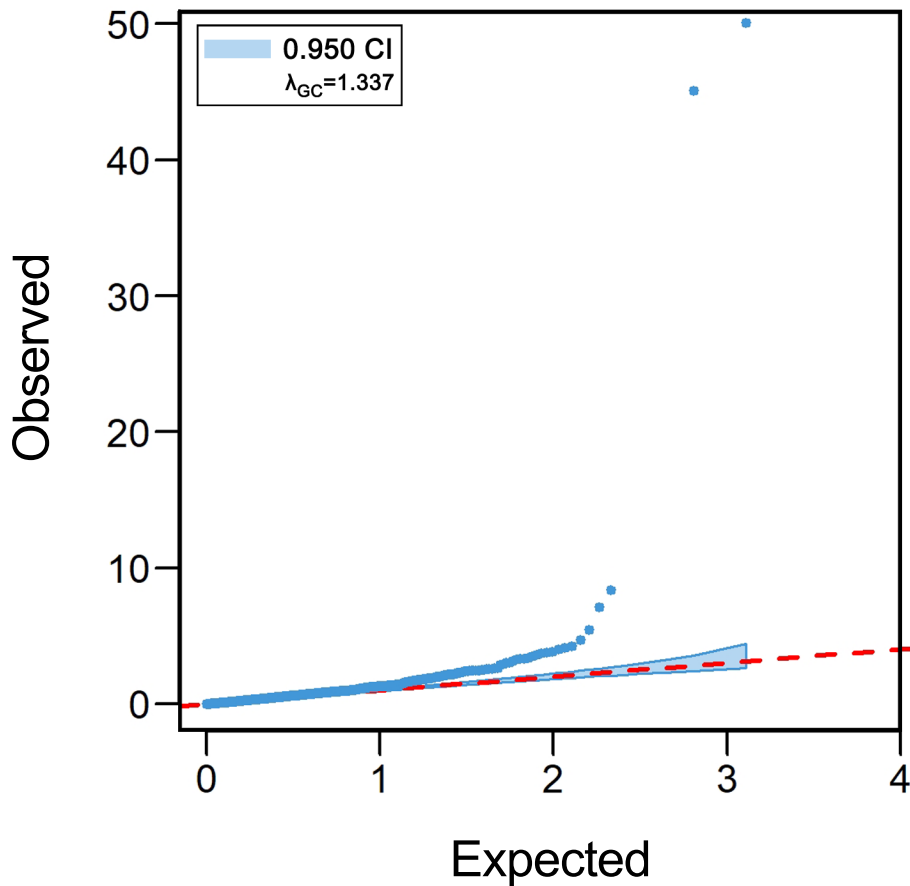
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Q-Q plot



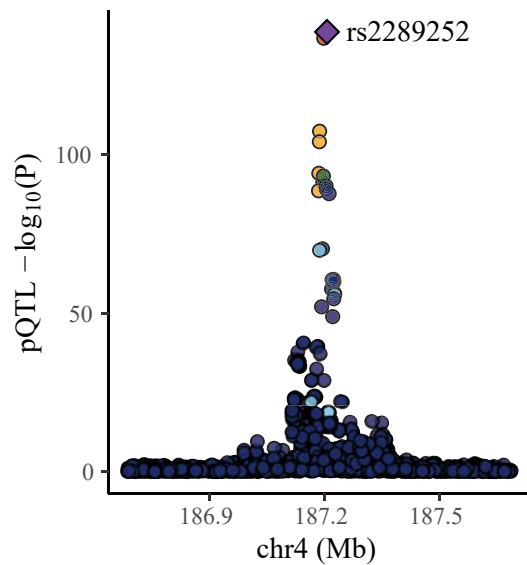
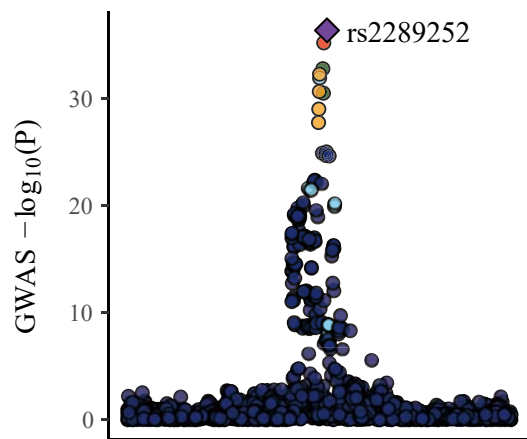
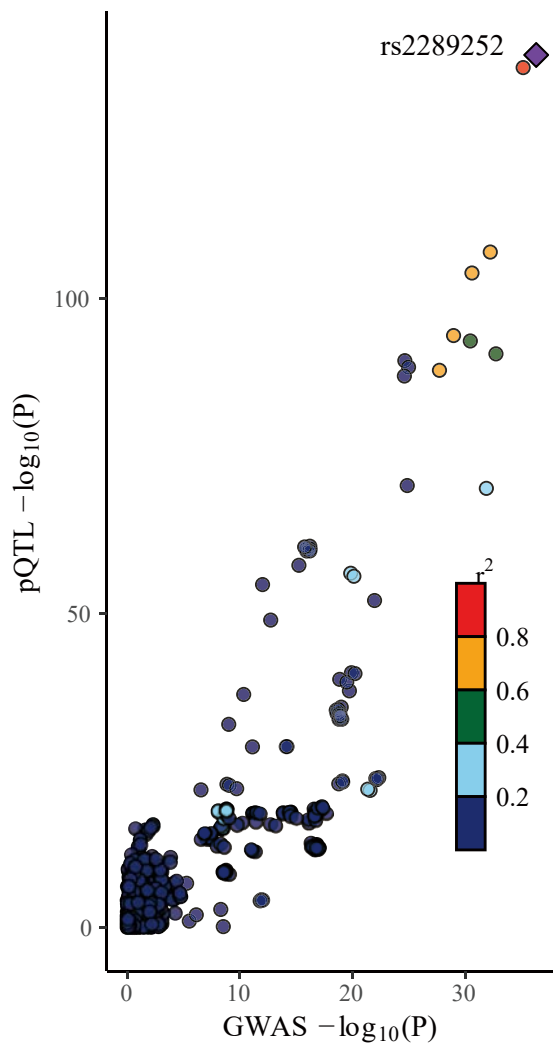
# Quantile-Quantile Plot of $-\log_{10}$ ( P-values )





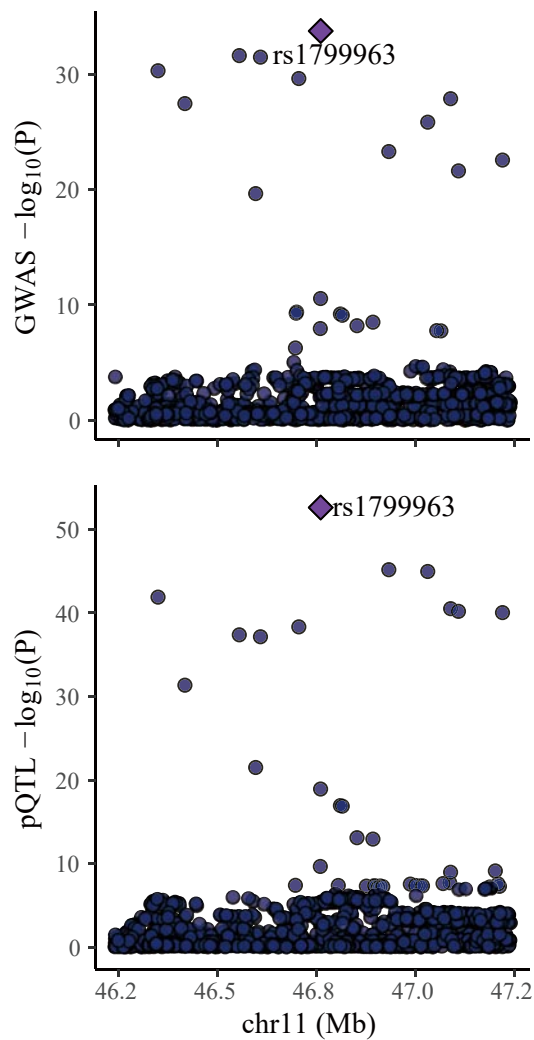
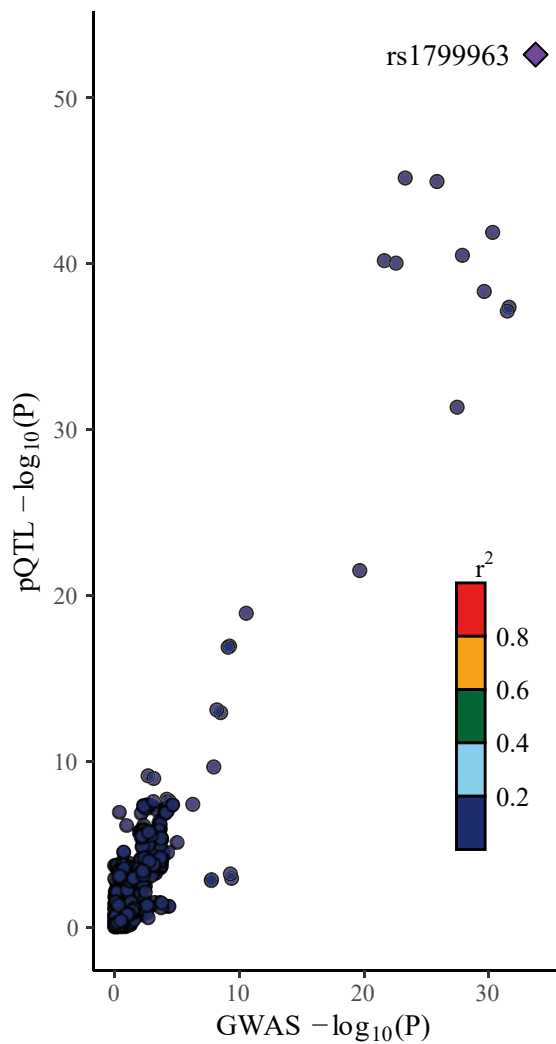
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F11



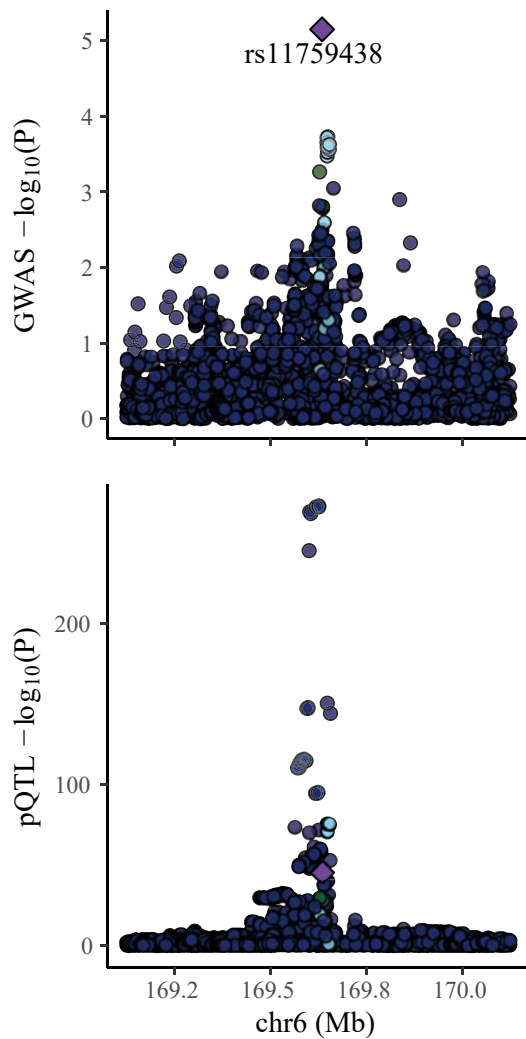
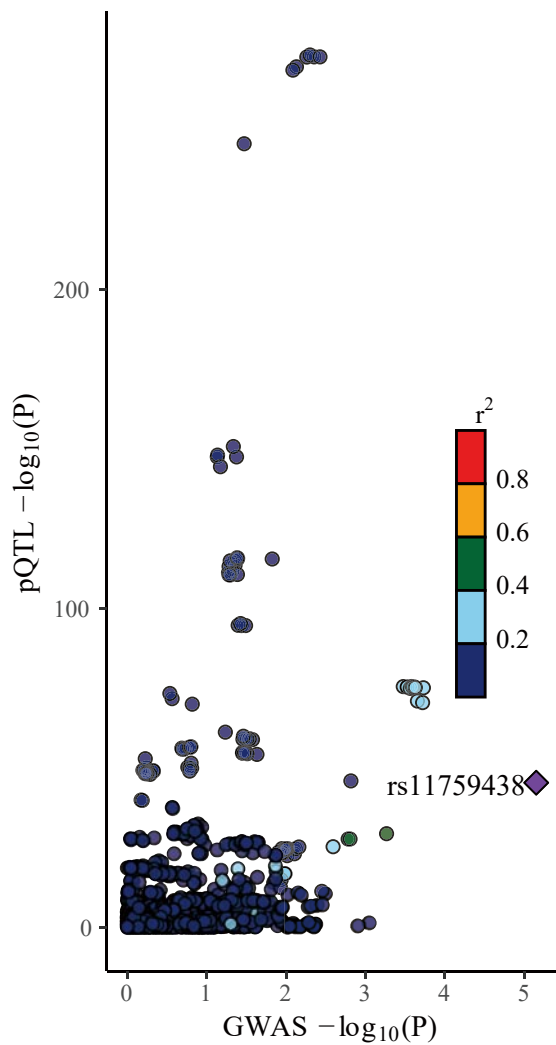
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F2



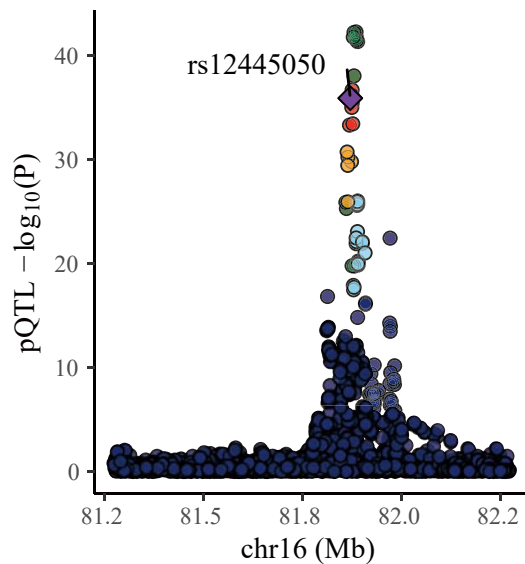
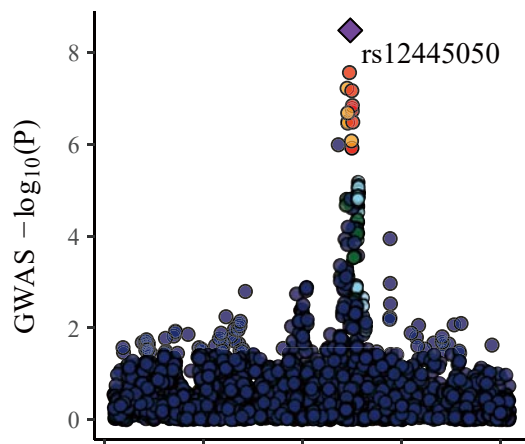
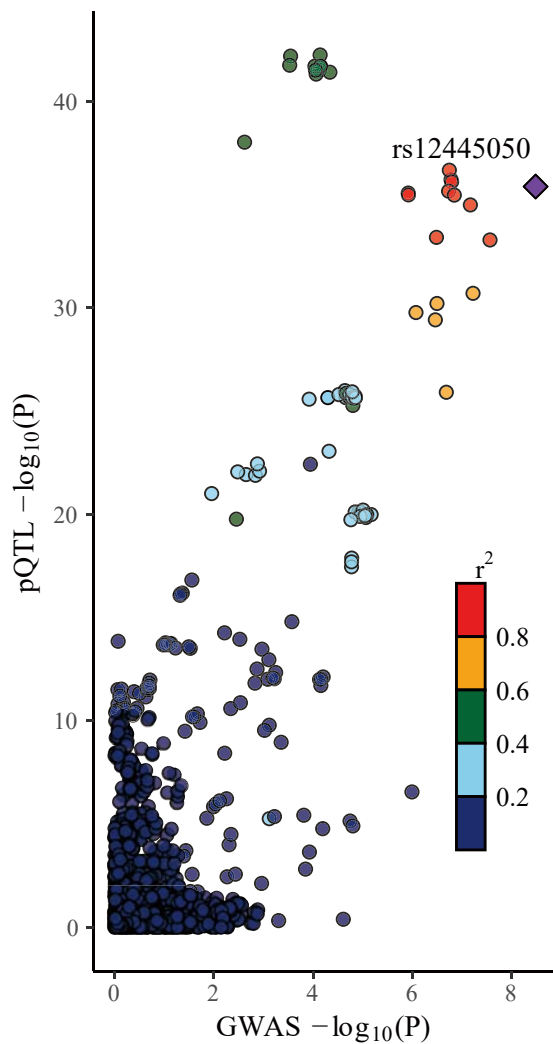
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THBS2



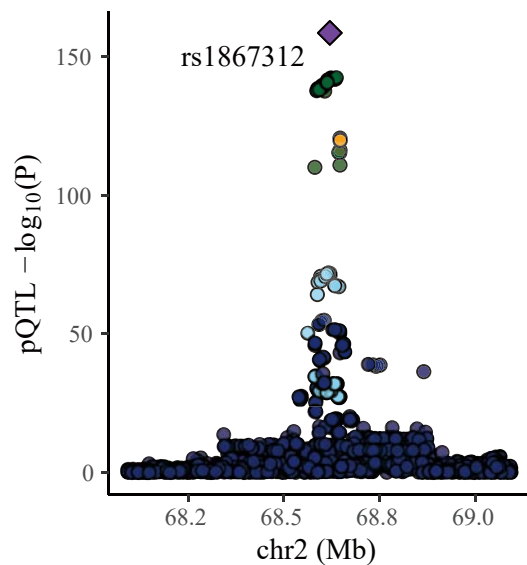
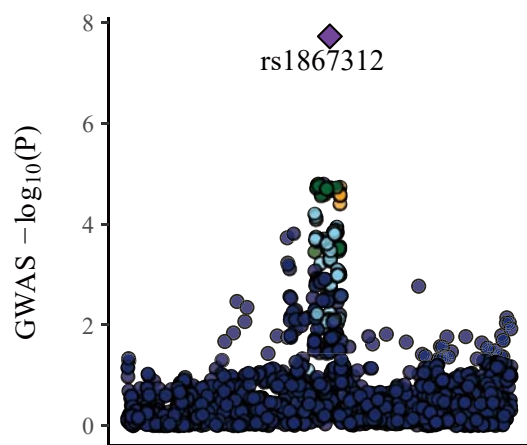
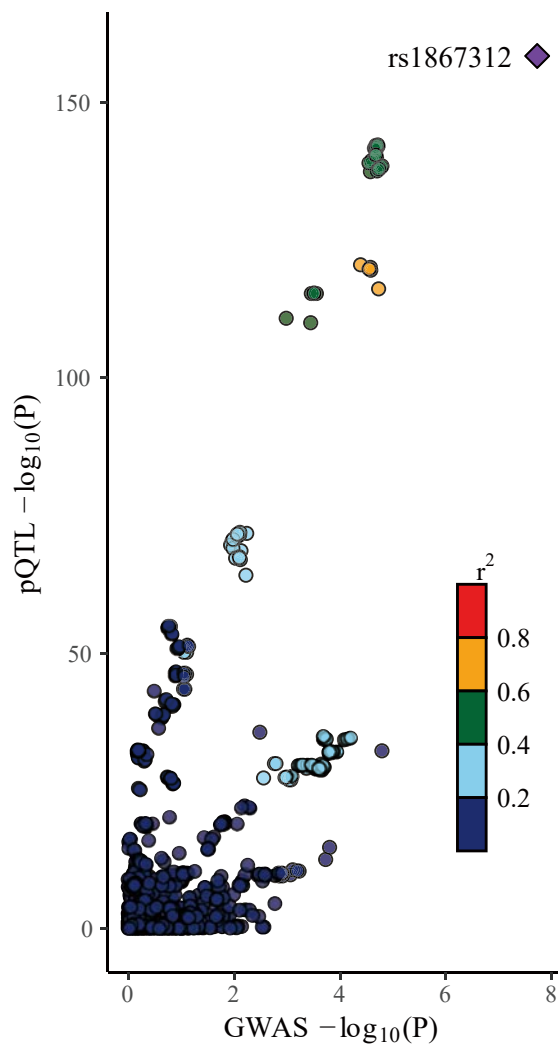
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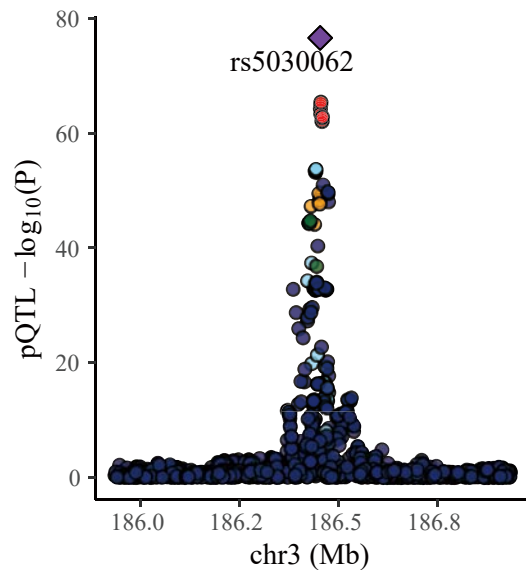
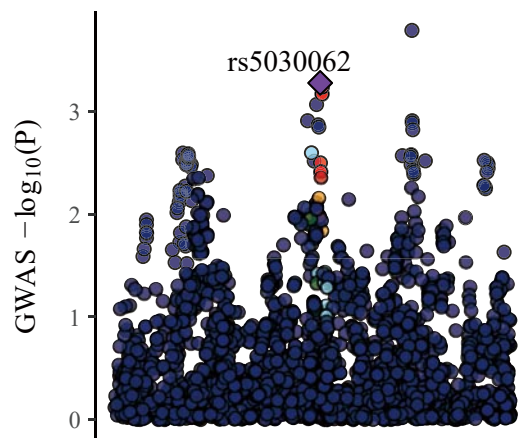
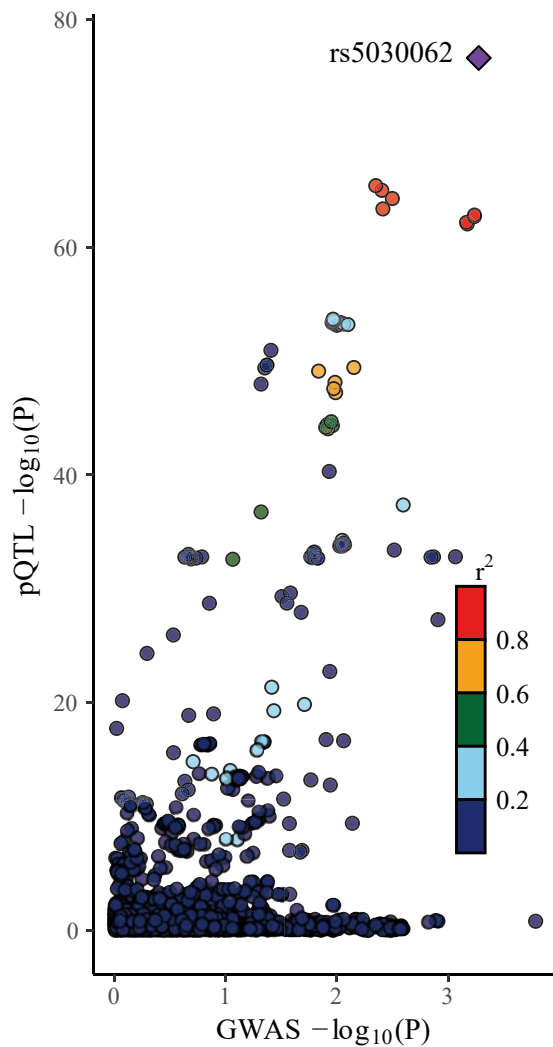
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8

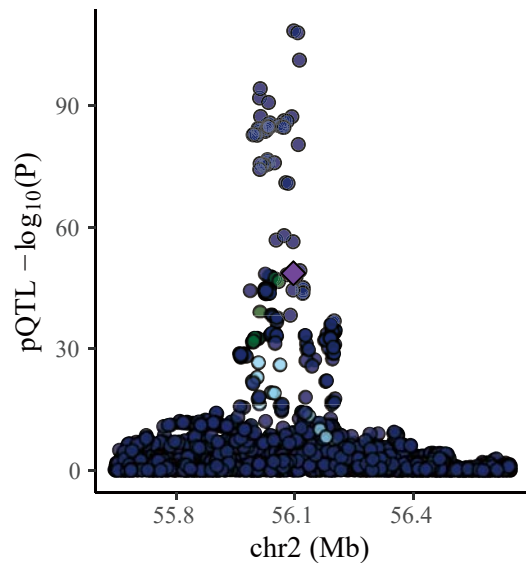
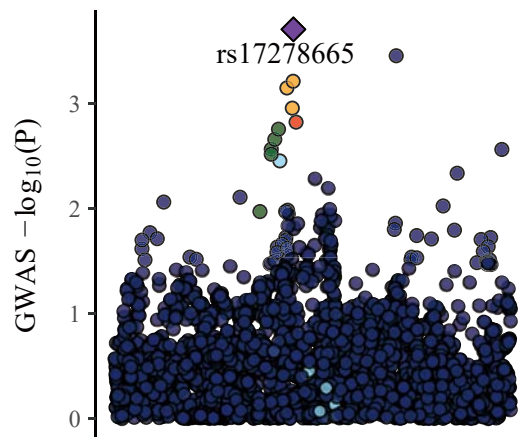
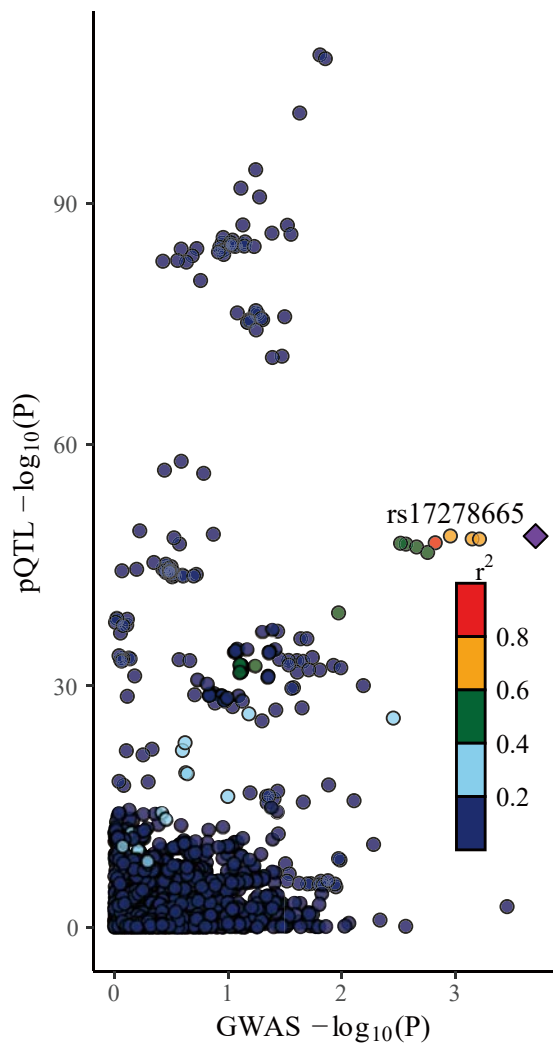
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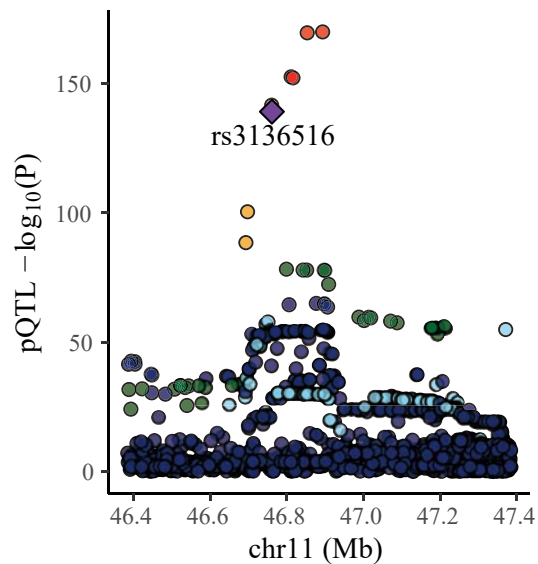
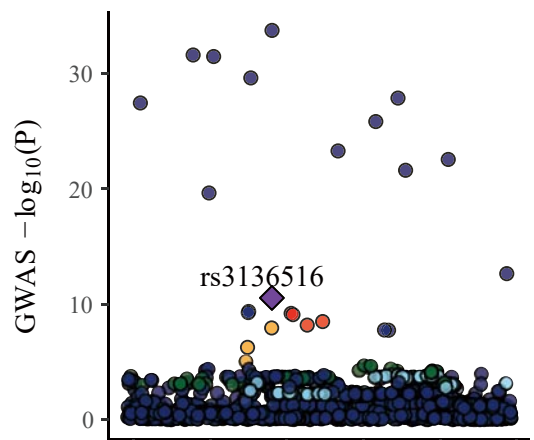
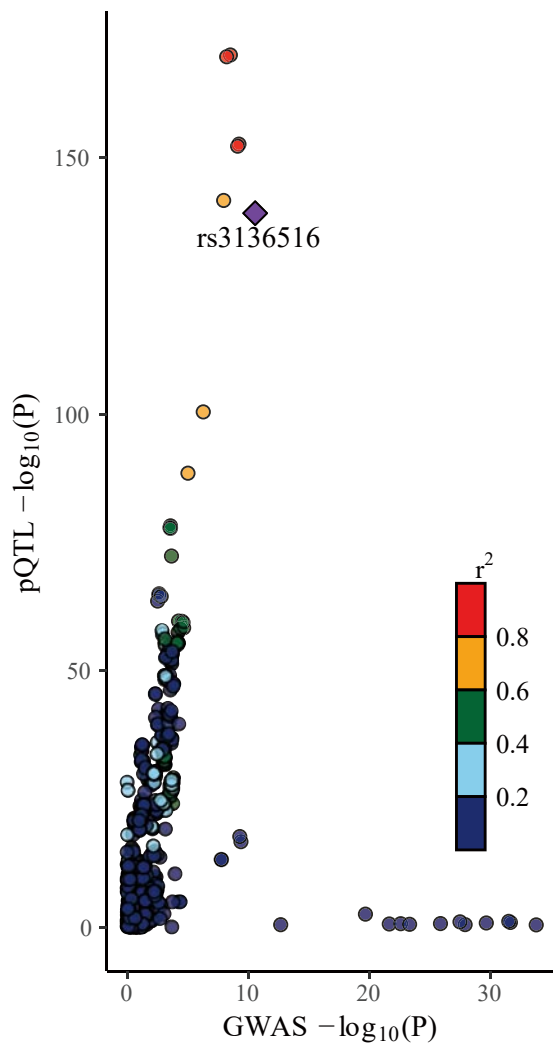
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EFEMP1



11

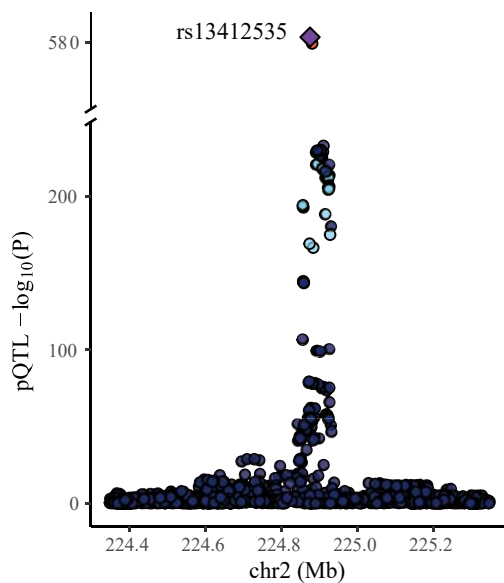
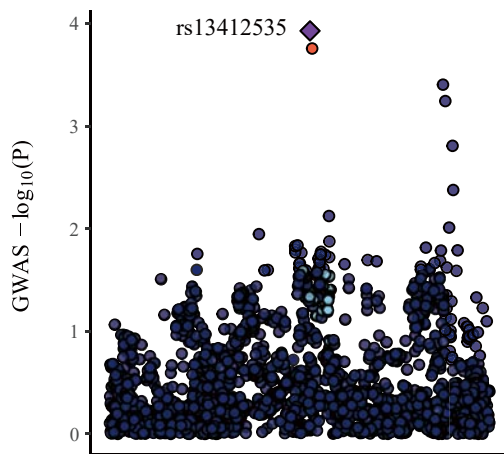
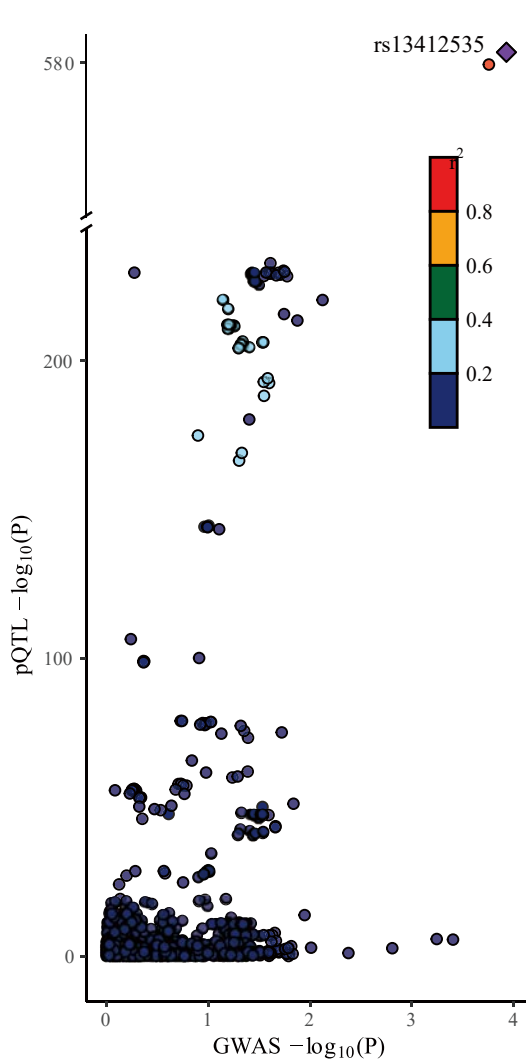
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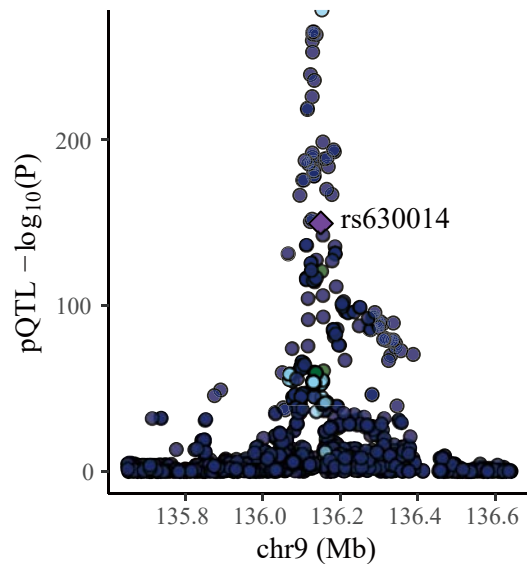
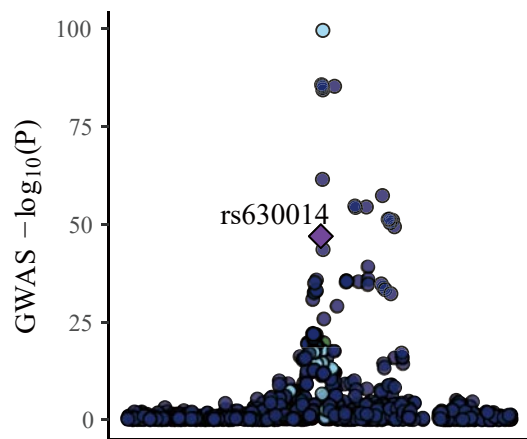
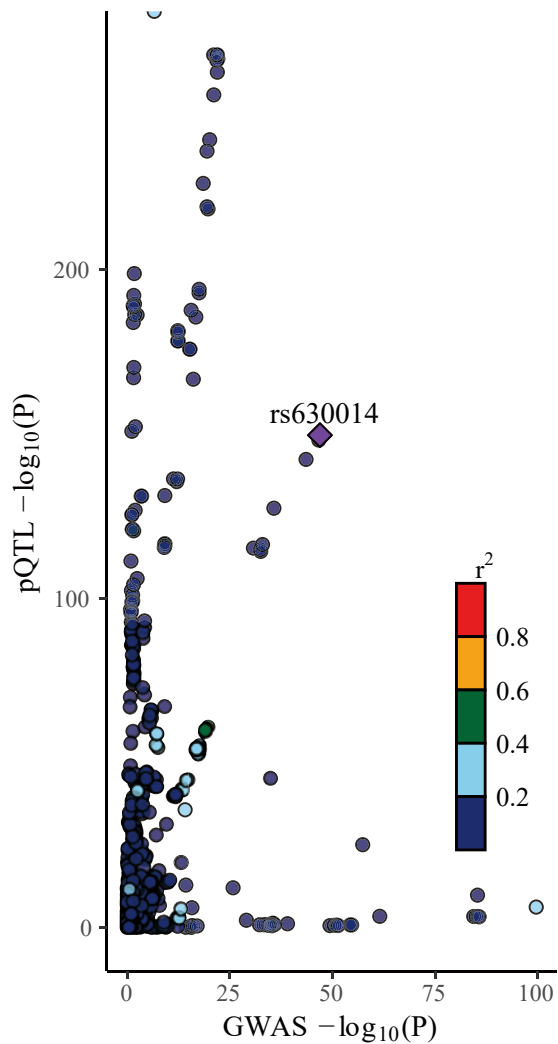
12

## SERPINE2



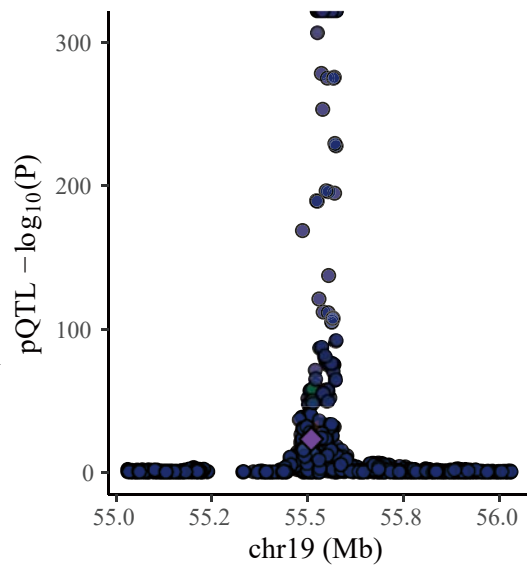
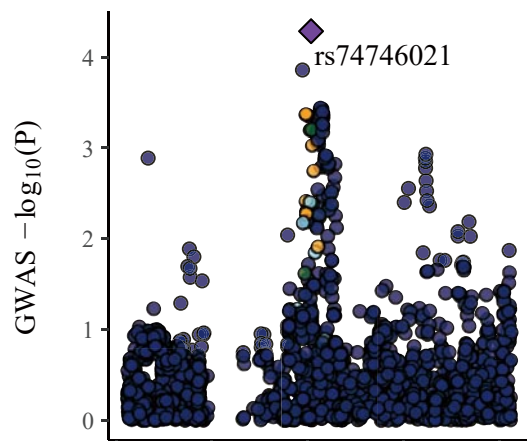
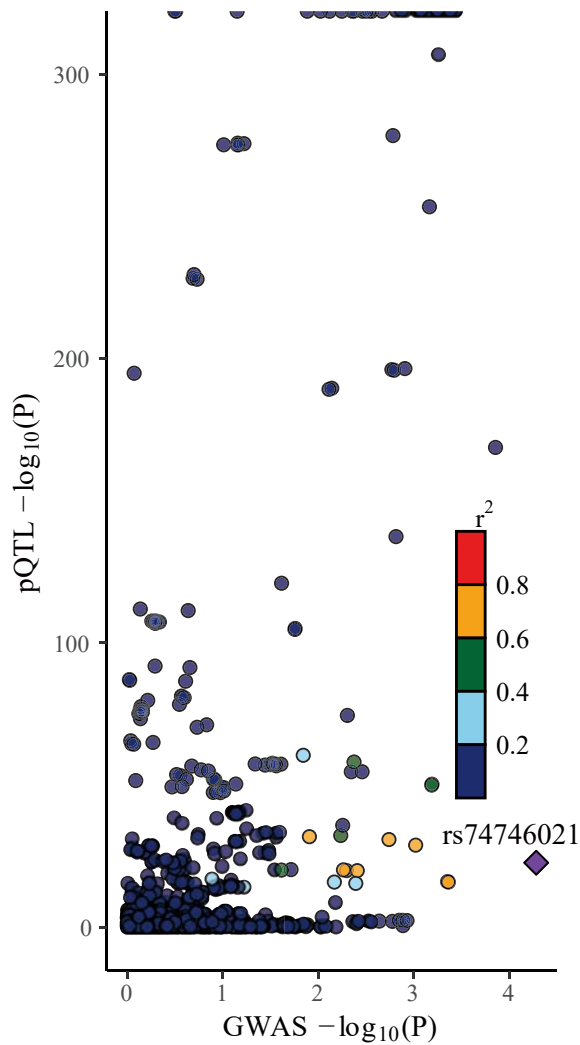
# ABO

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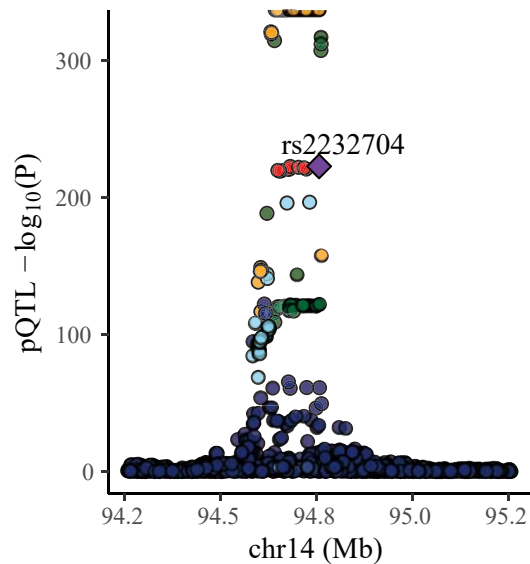
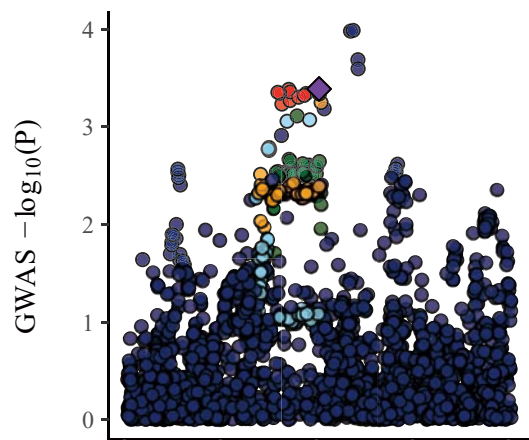
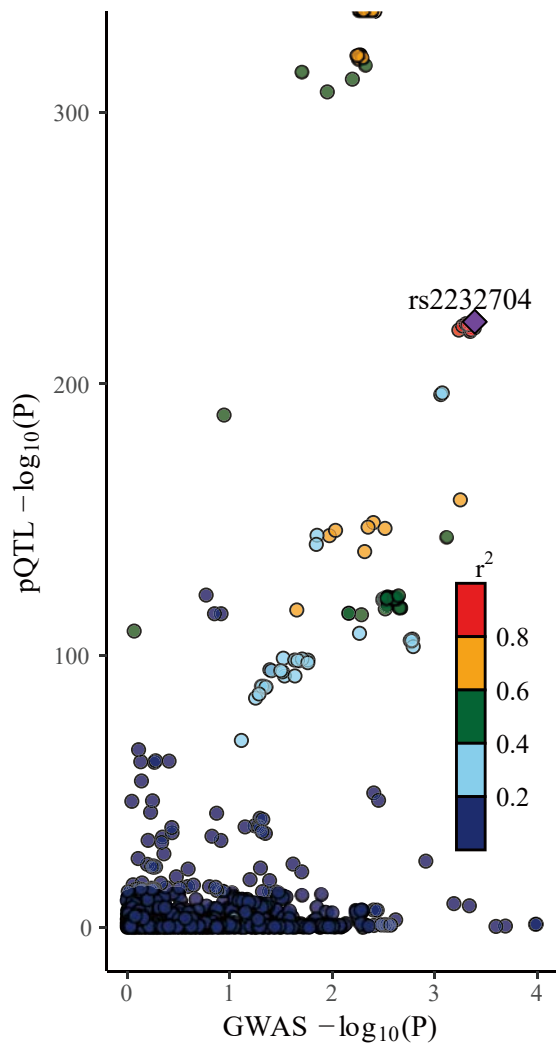
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GP6



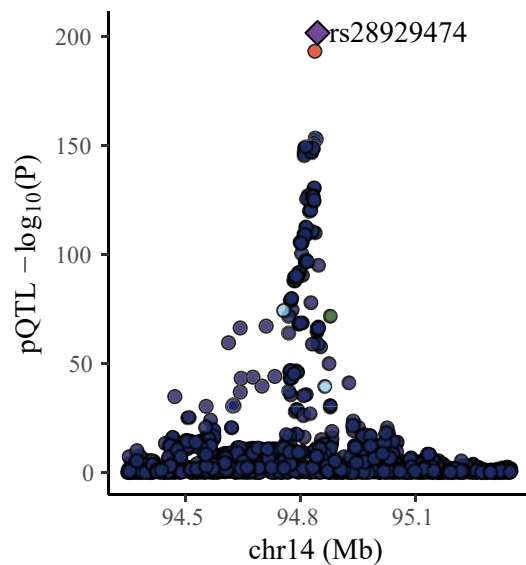
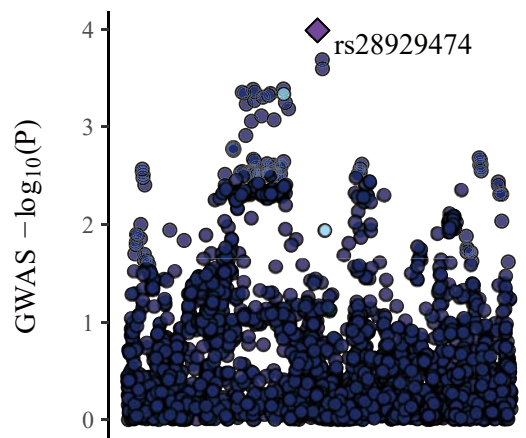
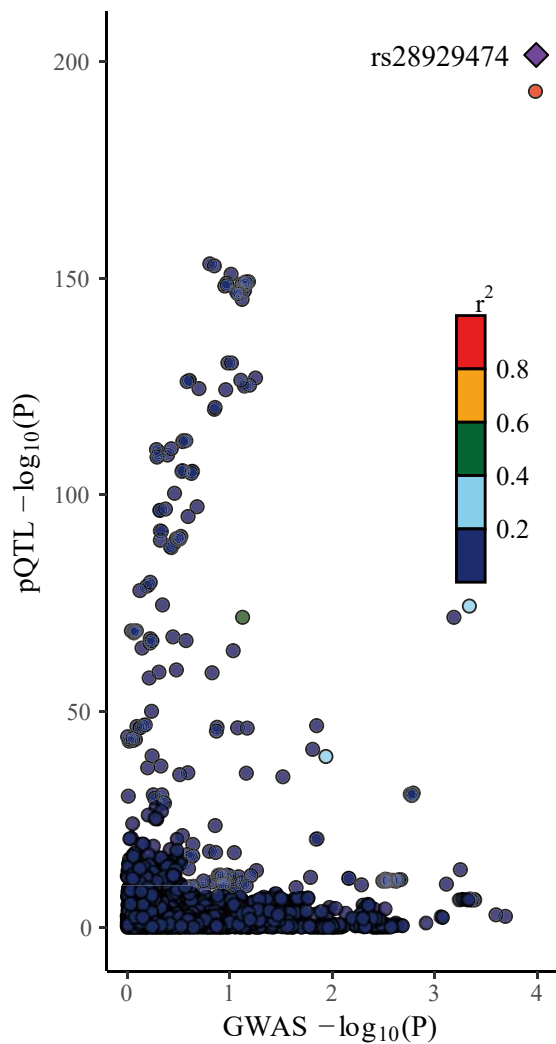
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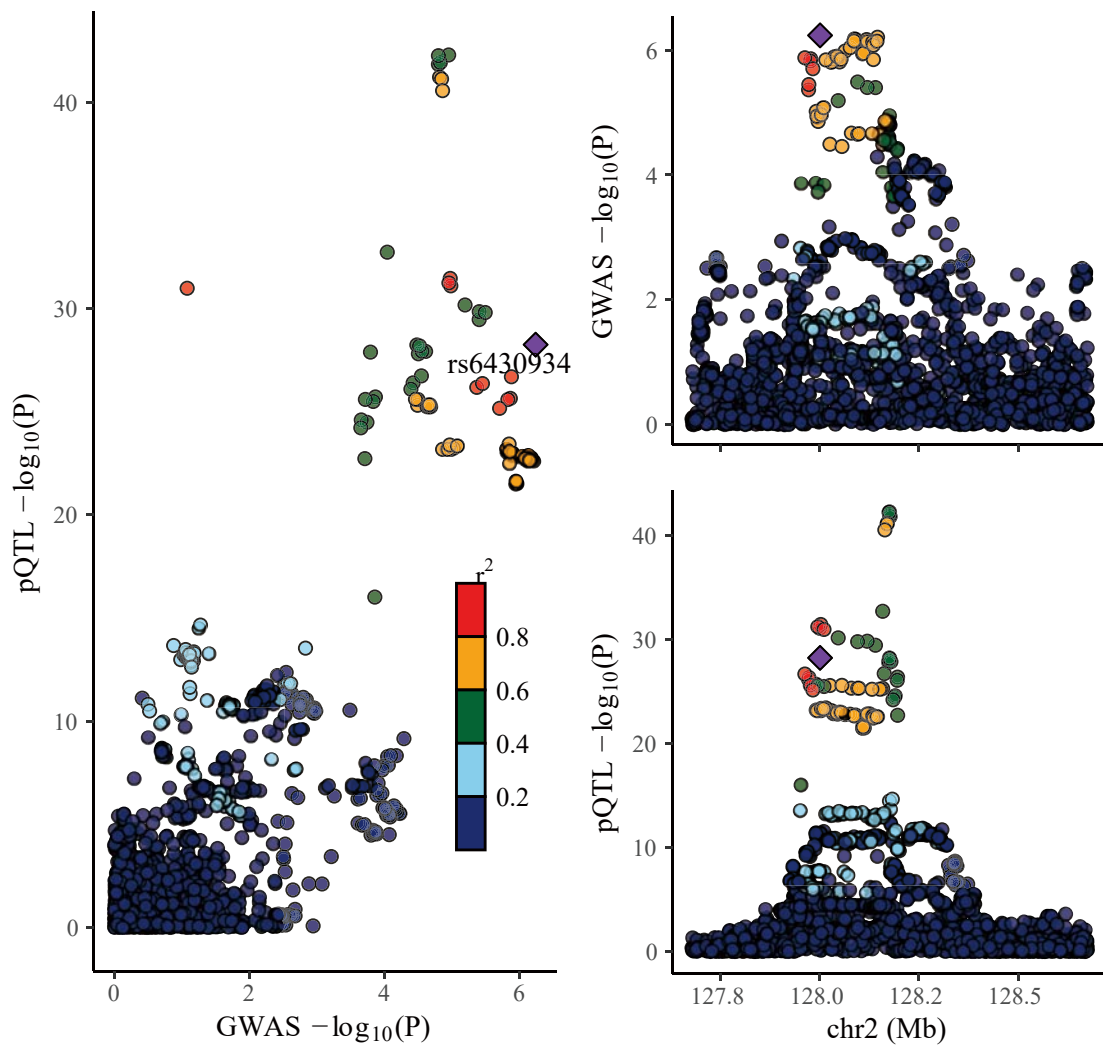
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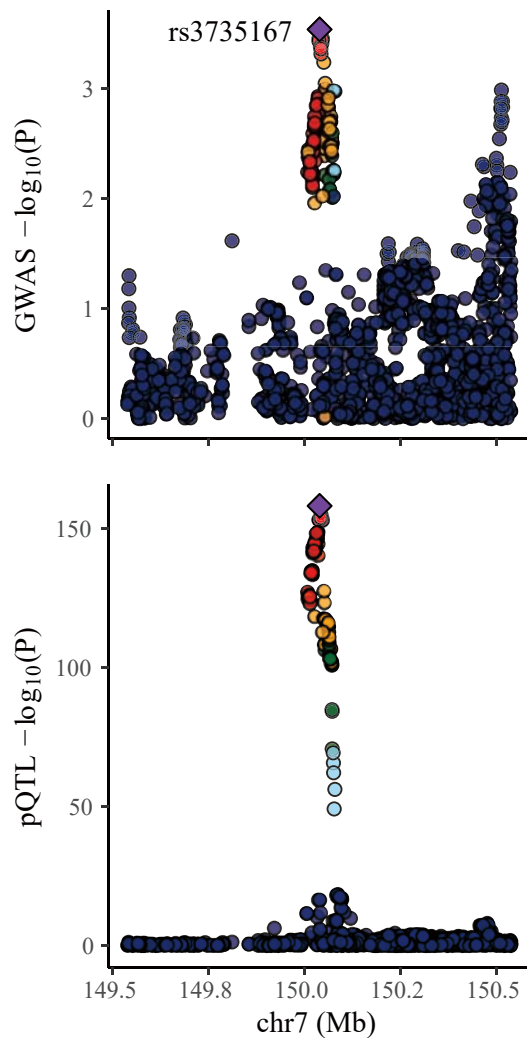
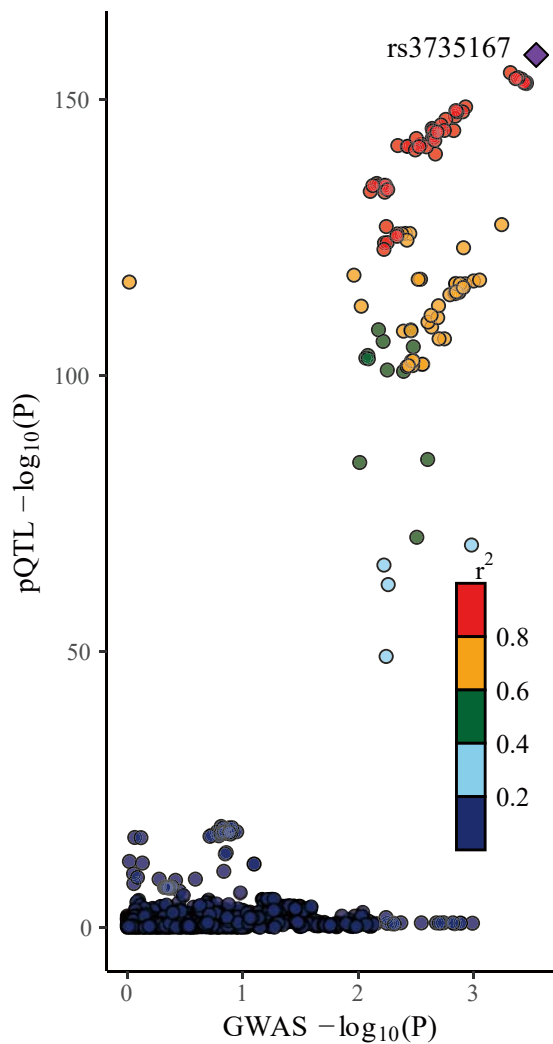


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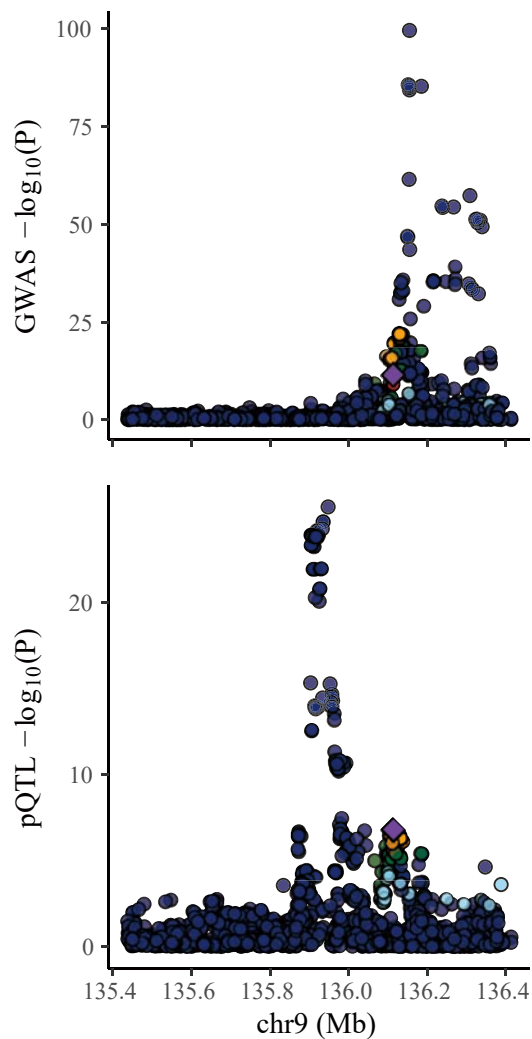
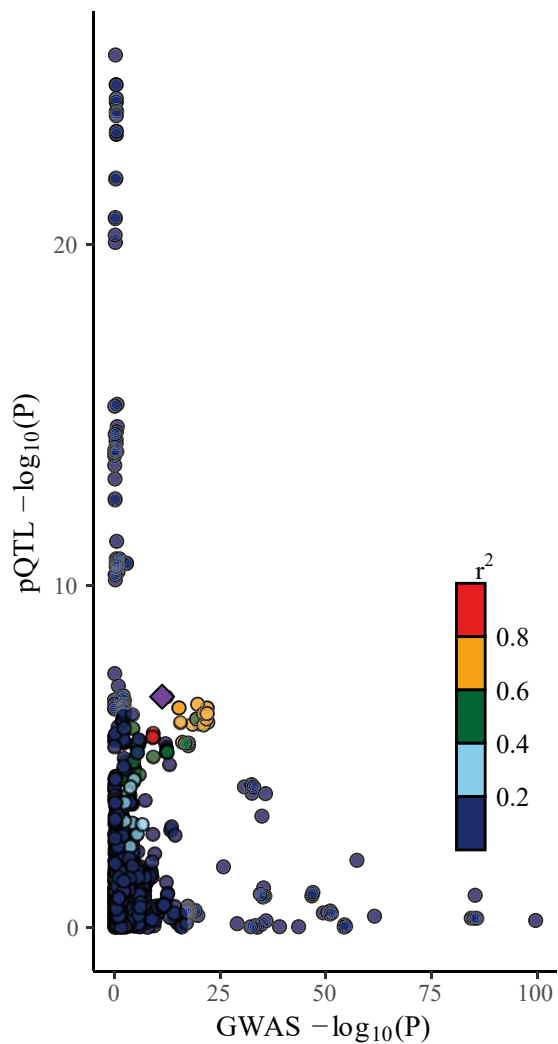






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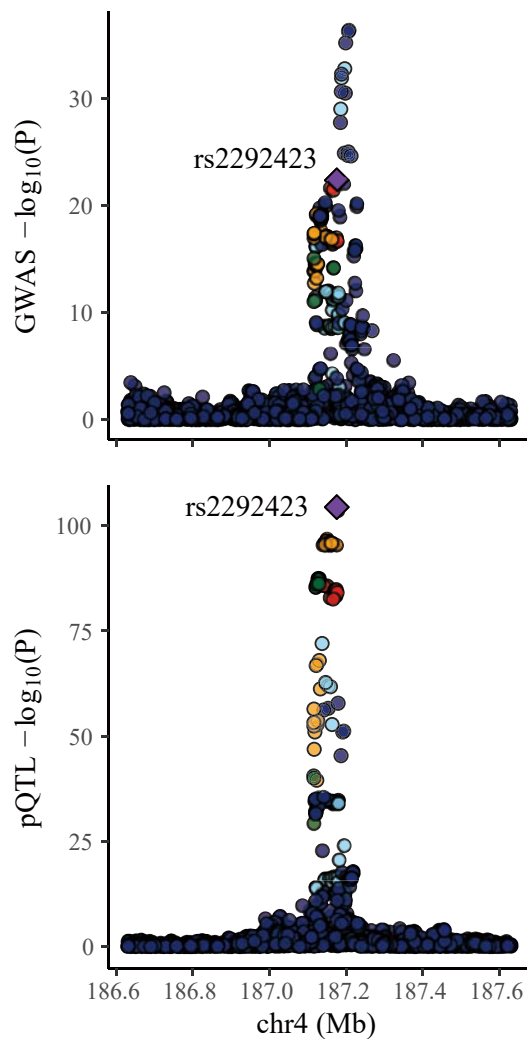
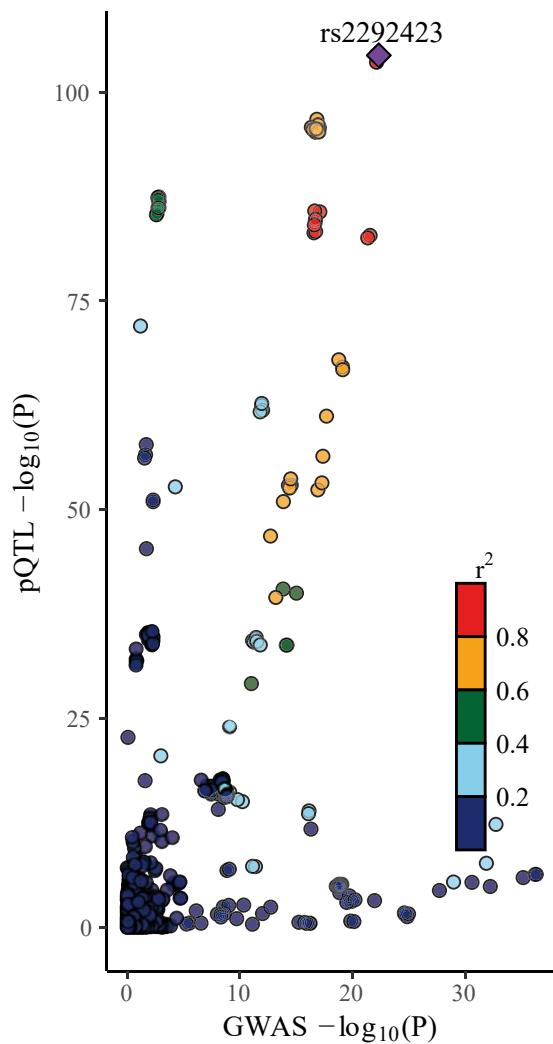
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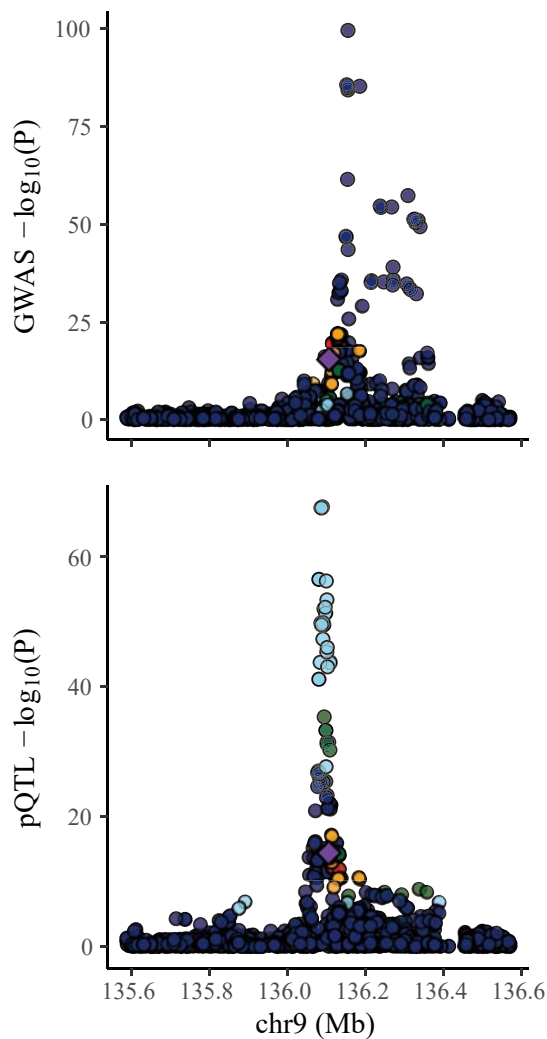
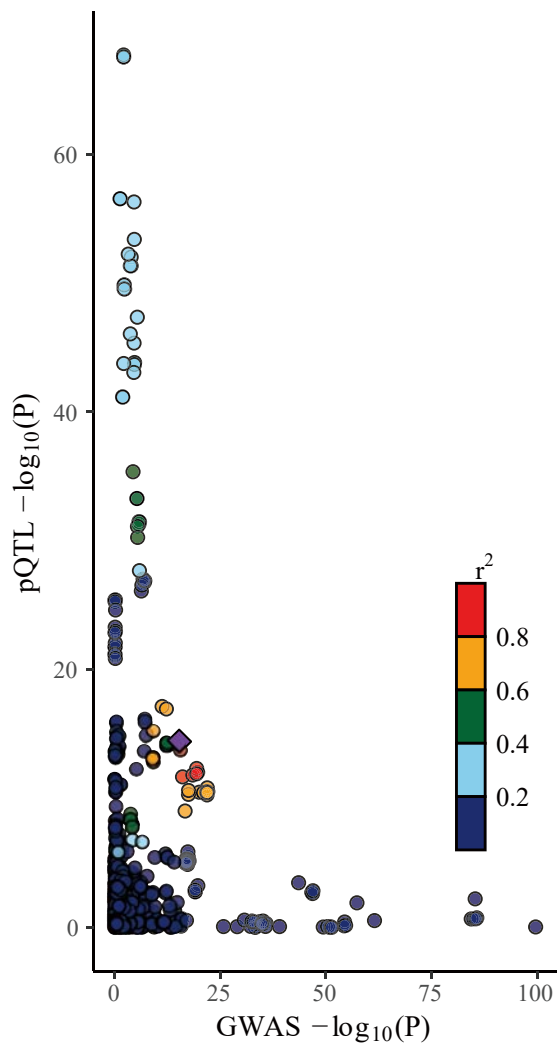


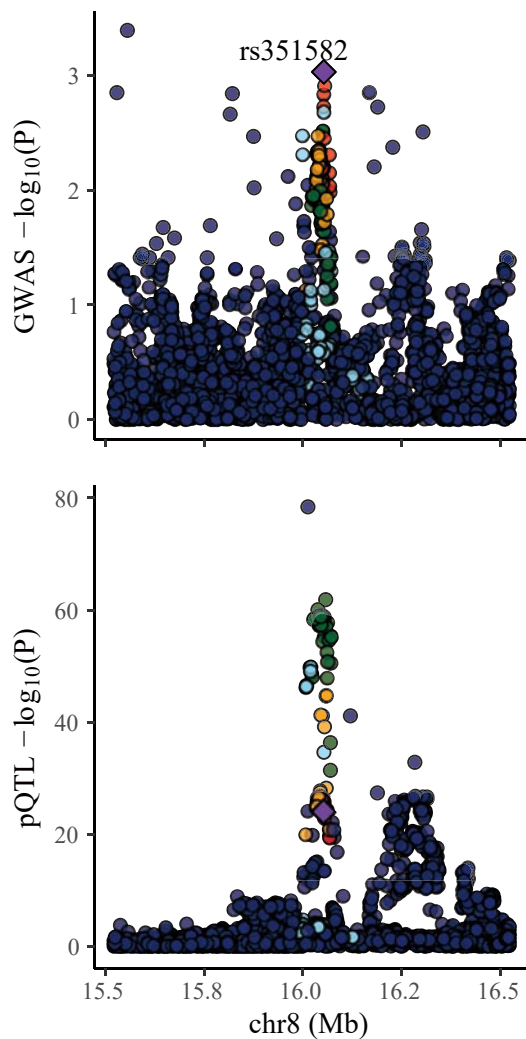
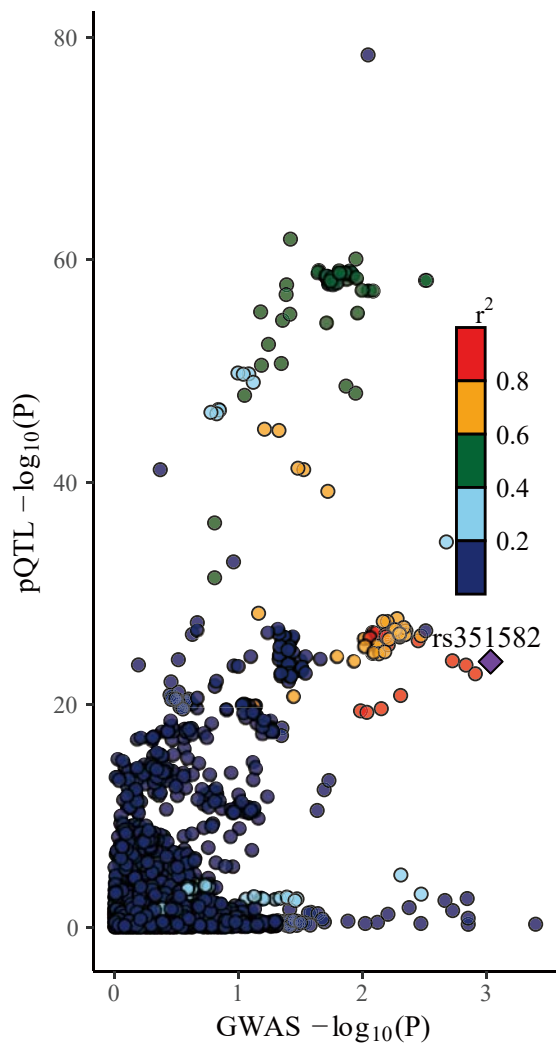


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KLKB1

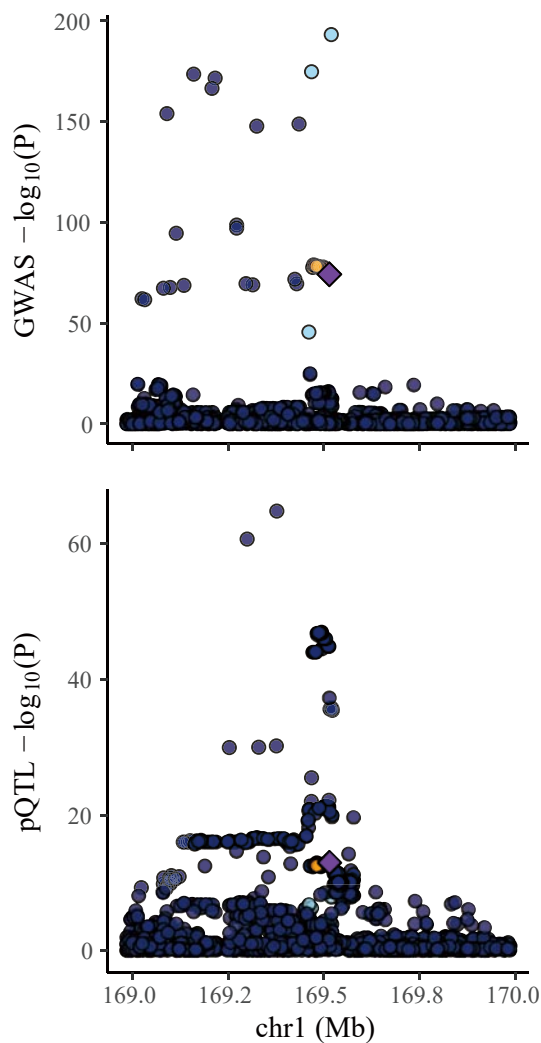
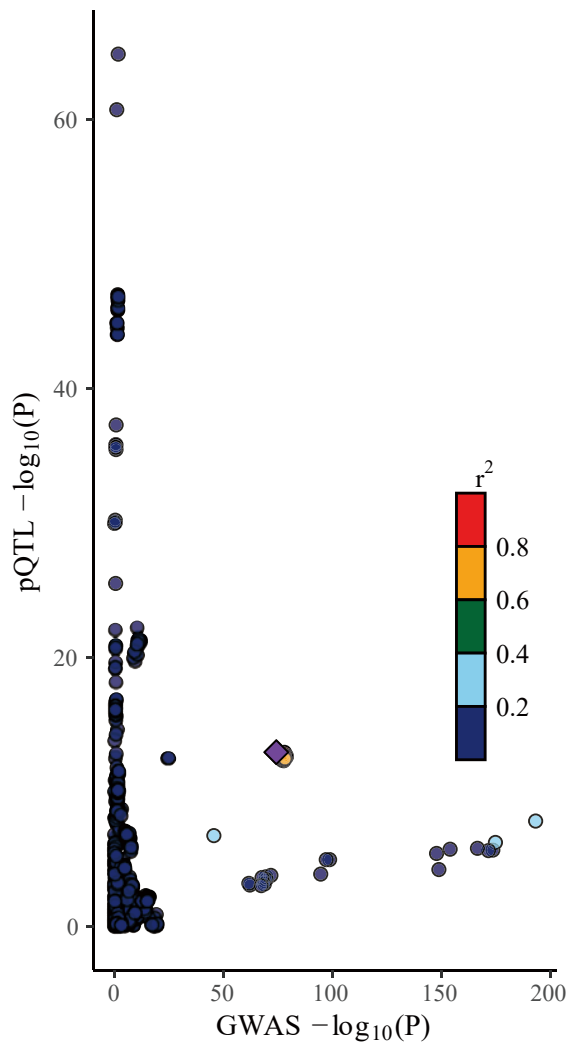






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F5



Supplementary Table 1 Plasma PWAS results in VTE.

| SEQID           | protein   | CHR | P0        | P1        | HSQ     | BEST.GWAS.ID | BEST.GWAS.Z | PQTL.ID     | PQTL.R2  | PQTL.Z | PQTL.GWAS.Z | NSNP | NWGT | MODEL | MODEL.CV.R2 | MODEL.CV.PV | PWAS.Z   | PWAS.P    |
|-----------------|-----------|-----|-----------|-----------|---------|--------------|-------------|-------------|----------|--------|-------------|------|------|-------|-------------|-------------|----------|-----------|
| SeqId_5316_54   | F2        | 11  | 46740746  | 46761056  | 0.08857 | rs1799963    | 12.243      | rs1799963   | 0.031647 | 15.25  | 12.243      | 21   | 21   | enet  | 0.049       | 4.3E-81     | 14.99308 | 8.15E-51  |
| SeqId_2190_55   | F11       | 4   | 187187343 | 187210835 | 0.13894 | rs2289252    | 12.714      | rs2289252   | 0.083288 | 24.6   | 12.714      | 78   | 78   | enet  | 0.11        | 2E-185      | 14.2049  | 8.54E-46  |
| SeqId_9253_52   | ABO       | 9   | 136108665 | 136151440 | 0.18175 | rs8176749    | 9.803       | rs8176632   | 0.29217  | 45.9   | 5.15        | 34   | 34   | enet  | 0.33        | 0           | 7.0967   | 1.28E-12  |
| SeqId_10070_22  | PLCG2     | 16  | 81772702  | 81996290  | 0.07411 | rs12445050   | 5.92        | rs62045706  | 0.02466  | 13.65  | 3.969       | 55   | 55   | enet  | 0.052       | 3E-86       | 6.2509   | 4.08E-10  |
| SeqId_19558_10  | LRP4      | 11  | 46878268  | 46940193  | 0.13522 | rs1799963    | 12.243      | rs2306029   | 0.101858 | -27.12 | -5.926      | 44   | 44   | enet  | 0.13        | 2.1E-222    | 5.87744  | 4.17E-09  |
| SeqId_7875_86   | PLEK      | 2   | 68592414  | 68624585  | 0.09408 | rs1867312    | -5.622      | rs1867312   | 0.09516  | 26.22  | -5.622      | 41   | 41   | enet  | 0.12        | 5E-207      | -5.3655  | 8.07E-08  |
| SeqId_4152_58   | KLKB1     | 4   | 187130133 | 187179625 | 0.07841 | rs4241822    | 9.841       | rs2304595   | 0.062513 | 21.43  | 9.828       | 36   | 36   | enet  | 0.091       | 1.4E-151    | 4.6282   | 0.0000369 |
| SeqId_2961_1    | PROC      | 2   | 128176003 | 128186818 | 0.01981 | rs7585314    | -4.835      | rs1799809   | 0.02481  | 13.66  | -4.39       | 19   | 19   | enet  | 0.026       | 1.1E-42     | -4.2524  | 0.0000211 |
| SeqId_15343_337 | KNG1      | 3   | 186435137 | 186462199 | 0.07782 | rs5030062    | 3.46        | rs5030062   | 0.0462   | 18.4   | 3.465       | 54   | 54   | enet  | 0.074       | 4.1E-123    | 4.0359   | 0.0000544 |
| SeqId_3339_33   | THBS2     | 6   | 169615875 | 169654145 | 0.23366 | rs6605524    | 3.66        | rs74507247  | 0.15851  | 33.89  | -2.807      | 97   | 97   | enet  | 0.2         | 0           | -3.948   | 0.0000787 |
| SeqId_3580_25   | SERPINA1  | 14  | 94843084  | 94857030  | 0.3887  | rs28929474   | 3.884       | rs28929474  | 0.119226 | -29.41 | 3.884       | 93   | 93   | enet  | 0.27        | 0           | -3.9103  | 0.0000922 |
| SeqId_3079_62   | RARRES2   | 7   | 150035406 | 150038751 | 0.07695 | rs3735167    | -3.625      | rs3735167   | 0.094737 | 26.19  | -3.625      | 46   | 46   | enet  | 0.096       | 8.7E-161    | -3.7617  | 0.000169  |
| SeqId_9796_4    | CEL       | 9   | 135937368 | 135947248 | 0.05484 | rs656105     | -7.441      | rs2075733   | 0.01444  | 10.56  | -0.553      | 82   | 82   | enet  | 0.032       | 3.1E-53     | -3.7235  | 0.000196  |
| SeqId_3194_36   | GP6       | 19  | 55525073  | 55549632  | 0.18358 | rs892090     | 3.448       | rs1613662   | 0.30436  | 46.87  | 3.425       | 82   | 82   | enet  | 0.35        | 0           | 3.66659  | 0.000246  |
| SeqId_19154_41  | SERPINE2  | 2   | 224839762 | 224904035 | 0.48586 | rs13412535   | 3.85        | rs13412535  | 0.31113  | -47.41 | 3.85        | 73   | 73   | enet  | 0.35        | 0           | -3.6019  | 0.000316  |
| SeqId_13119_26  | SERPINA10 | 14  | 94746797  | 94759605  | 0.13759 | rs7141205    | 3.962       | rs12434093  | 0.206856 | 38.64  | -2.854      | 233  | 233  | enet  | 0.22        | 0           | -3.5187  | 0.000434  |
| SeqId_5680_54   | OBP2B     | 9   | 136080664 | 136084637 | 0.05287 | rs7027827    | 6.131       | rs4454354   | 0.0408   | 17.3   | -2.698      | 20   | 20   | enet  | 0.043       | 8.8E-71     | -3.5126  | 0.000444  |
| SeqId_8480_29   | EFEMP1    | 2   | 56093102  | 56151274  | 0.07472 | rs9309272    | 3.424       | rs3791679   | 0.06499  | 21.82  | -2.419      | 45   | 45   | enet  | 0.082       | 1E-135      | -3.4859  | 0.00049   |
| SeqId_4906_35   | F5        | 1   | 169481189 | 169555826 | 0.23606 | rs2213868    | -19.13      | rs6180893   | 0.0647   | -21.68 | -0.644      | 54   | 54   | enet  | 0.11        | 5.3E-184    | 3.4547   | 0.000551  |
| SeqId_15533_97  | MSR1      | 8   | 15965387  | 16424999  | 0.1926  | rs79675835   | -2.86       | rs41341748  | 0.046749 | -18.61 | 2.61        | 56   | 56   | enet  | 0.095       | 1.3E-158    | -3.3926  | 0.000692  |
| SeqId_9017_58   | LCT       | 2   | 136545420 | 136594754 | 0.34097 | rs36084664   | 5.331       | rs191079    | 0.27647  | -44.86 | -3.198      | 73   | 73   | enet  | 0.31        | 0           | 3.3201   | 0.0009    |
| SeqId_4297_62   | SPON1     | 11  | 13984270  | 14289679  | 0.13759 | rs10832182   | 3.64        | rs10832164  | 0.123763 | -29.94 | 2.353       | 105  | 105  | enet  | 0.17        | 1E-302      | -3.30725 | 0.000942  |
| SeqId_10419_1   | SCARA5    | 8   | 27727400  | 27850190  | 0.05125 | rs2685422    | 3.559       | rs2685422   | 0.024653 | -13.79 | 3.559       | 74   | 74   | enet  | 0.035       | 1.4E-58     | -3.2224  | 0.001271  |
| SeqId_4989_7    | FGG       | 4   | 155525286 | 155534119 | 0.0257  | rs1118824    | 6.655       | rs1800790   | 0.015204 | 10.72  | -5.113      | 41   | 41   | enet  | 0.02        | 3.9E-33     | -3.2001  | 0.00137   |
| SeqId_7784_1    | KNG1      | 3   | 186435137 | 186462199 | 0.23141 | rs698078     | 3.44        | rs76438938  | 0.12     | -29.71 | 2.062       | 91   | 91   | enet  | 0.19        | 0           | -3.06558 | 0.00217   |
| SeqId_9843_5    | ACTN1     | 14  | 69340845  | 69446157  | 0.02481 | rs114857623  | 2.678       | rs80123288  | 0.004356 | -8.03  | 2.671       | 36   | 36   | enet  | 0.016       | 9.6E-27     | -3.0388  | 0.00237   |
| SeqId_9216_100  | PLXNB2    | 22  | 50713408  | 50746075  | 0.28398 | rs2273260    | 3.55        | rs28573806  | 0.20199  | 38.26  | 3.056       | 75   | 75   | enet  | 0.27        | 0           | 3.0062   | 0.00265   |
| SeqId_16882_27  | PHPT1     | 9   | 139743176 | 139745479 | 0.10386 | rs4880149    | 3.065       | rs872463    | 0.12056  | -29.58 | 2.835       | 73   | 73   | enet  | 0.13        | 4.5E-221    | -2.9966  | 0.00273   |
| SeqId_5703_26   | OLFM1     | 9   | 137967268 | 138013026 | 0.02162 | rs4842175    | 3.36        | rs72778149  | 0.00777  | 7.64   | -2.408      | 53   | 53   | enet  | 0.015       | 1.4E-25     | -2.994   | 0.00275   |
| SeqId_4141_79   | CXCL10    | 4   | 76942271  | 76944650  | 0.0075  | rs7679463    | -2.855      | rs151000561 | 0.000494 | 5.94   | -2.343      | 20   | 20   | enet  | 0.0047      | 3.1E-09     | -2.9624  | 0.00305   |
| SeqId_7015_8    | LILRB5    | 19  | 54753279  | 54761164  | 0.43643 | rs118125339  | 3.002       | rs12975366  | 0.405162 | -54.06 | -2.502      | 54   | 54   | enet  | 0.46        | 0           | 2.96162  | 0.00306   |
| SeqId_9769_48   | DNER      | 2   | 230222345 | 230579271 | 0.06539 | rs10498240   | -2.235      | rs34661502  | 0.02462  | -13.87 | -2.201      | 82   | 82   | enet  | 0.061       | 1.5E-100    | 2.9366   | 0.00332   |
| SeqId_9815_5    | ARHGAP1   | 11  | 46698630  | 46722169  | 0.00305 | rs11038977   | 3.629       | rs11038977  | 0.000336 | -4.24  | 3.629       | 12   | 12   | enet  | 0.0018      | 0.0002      | -2.93134 | 0.00338   |
| SeqId_11196_31  | COL6A3    | 2   | 238232646 | 238322971 | 0.06075 | rs11694395   | 2.538       | rs1050785   | 0.02303  | 12.99  | -2.305      | 49   | 49   | enet  | 0.034       | 1.7E-56     | -2.9296  | 0.00339   |
| SeqId_6375_75   | XXYL1     | 3   | 194789013 | 194991888 | 0.10192 | rs55912217   | -2.71       | rs13072883  | 0.0431   | 17.83  | -1.039      | 57   | 57   | enet  | 0.093       | 5.1E-156    | -2.92229 | 0.00347   |
| SeqId_4964_67   | ERAP1     | 5   | 96096514  | 96143803  | 0.34597 | rs27689      | 3.713       | rs30185     | 0.356    | -50.71 | 3.543       | 91   | 91   | enet  | 0.59        | 0           | -2.92132 | 0.00349   |
| SeqId_10512_13  | CSF2RB    | 22  | 37309670  | 37336481  | 0.31357 | rs2075936    | -3          | rs2239749   | 0.24546  | -42.1  | -2.843      | 8    | 8    | enet  | 0.24        | 0           | 2.9054   | 0.00367   |
| SeqId_15388_24  | FCGR3A    | 1   | 161511549 | 161520527 | 0.32822 | rs61495795   | -3.047      | rs10800573  | 0.412    | 54.36  | 2.662       | 85   | 85   | enet  | 0.42        | 0           | 2.8984   | 0.003751  |
| SeqId_8250_2    | PTPRJ     | 11  | 48002110  | 48192393  | 0.02046 | rs1566734    | 2.89        | rs1566734   | 0.013797 | 10.28  | 2.89        | 29   | 1    | top1  | 0.014       | 8.4E-24     | 2.89     | 0.00385   |
| SeqId_4831_4    | SELL      | 1   | 169659806 | 169680843 | 0.2733  | rs970740     | -18.817     | rs4987353   | 0.145    | -32.38 | -1.304      | 60   | 60   | enet  | 0.23        | 0           | 2.8892   | 0.003862  |
| SeqId_7823_22   | STGALNAC2 | 17  | 74561459  | 74583038  | 0.00656 | rs62086624   | -1.89       | rs11077885  | 0.000141 | 4.28   | -0.771      | 23   | 23   | enet  | 0.0025      | 0.000012    | -2.8325  | 0.00462   |
| SeqId_5676_54   | ASIP      | 20  | 32782375  | 32857150  | 0.11394 | rs819167     | -4.22       | rs6059655   | 0.128414 | -30.46 | 2.262       | 26   | 26   | enet  | 0.13        | 5.3E-224    | -2.8057  | 0.00502   |
| SeqId_3007_7    | SIGLEC9   | 19  | 51628163  | 51639908  | 0.54829 | rs2673908    | 2.785       | rs2075803   | 0.525008 | -61.54 | 2.768       | 14   | 14   | enet  | 0.52        | 0           | -2.80421 | 0.005044  |
| SeqId_15582_25  | FCN1      | 9   | 137795078 | 137809758 | 0.18904 | rs11103571   | -2.482      | rs7037264   | 0.11636  | 28.99  | -2.183      | 56   | 56   | enet  | 0.19        | 0           | -2.7893  | 0.00528   |
| SeqId_8885_6    | CACNA2D3  | 3   | 54156574  | 55108584  | 0.10579 | rs12639537   | 3.01        | rs6802227   | 0.0362   | 16.36  | 1.946       | 114  | 114  | enet  | 0.074       | 2.6E-123    | 2.7774   | 0.00548   |
| SeqId_17691_1   | TPP1      | 11  | 6633999   | 6640679   | 0.06889 | rs11040938   | 3.317       | rs11040938  | 0.025115 | 13.52  | 3.317       | 30   | 30   | enet  | 0.039       | 6.7E-65     | 2.735    | 0.00624   |
| SeqId_18917_53  | AMY2A     | 1   | 104160049 | 104301348 | 0.4733  | rs142370265  | -2.633      | rs12076610  | 0.0733   | 24.09  | 1.372       | 143  | 143  | enet  | 0.23        | 0           | 2.7341   | 0.006255  |
| SeqId_16055_3   | CFHR5     | 1   | 196946686 | 196978808 | 0.39818 | rs114245464  | -3.89       | rs35662416  | 0.0609   | -22.33 | 2.608       | 85   | 85   | enet  | 0.18        | 3.9E-309    | -2.725   | 0.00643   |
| SeqId_11241_8   | ASL       | 7   | 65540787  | 65559684  | 0.02175 | rs77548345   | 3.919       | rs11767072  | 0.008948 | -8.95  | -0.4665     | 31   | 31   | enet  | 0.027       | 1.5E-44     | 2.7242   | 0.006445  |
| SeqId_8244_16   | FUT8      | 14  | 65877310  | 66210839  | 0.20344 | rs117906123  | 2.426       | rs8020305   | 0.052178 | -20.95 | 1.695       | 84   | 84   | enet  | 0.15        | 6.1E-257    | -2.7214  | 0.0065    |

|                 |           |    |           |           |         |             |        |             |            |        |         |     |     |      |         |          |          |          |
|-----------------|-----------|----|-----------|-----------|---------|-------------|--------|-------------|------------|--------|---------|-----|-----|------|---------|----------|----------|----------|
| SeqId_2700_56   | PROS1     | 3  | 93591895  | 93698847  | 0.06033 | rs6795524   | 3.37   | rs6795524   | 0.0089     | -8.11  | 3.371   | 116 | 116 | enet | 0.028   | 1.2E-46  | -2.68928 | 0.00716  |
| SeqId_15584_9   | CFHR2     | 1  | 196912868 | 196928752 | 0.66887 | rs72732292  | -3.585 | rs4085749   | 0.273      | -44.41 | 1.99    | 81  | 81  | enet | 0.52    | 0        | -2.6517  | 0.008008 |
| SeqId_15468_14  | CFHR1     | 1  | 196788861 | 196801319 | 0.221   | rs12402465  | -4.117 | rs7519758   | 0.298      | -46.41 | 2.168   | 67  | 67  | enet | 0.3     | 0        | -2.6511  | 0.008024 |
| SeqId_16823_75  | APOL3     | 22 | 36536378  | 36562225  | 0.28161 | rs5995300   | -2.76  | rs132631    | 0.31116    | 47.39  | -2.421  | 41  | 41  | enet | 0.32    | 0        | -2.611   | 0.00903  |
| SeqId_11237_49  | PCOLCE    | 7  | 100199986 | 100205798 | 0.03227 | rs221795    | 3.593  | rs7385804   | 0.022862   | 13.02  | 2.015   | 33  | 33  | enet | 0.026   | 1.1E-43  | 2.6031   | 0.009237 |
| SeqId_2879_9    | SERPINA3  | 14 | 95078721  | 95090392  | 0.03891 | rs1243510   | 2.906  | rs6575449   | 0.017954   | -11.66 | -2.0497 | 63  | 63  | enet | 0.022   | 1.6E-37  | 2.5845   | 0.00975  |
| SeqId_5012_67   | AK1       | 9  | 130628765 | 130639954 | 0.07793 | rs112417645 | 2.982  | rs78181560  | 0.03231    | -15.72 | 2.117   | 51  | 51  | enet | 0.045   | 5.5E-74  | -2.5846  | 0.00975  |
| SeqId_12334_25  | SHMT1     | 17 | 18231174  | 18266877  | 0.19098 | rs4398149   | -2.812 | rs4398149   | 0.202244   | 38.2   | -2.812  | 38  | 38  | enet | 0.23    | 0        | -2.579   | 0.00991  |
| SeqId_3327_27   | NTN4      | 12 | 96051583  | 96184967  | 0.05893 | rs78455659  | -3.035 | rs17288108  | 0.040368   | -17.11 | 2.563   | 59  | 59  | enet | 0.059   | 3.2E-97  | -2.57697 | 0.00997  |
| SeqId_3872_2    | TPT1      | 13 | 45907606  | 45915419  | 0.01242 | rs116996191 | 2.54   | rs116996191 | 0.00546    | 6.45   | 2.535   | 21  | 1   | top1 | 0.0055  | 2E-10    | 2.535    | 0.0112   |
| SeqId_3184_25   | F7        | 13 | 113760102 | 113774999 | 0.27952 | rs2480952   | -3.16  | rs6046      | 0.32036    | -48.3  | -2.316  | 77  | 77  | enet | 0.37    | 0        | 2.529    | 0.0114   |
| SeqId_7655_11   | NPPB      | 1  | 11917521  | 11919002  | 0.02252 | rs198375    | 2.561  | rs198379    | 0.0197     | 12.01  | 2.432   | 25  | 25  | enet | 0.022   | 3E-36    | 2.491    | 0.012737 |
| SeqId_15556_49  | AMY2B     | 1  | 104096437 | 104122156 | 0.44915 | rs142370265 | -2.626 | rs12076610  | 0.0612     | 21.42  | 1.372   | 145 | 145 | enet | 0.18    | 9.8e-321 | 2.4909   | 0.012744 |
| SeqId_12348_46  | SARS2     | 19 | 39405906  | 39421403  | 0.00766 | rs4801971   | -2.551 | rs1808661   | 0.005265   | -6.63  | -2.484  | 12  | 1   | top1 | 0.0053  | 4.1E-10  | 2.484    | 0.012992 |
| SeqId_17140_57  | PDGFD     | 11 | 103777917 | 104035107 | 0.15402 | rs72974880  | -2.933 | rs10895596  | 0.116291   | -28.99 | 1.934   | 97  | 97  | enet | 0.15    | 8.1E-252 | -2.47645 | 0.0133   |
| SeqId_5112_73   | CD200     | 3  | 112051194 | 112081659 | 0.04029 | rs41270439  | 2.9    | rs1879514   | 0.0167     | 11.18  | 2.488   | 70  | 70  | enet | 0.026   | 1.1E-42  | 2.47484  | 0.0133   |
| SeqId_12432_23  | CACYBP    | 1  | 174968300 | 174981163 | 0.05079 | rs16847450  | -2.445 | rs16847450  | 0.101      | -27.06 | -2.445  | 40  | 1   | top1 | 0.1     | 1.7E-169 | 2.445    | 0.014485 |
| SeqId_4913_78   | CCL16     | 17 | 34303529  | 34308533  | 0.35241 | rs113688187 | 2.983  | rs112689088 | 0.29059    | -45.79 | 2.445   | 70  | 70  | enet | 0.3     | 0        | -2.4432  | 0.01456  |
| SeqId_15483_377 | AGR1      | 1  | 955500    | 991498    | 0.0733  | rs74048006  | 2.651  | rs4970350   | 0.0412     | 17.29  | -2.15   | 27  | 27  | enet | 0.045   | 5.2E-75  | -2.4374  | 0.014793 |
| SeqId_4132_27   | FST       | 5  | 52776456  | 52782964  | 0.00519 | rs188578758 | -2.565 | rs546067954 | -0.0000742 | 4.23   | -2.562  | 31  | 31  | enet | 0.00016 | 0.14     | -2.42672 | 0.01524  |
| SeqId_18922_27  | CD68      | 17 | 7482809   | 7485429   | 0.06969 | rs9901673   | -2.802 | rs9901673   | 0.093962   | 26.18  | -2.802  | 22  | 22  | enet | 0.099   | 6E-166   | -2.4203  | 0.01551  |
| SeqId_8255_34   | MRV11     | 11 | 10594638  | 10715535  | 0.04729 | rs4909947   | 3.078  | rs1075768   | 0.021385   | -12.57 | -1.562  | 65  | 65  | enet | 0.035   | 1.9E-58  | 2.39912  | 0.0164   |
| SeqId_15526_33  | GSS       | 20 | 33516235  | 33543830  | 0.12226 | rs6088764   | 6.84   | rs6088642   | 0.091434   | 25.78  | 2.507   | 36  | 36  | enet | 0.11    | 4.8E-180 | 2.3936   | 0.01668  |
| SeqId_16296_43  | LGR5      | 12 | 71833578  | 71980090  | 0.07048 | rs7309392   | 2.762  | rs17198004  | 0.00331    | 7.13   | -1.878  | 68  | 68  | enet | 0.024   | 5.4E-41  | -2.3912  | 0.01679  |
| SeqId_3310_62   | FCGR2B    | 1  | 161632937 | 161648444 | 0.44673 | rs74127517  | -2.864 | rs6665610   | 0.39       | 53.04  | -2.355  | 114 | 114 | enet | 0.53    | 0        | -2.3772  | 0.017445 |
| SeqId_17514_48  | RAB21     | 12 | 72148643  | 72194066  | 0.0196  | rs80051868  | -2.651 | rs2864808   | 0.007437   | -8.81  | 1.906   | 50  | 50  | enet | 0.014   | 2.1E-23  | -2.37474 | 0.01756  |
| SeqId_12558_3   | UBASH3B   | 11 | 122526430 | 122685181 | 0.05615 | rs7940176   | 3.104  | rs3937026   | 0.049776   | -19    | 1.52    | 60  | 60  | enet | 0.066   | 2.8E-109 | -2.36089 | 0.0182   |
| SeqId_9288_7    | FKBP7     | 2  | 179328391 | 179343327 | 0.18172 | rs62176114  | -3.104 | rs1863671   | 0.16469    | 34.55  | -2.495  | 72  | 72  | enet | 0.19    | 0        | -2.3569  | 0.0184   |
| SeqId_12494_99  | GABARAPL2 | 16 | 75600273  | 75611779  | 0.02189 | rs10781977  | -2.43  | rs2454867   | 0.01852    | -11.7  | 1.99    | 49  | 49  | enet | 0.022   | 2.3E-36  | -2.3414  | 0.0192   |
| SeqId_16915_153 | SEMA4A    | 1  | 156117157 | 156147543 | 0.06382 | rs7695      | 2.187  | rs12401997  | 0.0338     | 15.77  | 1.981   | 40  | 40  | enet | 0.038   | 2.6E-62  | 2.3251   | 0.020067 |
| SeqId_12675_14  | DARS      | 2  | 136663451 | 136743670 | 0.03262 | rs72617016  | -3.44  | rs2304371   | 0.04806    | -19.25 | 1.902   | 46  | 46  | enet | 0.059   | 4.7E-97  | -2.3187  | 0.0204   |
| SeqId_5202_4    | PPID      | 4  | 159630279 | 159644548 | 0.3464  | rs17843966  | -2.902 | rs17843929  | 0.298602   | 46.42  | -2.81   | 29  | 29  | enet | 0.34    | 0        | -2.3111  | 0.0208   |
| SeqId_10761_5   | TMED2     | 12 | 124069080 | 124083129 | 0.0032  | rs9919      | -2.292 | rs9919      | 0.000911   | -4.78  | -2.292  | 8   | 1   | top1 | 0.00091 | 0.0059   | 2.292    | 0.02191  |
| SeqId_6039_24   | CRHBP     | 5  | 76248870  | 76276983  | 0.15082 | rs147231422 | 2.648  | rs10942798  | 0.192      | -37.44 | -1.892  | 65  | 65  | enet | 0.22    | 0        | 2.28548  | 0.02228  |
| SeqId_5487_7    | SLAMF7    | 1  | 160708847 | 160724611 | 0.53167 | rs77618518  | -2.989 | rs11581248  | 0.349      | -50.21 | -1.967  | 67  | 67  | enet | 0.38    | 0        | 2.2821   | 0.022481 |
| SeqId_15559_5   | ANTXR2    | 4  | 80822300  | 81046608  | 0.06734 | rs62297554  | -2.701 | rs10010217  | 0.047723   | 19.9   | 1.918   | 63  | 63  | enet | 0.094   | 2.5E-157 | 2.2753   | 0.0229   |
| SeqId_16805_5   | PDE5A     | 4  | 120415552 | 120549959 | 0.14279 | rs10007283  | -3.111 | rs58583086  | 0.11464    | -28.83 | 2.269   | 87  | 87  | enet | 0.16    | 4.2E-282 | -2.2593  | 0.0239   |
| SeqId_4151_6    | PLG       | 6  | 161123270 | 161175129 | 0.42466 | rs144254355 | -3.23  | rs4252129   | 0.0765     | -23.58 | 1.714   | 119 | 119 | enet | 0.17    | 7.2E-293 | -2.246   | 0.0247   |
| SeqId_11368_32  | AK2       | 1  | 33473541  | 33546597  | 0.02471 | rs113325293 | -2.867 | rs188456604 | 0.000811   | -4.94  | 0.434   | 30  | 30  | enet | 0.0063  | 9.1E-12  | -2.2343  | 0.025464 |
| SeqId_5658_64   | F13B      | 1  | 197007871 | 197036390 | 0.12153 | rs112005340 | -3.493 | rs1332668   | 0.123      | -30.07 | 1.873   | 71  | 71  | enet | 0.19    | 0        | -2.2269  | 0.025952 |
| SeqId_7141_21   | MGAT4B    | 5  | 179224597 | 179233952 | 0.10799 | rs155787    | -2.337 | rs113756550 | 0.0968     | -26.76 | -2.134  | 46  | 46  | enet | 0.1     | 1.6E-174 | 2.20605  | 0.02738  |
| SeqId_5256_86   | PDE5A     | 4  | 120415552 | 120549959 | 0.08502 | rs983417    | 2.773  | rs58583086  | 0.094649   | -26.21 | 2.269   | 40  | 40  | enet | 0.12    | 1.1E-203 | -2.1894  | 0.0286   |
| SeqId_3364_76   | CTSV      | 9  | 99791959  | 99918838  | 0.03887 | rs72749658  | 2.502  | rs4743059   | 0.02075    | 12.4   | -2.14   | 60  | 60  | enet | 0.033   | 4.3E-54  | -2.1882  | 0.0287   |
| SeqId_13123_3   | FLRT3     | 20 | 14303631  | 14318260  | 0.38155 | rs149195265 | 2.66   | rs1932953   | 0.286093   | 45.53  | 2.46    | 103 | 103 | enet | 0.42    | 0        | 2.1623   | 0.03059  |
| SeqId_3484_60   | AGT       | 1  | 230826522 | 230881322 | 0.06843 | rs145082147 | 3.093  | rs2071404   | 0.0327     | 17     | -1.745  | 84  | 84  | enet | 0.058   | 2.5E-95  | -2.1235  | 0.033708 |
| SeqId_5722_78   | PRCP      | 11 | 82533978  | 82681626  | 0.05268 | rs12808296  | 2.322  | rs2229437   | 0.034518   | 15.83  | 1.56    | 63  | 63  | enet | 0.043   | 1.6E-70  | 2.11604  | 0.0343   |
| SeqId_8960_3    | ERAP2     | 5  | 96211690  | 96255407  | 0.21865 | rs2927608   | -2.718 | rs2910686   | 0.478      | 58.7   | -2.716  | 110 | 110 | enet | 0.56    | 0        | -2.1163  | 0.03472  |
| SeqId_5749_53   | CLPS      | 6  | 35762759  | 35765121  | 0.2757  | rs2478468   | -2.39  | rs9380534   | 0.08079    | 24.2   | -1.4747 | 147 | 147 | enet | 0.15    | 1.9E-252 | -2.097   | 0.036    |
| SeqId_3421_54   | TNFSF8    | 9  | 117655623 | 117692875 | 0.03383 | rs7047097   | -2.474 | rs3181348   | 0.02795    | -14.53 | 2.294   | 32  | 32  | enet | 0.035   | 4E-58    | -2.0956  | 0.0361   |
| SeqId_13095_51  | REG1A     | 2  | 79347488  | 79350535  | 0.15112 | rs72812640  | -2.156 | rs11126696  | 0.04029    | 17.1   | 0.939   | 73  | 73  | enet | 0.093   | 5E-155   | 2.0819   | 0.0373   |
| SeqId_5646_20   | RNASE6    | 14 | 21249427  | 21250626  | 0.30203 | rs11620733  | -2.864 | rs1045922   | 0.411804   | 54.53  | -1.621  | 54  | 54  | enet | 0.45    | 0        | -2.0776  | 0.0377   |
| SeqId_17722_5   | FKBP4     | 12 | 2904136   | 2914589   | 0.13    | rs80079929  | -3.996 | rs56196860  | 0.063577   | -21.48 | -1.948  | 75  | 75  | enet | 0.078   | 9.6E-129 | 2.07384  | 0.03809  |
| SeqId_5018_68   | PRDX6     | 1  | 173446469 | 173457954 | 0.04502 | rs33951697  | -1.976 | rs33951697  | 0.0784     | 24.06  | -1.976  | 36  | 36  | enet | 0.093   | 9.9E-156 | -2.0676  | 0.038677 |

|                 |          |    |           |           |         |             |        |             |          |        |          |     |     |      |         |             |          |          |
|-----------------|----------|----|-----------|-----------|---------|-------------|--------|-------------|----------|--------|----------|-----|-----|------|---------|-------------|----------|----------|
| SeqId_7266_4    | SERPINA9 | 14 | 94929054  | 94946026  | 0.04229 | rs11621961  | 3.409  | rs11160181  | 0.017196 | -11.5  | 0.455    | 33  | 33  | enet | 0.034   | 3.7E-57     | -2.05    | 0.0404   |
| SeqId_13126_52  | DSC2     | 18 | 28638806  | 28682485  | 0.14464 | rs62087332  | 2.53   | rs1790683   | 0.04622  | -18.89 | 2.227    | 49  | 49  | enet | 0.1     | 6.4E-169    | -2.043   | 0.0411   |
| SeqId_7779_86   | CHST11   | 12 | 104849073 | 105155792 | 0.16039 | rs11112132  | -3.306 | rs1704878   | 0.135637 | -31.38 | -1.695   | 113 | 113 | enet | 0.17    | 2.2E-302    | 2.04199  | 0.04115  |
| SeqId_14273_19  | PREP     | 6  | 105721093 | 105901937 | 0.20479 | rs77207716  | 2.19   | rs1051484   | 0.16438  | 34.47  | 1.439    | 93  | 93  | enet | 0.26    | 0           | 2.038    | 0.0415   |
| SeqId_11117_2   | SPATA20  | 17 | 48620419  | 48633213  | 0.14696 | rs198542    | -3.116 | rs9890200   | 0.212866 | -39.21 | 2.374    | 40  | 40  | enet | 0.22    | 0           | -2.0324  | 0.04211  |
| SeqId_6485_59   | IGLL1    | 22 | 23915312  | 23922489  | 0.14933 | rs140174    | -2.25  | rs9624216   | 0.04274  | -17.62 | -1.563   | 64  | 64  | enet | 0.06    | 9.4E-100    | 2.0317   | 0.04218  |
| SeqId_6925_26   | SNX8     | 7  | 2291405   | 2393953   | 0.06097 | rs798553    | -2.996 | rs28514741  | 0.017219 | -11.61 | 2.002    | 62  | 62  | enet | 0.028   | 9.3E-47     | -2.0247  | 0.042903 |
| SeqId_14208_3   | RBP7     | 1  | 10057264  | 10076079  | 0.16397 | rs35232720  | 2.145  | rs35232720  | 0.106    | -27.81 | 2.145    | 37  | 37  | enet | 0.14    | 1.6E-231    | -2.0174  | 0.043652 |
| SeqId_14088_38  | IGFBP6   | 12 | 53491220  | 53496129  | 0.01544 | rs7958457   | -2.582 | rs822688    | 0.011543 | -9.3   | 1.683    | 32  | 32  | enet | 0.012   | 1.4E-20     | -2.01464 | 0.04394  |
| SeqId_4332_6    | CLEC1B   | 12 | 10138241  | 10166023  | 0.11627 | rs521040    | 2.375  | rs521040    | 0.064748 | 22.43  | 2.375    | 44  | 44  | enet | 0.13    | 4.4E-228    | 2.01423  | 0.04399  |
| SeqId_6383_90   | TLL1     | 4  | 166794389 | 167025609 | 0.02499 | rs10022413  | 2.144  | rs28569800  | 0.000895 | -4.98  | 1.822    | 68  | 68  | enet | 0.0066  | 2.6E-12     | -2.013   | 0.0441   |
| SeqId_17697_2   | OVCA2    | 17 | 1945316   | 1946719   | 0.16487 | rs12949014  | 3.043  | rs145234879 | 0.05454  | 20     | 1.395    | 49  | 49  | enet | 0.077   | 9.7E-128    | 2.0072   | 0.04473  |
| SeqId_15326_64  | GBP1     | 1  | 89517565  | 89531043  | 0.0342  | rs12143830  | 2.733  | rs61798920  | 0.0115   | -9.66  | -1.982   | 54  | 54  | enet | 0.024   | 2.7E-40     | 1.9942   | 0.046126 |
| SeqId_19251_56  | SRGN     | 10 | 70847859  | 70864561  | 0.17612 | rs117372387 | 2.38   | rs2229498   | 0.066052 | 21.93  | 1.614    | 38  | 38  | enet | 0.11    | 6.2E-189    | 1.99309  | 0.0463   |
| SeqId_13954_9   | GNPNAT1  | 14 | 53241911  | 53258386  | 0.05646 | rs2147977   | 2.4    | rs2273743   | 0.056035 | 20.25  | -1.995   | 38  | 38  | enet | 0.059   | 3E-97       | -1.9853  | 0.0471   |
| SeqId_15565_102 | MUC16    | 19 | 8959520   | 9092018   | 0.03464 | rs1423049   | -2.398 | rs193266507 | 0.010115 | -8.69  | -2.1591  | 52  | 52  | enet | 0.02    | 2.3E-34     | 1.9836   | 0.0473   |
| SeqId_16561_9   | A1BG     | 19 | 58856544  | 58864858  | 0.15749 | rs1268538   | -1.992 | rs1268538   | 0.113266 | -28.62 | -1.992   | 72  | 72  | enet | 0.13    | 1.6E-214    | 1.97771  | 0.047962 |
| SeqId_4153_11   | SERPINA3 | 14 | 95078721  | 95090392  | 0.13705 | rs28929474  | 3.884  | rs17753556  | 0.083401 | -24.61 | -2.4046  | 61  | 61  | enet | 0.12    | 2.4E-196    | 1.9743   | 0.0483   |
| SeqId_11530_37  | HMBS     | 11 | 118955576 | 118964259 | 0.05483 | rs45510602  | 2.217  | rs72995454  | 0.008039 | 8.73   | -0.967   | 37  | 37  | enet | 0.02    | 1E-33       | -1.96856 | 0.049    |
| SeqId_8974_172  | COL15A1  | 9  | 101705461 | 101833074 | 0.10037 | rs144504148 | -3.032 | rs10819566  | 0.04721  | 20.14  | 2.258    | 105 | 105 | enet | 0.15    | 6.5E-252    | 1.9659   | 0.0493   |
| SeqId_2615_60   | EFNA5    | 5  | 106712595 | 107006638 | 0.09505 | rs78246717  | 2.7    | rs7734574   | 0.0368   | -16.83 | -1.204   | 127 | 127 | enet | 0.082   | 3.7E-137    | 1.96593  | 0.04931  |
| SeqId_8664_36   | PKDCC    | 2  | 42275161  | 42285657  | 0.09315 | rs4953236   | 2.73   | rs13416595  | 0.04481  | 18.12  | -1.261   | 29  | 29  | enet | 0.065   | 2.5E-108    | -1.9648  | 0.0494   |
| SeqId_9294_45   | MFAP2    | 1  | 17300997  | 17307127  | 0.07799 | rs3754508   | 2.412  | rs761422    | 0.0728   | 23.65  | 0.897    | 29  | 29  | enet | 0.099   | 1E-165      | 1.9631   | 0.049636 |
| SeqId_15491_20  | CD248    | 11 | 66081965  | 66084515  | 0.01364 | rs565972    | 2.236  | rs565972    | 0.002212 | 5.71   | 2.236    | 18  | 18  | enet | 0.0029  | 0.000033    | 1.95887  | 0.0501   |
| SeqId_11387_3   | ATF6B    | 6  | 32083041  | 32096030  | 0.17412 | rs143504217 | -3.39  | rs6449      | 0.03036  | 14.9   | 0.5618   | 86  | 86  | enet | 0.054   | 9.8E-90     | 1.951    | 0.0511   |
| SeqId_18930_28  | SLIT2    | 4  | 20253528  | 20622184  | 0.03448 | rs6833662   | -2.115 | rs587668    | 0.009457 | -8.57  | -1.143   | 65  | 65  | enet | 0.025   | 2.4E-41     | 1.9485   | 0.0514   |
| SeqId_5231_79   | PCSK9    | 1  | 55505120  | 55530525  | 0.08479 | rs80192040  | -2.066 | rs11591147  | 0.0296   | -14.96 | 1.384    | 51  | 51  | enet | 0.045   | 9.8E-75     | -1.9476  | 0.051468 |
| SeqId_2617_56   | ERBB3    | 12 | 56470583  | 56497289  | 0.04228 | rs5479094   | -2.604 | rs2292238   | 0.018141 | -11.85 | -1.947   | 60  | 1   | top1 | 0.018   | 9E-31       | 1.947    | 0.05153  |
| SeqId_16770_3   | REG1B    | 2  | 79312149  | 79315145  | 0.13798 | rs10520215  | 2.164  | rs11126696  | 0.04901  | 18.85  | 0.942    | 67  | 67  | enet | 0.09    | 2.7E-149    | 1.9464   | 0.0516   |
| SeqId_7955_195  | ITIH1    | 3  | 52811611  | 52826084  | 0.2007  | rs4434138   | -2.47  | rs1042779   | 0.224    | -40.33 | -1.777   | 35  | 35  | enet | 0.23    | 0           | 1.94291  | 0.052    |
| SeqId_5103_30   | CD200R1  | 3  | 112640052 | 112693950 | 0.0434  | rs114921967 | 2.03   | rs62263730  | 0.0249   | 13.56  | 1.81     | 36  | 36  | enet | 0.036   | 2.5E-60     | 1.93863  | 0.0525   |
| SeqId_6574_11   | FAIM3    | 1  | 207076662 | 207096592 | 0.00896 | rs141229030 | -2.614 | rs72758947  | 0.00735  | -7.43  | 1.939    | 33  | 1   | top1 | 0.0073  | 1.8E-13     | -1.939   | 0.052501 |
| SeqId_2644_11   | PRKCA    | 17 | 64298731  | 64806861  | 0.09878 | rs78483340  | -2.102 | rs61762372  | 0.043912 | 17.84  | -1.2115  | 80  | 80  | enet | 0.062   | 6.9E-102    | -1.9387  | 0.05253  |
| SeqId_13388_57  | PCSK1    | 5  | 95726037  | 95769847  | 0.26495 | rs145943387 | -2.557 | rs13169290  | 0.399    | -53.66 | 1.89     | 43  | 43  | enet | 0.4     | 0           | -1.93452 | 0.05305  |
| SeqId_19194_9   | DTD1     | 20 | 18568586  | 18747288  | 0.09813 | rs7272185   | -2.77  | rs6081231   | 0.272812 | -44.38 | -2.03599 | 65  | 65  | enet | 0.28    | 0           | 1.9335   | 0.05317  |
| SeqId_3640_14   | LRPAP1   | 4  | 3505339   | 3534173   | 0.09284 | rs556871906 | -1.993 | rs16844464  | 0.057597 | -20.44 | -1.476   | 35  | 35  | enet | 0.067   | 2.3E-110    | 1.9278   | 0.0539   |
| SeqId_9037_1    | STX18    | 4  | 4417469   | 4544073   | 0.00587 | rs1000579   | 1.923  | rs1000579   | 0.000137 | -4.02  | 1.923    | 13  | 1   | top1 | 0.00014 | 0.16        | -1.923   | 0.0545   |
| SeqId_15560_52  | TCN2     | 22 | 31002990  | 31023258  | 0.22121 | rs3887855   | -2.14  | rs4820885   | 0.4067   | -54.19 | -1.878   | 42  | 42  | enet | 0.41    | 0           | 1.9161   | 0.05535  |
| SeqId_6947_4    | ST3GAL6  | 3  | 98451080  | 98540045  | 0.28141 | rs191648239 | -2.68  | rs28489284  | 0.232    | -41.06 | 1.69     | 90  | 90  | enet | 0.35    | 0           | -1.91405 | 0.0556   |
| SeqId_2991_9    | IL1R1    | 2  | 102681004 | 102796334 | 0.05475 | rs13019803  | 2.759  | rs2287047   | 0.02085  | -12.71 | 1.603    | 63  | 63  | enet | 0.039   | 4.4E-65     | -1.9089  | 0.0563   |
| SeqId_2837_3    | MET      | 7  | 116312250 | 116438431 | 0.06393 | rs12531787  | -2.703 | rs41748     | 0.01832  | -11.65 | -0.733   | 65  | 65  | enet | 0.04    | 5.5E-66     | 1.9041   | 0.056897 |
| SeqId_18386_36  | GLRX     | 5  | 95087023  | 95158430  | 0.00945 | rs145128963 | -2.676 | rs6556884   | 0.00312  | -6.33  | -1.436   | 17  | 17  | enet | 0.0057  | 9.2E-11     | 1.89717  | 0.05781  |
| SeqId_16914_104 | CD14     | 5  | 140011313 | 140013286 | 0.08742 | rs2337225   | -3.104 | rs5744441   | 0.0357   | -16.1  | 0.216    | 58  | 58  | enet | 0.053   | 5.7E-87     | -1.89694 | 0.05784  |
| SeqId_2665_26   | TNFRSF17 | 16 | 12059067  | 12061925  | 0.02402 | rs117744064 | 2.61   | rs387871    | 0.01394  | -10.14 | -1.522   | 38  | 38  | enet | 0.015   | 9E-26       | 1.8866   | 0.0592   |
| SeqId_5475_10   | PRKCB    | 16 | 23847304  | 24231932  | 0.04362 | rs7185142   | 2.77   | rs2023671   | 0.03403  | -15.7  | 2.714    | 20  | 20  | enet | 0.05    | 1.9E-83     | -1.8814  | 0.0599   |
| SeqId_18172_71  | ASF1A    | 6  | 119215316 | 119230336 | 0.00695 | rs118087341 | -2.07  | rs4946366   | 0.00399  | 6.03   | -1.879   | 23  | 1   | top1 | 0.004   | 0.000000048 | -1.879   | 0.0602   |
| SeqId_15370_5   | BOLA1    | 1  | 149859440 | 149872351 | 0.08213 | rs67567469  | 2.009  | rs1376675   | 0.165    | 34.78  | -1.903   | 23  | 23  | enet | 0.17    | 5.7E-288    | -1.8747  | 0.060837 |
| SeqId_18218_48  | CNRIP1   | 2  | 68511303  | 68547183  | 0.166   | rs7424155   | -3.207 | rs7604489   | 0.16899  | -35.26 | 2.305    | 48  | 48  | enet | 0.19    | 0           | -1.8711  | 0.0613   |
| SeqId_3581_53   | AHSG     | 3  | 186330849 | 186339107 | 0.17319 | rs13322149  | -2.5   | rs2518134   | 0.11     | 29.68  | 1.95     | 78  | 78  | enet | 0.19    | 0           | 1.86941  | 0.0616   |
| SeqId_5483_1    | RGMA     | 15 | 93578503  | 93632433  | 0.07674 | rs4777659   | -1.925 | rs10852188  | 0.02502  | -14.33 | -1.477   | 57  | 57  | enet | 0.051   | 3.5E-84     | 1.8676   | 0.0618   |
| SeqId_6471_53   | CFHR4    | 1  | 196857144 | 196887843 | 0.60863 | rs114245464 | -3.89  | rs10494745  | 0.165    | -34.57 | -1.028   | 124 | 124 | enet | 0.53    | 0           | -1.8627  | 0.062507 |
| SeqId_8957_72   | ERLEC1   | 2  | 54014181  | 54045956  | 0.02738 | rs2111853   | -1.919 | rs2692523   | 0.01627  | -11.31 | 1.286    | 38  | 38  | enet | 0.017   | 8.7E-29     | -1.8553  | 0.0636   |
| SeqId_5939_42   | TNFSF12  | 17 | 7452375   | 7461207   | 0.01458 | rs141859743 | 2.375  | rs62059804  | 0.010539 | 9.47   | 1.853    | 15  | 1   | top1 | 0.011   | 1.4E-18     | 1.853    | 0.06388  |

|                |            |    |           |           |         |             |        |             |          |        |        |     |     |      |        |            |           |          |
|----------------|------------|----|-----------|-----------|---------|-------------|--------|-------------|----------|--------|--------|-----|-----|------|--------|------------|-----------|----------|
| SeqId_9197_4   | LGALS9     | 17 | 25956824  | 25976586  | 0.03611 | rs11080143  | -2.154 | rs4239242   | 0.03653  | -17.48 | 1.3873 | 18  | 18  | enet | 0.05   | 8.1E-83    | -1.8342   | 0.06662  |
| SeqId_2480_58  | TIMP3      | 22 | 33197691  | 33259028  | 0.14622 | rs112339381 | 2.21   | rs5749506   | 0.17671  | -35.82 | -1.673 | 63  | 63  | enet | 0.21   | 0          | 1.8243    | 0.06811  |
| SeqId_9369_174 | LRRC4C     | 11 | 40135753  | 41481323  | 0.06141 | rs998447    | -2.293 | rs10837377  | 0.035788 | -16.1  | 1.989  | 43  | 43  | enet | 0.041  | 2.3E-68    | -1.82077  | 0.0686   |
| SeqId_17726_3  | SAR1A      | 10 | 71907045  | 71930279  | 0.05317 | rs6480445   | 2.75   | rs4746970   | 0.077617 | 23.73  | 1.487  | 32  | 32  | enet | 0.079  | 2.2E-131   | 1.820384  | 0.0687   |
| SeqId_15562_24 | GUSB       | 7  | 65425671  | 65447202  | 0.05011 | rs62468669  | 3.906  | rs2949690   | 0.013504 | -10.62 | -0.347 | 65  | 65  | enet | 0.024  | 7.7E-41    | 1.8204    | 0.068705 |
| SeqId_15579_26 | ENPP6      | 4  | 185009859 | 185142383 | 0.00734 | rs145682264 | -2.813 | rs28673999  | 0.002671 | 5.43   | -1.216 | 8   | 8   | enet | 0.003  | 0.0000021  | -1.8174   | 0.0691   |
| SeqId_16322_10 | PACAP      | 5  | 138723156 | 138725770 | 0.00452 | rs116498185 | 1.901  | rs116498185 | 0.00313  | 5.69   | 1.901  | 25  | 25  | enet | 0.0053 | 3.4E-10    | 1.81694   | 0.06923  |
| SeqId_13107_9  | LYPD3      | 19 | 43964939  | 43969760  | 0.04201 | rs2854510   | 2.526  | rs11666797  | 0.011615 | -10.66 | -0.83  | 35  | 35  | enet | 0.028  | 6.2E-46    | 1.80085   | 0.071727 |
| SeqId_5701_81  | CLEC3B     | 3  | 45043040  | 45077563  | 0.10929 | rs76951547  | -2.46  | rs10865936  | 0.043    | -17.75 | -0.528 | 54  | 54  | enet | 0.062  | 2.2E-103   | 1.7979    | 0.0722   |
| SeqId_10832_24 | B4GALT6    | 18 | 29202209  | 29265799  | 0.21317 | rs112233114 | -2.45  | rs113222817 | 0.16847  | -34.98 | -1.39  | 79  | 79  | enet | 0.2    | 0          | 1.789     | 0.0737   |
| SeqId_3622_33  | LGMN       | 14 | 93170152  | 93215024  | 0.08404 | rs117866656 | -2.201 | rs148659834 | 0.019336 | -12.04 | -0.193 | 50  | 50  | enet | 0.055  | 5.5E-91    | 1.7791    | 0.0752   |
| SeqId_19563_3  | SEZ6L      | 22 | 26565428  | 26779563  | 0.10671 | rs738399    | -2.65  | rs655581    | 0.01264  | -10.84 | 0.639  | 96  | 96  | enet | 0.078  | 4E-129     | -1.7663   | 0.07734  |
| SeqId_9341_1   | PDGFD      | 11 | 103777917 | 104035107 | 0.11541 | rs116922192 | -2.991 | rs10791660  | 0.047001 | -18.49 | 1.205  | 107 | 107 | enet | 0.081  | 9.8E-135   | -1.75887  | 0.0786   |
| SeqId_15522_2  | GLIPR2     | 9  | 36136533  | 36163910  | 0.06877 | rs139631985 | 3.138  | rs10814339  | 0.04861  | -18.83 | 0.575  | 47  | 47  | enet | 0.055  | 3.1E-90    | -1.7509   | 0.08     |
| SeqId_9449_150 | CABPA      | 1  | 207277578 | 207318317 | 0.17266 | rs76169194  | 3.556  | rs11120218  | 0.133    | 31.67  | 1.435  | 49  | 49  | enet | 0.15   | 2.4E-265   | 1.7481    | 0.08044  |
| SeqId_11102_22 | REG4       | 1  | 120336640 | 120354203 | 0.02961 | rs61598511  | 2.59   | rs2298069   | 0.016    | -10.85 | 2.552  | 37  | 37  | enet | 0.02   | 5.8E-33    | -1.7456   | 0.080874 |
| SeqId_7228_2   | ST6GALNAC6 | 9  | 130647600 | 130667687 | 0.00933 | rs7873657   | 3.046  | rs61740973  | 0.00197  | -5.47  | -1.82  | 37  | 37  | enet | 0.0036 | 0.00000019 | 1.7241    | 0.0847   |
| SeqId_15314_49 | CLIC4      | 1  | 25071873  | 25170812  | 0.05049 | rs35068083  | -2.555 | rs4649017   | 0.0317   | -15.24 | 1.04   | 46  | 46  | enet | 0.051  | 5.5E-85    | -1.723    | 0.084893 |
| SeqId_16583_8  | NUDT2      | 9  | 34329504  | 34343709  | 0.31868 | rs190476469 | -3.263 | rs10971956  | 0.27336  | 44.92  | 1.218  | 52  | 52  | enet | 0.48   | 0          | 1.7206    | 0.0853   |
| SeqId_17513_11 | ANXA11     | 10 | 81910645  | 81965328  | 0.31245 | rs1965541   | -2.11  | rs2819952   | 0.190279 | 37.17  | -1.254 | 138 | 138 | enet | 0.24   | 0          | -1.700277 | 0.0891   |
| SeqId_13423_94 | FAM213A    | 10 | 82167585  | 82196871  | 0.00709 | rs6585994   | 2.7    | rs10788623  | 0.001725 | -5.54  | 1.693  | 38  | 1   | top1 | 0.0017 | 0.00025    | -1.693    | 0.0905   |
| SeqId_11219_95 | FGFBP3     | 10 | 93666341  | 93669243  | 0.15666 | rs61876139  | -1.88  | rs11186737  | 0.153907 | -33.33 | -1.351 | 52  | 52  | enet | 0.17   | 1E-295     | 1.686045  | 0.0918   |
| SeqId_7049_2   | ADAM23     | 2  | 207308256 | 207485851 | 0.42113 | rs147157136 | -3.405 | rs1448903   | 0.11445  | 29.55  | 1.068  | 99  | 99  | enet | 0.3    | 0          | 1.6857    | 0.0918   |
| SeqId_3727_35  | PYY        | 17 | 42030106  | 42081837  | 0.00988 | rs9906272   | -2.021 | rs12449853  | 0.004902 | 6.62   | -1.682 | 24  | 1   | top1 | 0.0049 | 1.6E-09    | -1.682    | 0.09257  |
| SeqId_17153_46 | KIR2DL3    | 19 | 55249978  | 55264504  | 0.13336 | rs74746021  | 4.046  | rs4806594   | 0.018237 | 11.7   | 0.0138 | 182 | 182 | enet | 0.061  | 6.7E-101   | 1.68159   | 0.092648 |
| SeqId_16781_2  | ENGASE     | 17 | 77070906  | 77084681  | 0.31104 | rs2612767   | 3.082  | rs56107536  | 0.106916 | 27.81  | -0.997 | 53  | 53  | enet | 0.27   | 0          | -1.6792   | 0.0931   |
| SeqId_2611_72  | TYRO3      | 15 | 41849873  | 41875787  | 0.05947 | rs142733061 | 2.831  | rs1200353   | 0.026    | -13.76 | -1.54  | 37  | 37  | enet | 0.039  | 1.9E-64    | 1.6785    | 0.0932   |
| SeqId_9839_148 | TIRAP      | 11 | 126152960 | 126168740 | 0.20199 | rs11605349  | 3.208  | rs8177399   | 0.08606  | -24.95 | -0.678 | 78  | 78  | enet | 0.14   | 2E-230     | 1.67427   | 0.0941   |
| SeqId_5452_71  | ASGR1      | 17 | 7076750   | 7082883   | 0.06075 | rs62059194  | 3.972  | rs62061425  | 0.017999 | -11.55 | 0.576  | 72  | 72  | enet | 0.036  | 2.5E-60    | -1.6664   | 0.09562  |
| SeqId_2843_13  | SPINT2     | 19 | 38734675  | 38783255  | 0.2563  | rs4804046   | -2.966 | rs71354995  | 0.276703 | -44.71 | -1.669 | 91  | 91  | enet | 0.31   | 0          | 1.66271   | 0.09637  |
| SeqId_8890_9   | TMEM132B   | 12 | 125670932 | 126146923 | 0.05523 | rs7974263   | -2.464 | rs3825381   | 0.040488 | -17.21 | 2.241  | 30  | 30  | enet | 0.057  | 3.7E-94    | -1.65933  | 0.09705  |
| SeqId_15495_9  | FOLR3      | 11 | 71825915  | 71850936  | 0.28828 | rs7926875   | -2.233 | rs146694036 | 0.177043 | 35.75  | -1.406 | 47  | 47  | enet | 0.24   | 0          | -1.65608  | 0.0977   |
| SeqId_3311_27  | FCGR3B     | 1  | 161592986 | 161601753 | 0.1357  | rs3813621   | -3.433 | rs10800573  | 0.0923   | 25.96  | 1.524  | 69  | 69  | enet | 0.11   | 3.9E-185   | 1.6544    | 0.098043 |
| SeqId_17739_1  | HADH       | 4  | 108910870 | 108956397 | 0.0211  | rs221334    | 2.268  | rs72890511  | 0.006993 | 8.47   | -1.901 | 60  | 60  | enet | 0.015  | 4.4E-25    | -1.654    | 0.0981   |
| SeqId_8274_64  | STX7       | 6  | 132767006 | 132834337 | 0.04586 | rs72996835  | 2.46   | rs3813356   | 0.02187  | -13.25 | 1.5867 | 11  | 11  | enet | 0.028  | 3.4E-47    | -1.646    | 0.0998   |
| SeqId_61223_5  | GUCA2B     | 1  | 42619081  | 42621491  | 0.0149  | rs883240    | 2.27   | rs1047047   | 0.00965  | 9.29   | -1.511 | 9   | 9   | enet | 0.011  | 1.1E-18    | -1.6451   | 0.099954 |
| SeqId_13671_40 | ELANE      | 19 | 851014    | 856247    | 0.05685 | rs111607343 | -2.214 | rs56283881  | 0.019409 | -12.58 | 0.8092 | 41  | 41  | enet | 0.033  | 1.4E-54    | -1.64198  | 0.100594 |
| SeqId_3396_54  | REN        | 1  | 204123947 | 204159452 | 0.01193 | rs2796369   | -1.801 | rs141995914 | 0.012    | 9.38   | 1.249  | 30  | 30  | enet | 0.014  | 2E-23      | 1.6393    | 0.101141 |
| SeqId_9557_5   | MANSC1     | 12 | 12478990  | 12503176  | 0.066   | rs117197894 | 2.615  | rs3741798   | 0.083555 | 24.69  | 1.692  | 33  | 33  | enet | 0.084  | 9.4E-140   | 1.63525   | 0.102    |
| SeqId_9870_17  | WARS       | 14 | 100800127 | 100843142 | 0.0749  | rs77235285  | 3.213  | rs4905957   | 0.148254 | 32.72  | -1.636 | 35  | 1   | top1 | 0.15   | 8E-254     | -1.636    | 0.102    |
| SeqId_11424_4  | FAH        | 15 | 80444832  | 80479288  | 0.3787  | rs74647991  | -2.264 | rs11555096  | 0.11425  | -28.74 | -1.643 | 71  | 71  | enet | 0.14   | 1.3E-243   | 1.633     | 0.1025   |
| SeqId_12498_12 | TAX1BP3    | 17 | 3566189   | 3571973   | 0.02412 | rs222790    | -2.787 | rs160589    | 0.010649 | 8.99   | 0.043  | 32  | 32  | enet | 0.013  | 4.8E-23    | -1.6327   | 0.10253  |
| SeqId_9578_263 | MANSC4     | 12 | 27915360  | 27933169  | 0.14736 | rs4244857   | 2.411  | rs12368818  | 0.282782 | 45.23  | 1.415  | 48  | 48  | enet | 0.29   | 0          | 1.63113   | 0.10286  |
| SeqId_5124_69  | ICAM5      | 19 | 10400628  | 10407454  | 0.3079  | rs8113381   | -4.788 | rs2811440   | 0.228089 | 40.6   | -2.495 | 66  | 66  | enet | 0.29   | 0          | -1.61856  | 0.105542 |
| SeqId_3309_2   | FCGR2A     | 1  | 161475220 | 161493803 | 0.44351 | rs112402038 | 2.374  | rs1801274   | 0.487    | 59.25  | -1.461 | 34  | 34  | enet | 0.49   | 0          | -1.6183   | 0.105602 |
| SeqId_9212_22  | CTSF       | 11 | 66330935  | 66336350  | 0.03495 | rs148723727 | -2.362 | rs1044522   | 0.031638 | 15.24  | 1.349  | 55  | 55  | enet | 0.032  | 5.2E-53    | 1.61818   | 0.106    |
| SeqId_16288_17 | EPHA4      | 2  | 222282747 | 222438922 | 0.07237 | rs146004738 | 3.213  | rs12995875  | 0.02857  | -15.54 | 1.966  | 104 | 104 | enet | 0.078  | 5.5E-129   | -1.6129   | 0.107    |
| SeqId_8327_26  | DPEP2      | 16 | 68021297  | 68034489  | 0.35112 | rs187241218 | 2.33   | rs9928014   | 0.02773  | -14.35 | -1.232 | 193 | 193 | enet | 0.077  | 7.4E-128   | 1.6057    | 0.108    |
| SeqId_18225_13 | HEBP1      | 12 | 13127804  | 13153199  | 0.23558 | rs11055116  | 2.149  | rs11055175  | 0.168904 | -34.98 | 1.546  | 94  | 94  | enet | 0.25   | 0          | -1.60571  | 0.10834  |
| SeqId_3314_74  | GFRA1      | 10 | 117816436 | 118036315 | 0.0641  | rs7096877   | -1.85  | rs11197582  | 0.046093 | 18.49  | -1.538 | 33  | 33  | enet | 0.053  | 8.5E-88    | -1.60326  | 0.1089   |
| SeqId_7179_69  | NFASC      | 1  | 204797779 | 204991950 | 0.18841 | rs12123647  | -2.753 | rs6663324   | 0.129    | 30.58  | 0.607  | 70  | 70  | enet | 0.17   | 2.7E-303   | 1.5992    | 0.109769 |
| SeqId_14133_93 | IL1R2      | 2  | 102608422 | 102645006 | 0.14928 | rs77403630  | 2.781  | rs2310170   | 0.12675  | -30.4  | -1.919 | 57  | 57  | enet | 0.14   | 8.6E-235   | 1.596     | 0.11     |
| SeqId_5346_24  | CPNE1      | 20 | 34213953  | 34252878  | 0.45423 | rs73104746  | 4.3    | rs113522583 | 0.327509 | -48.66 | 0.898  | 51  | 51  | enet | 0.43   | 0          | -1.5953   | 0.11064  |



|                 |         |    |           |           |         |             |        |             |          |        |         |     |     |      |         |             |           |          |
|-----------------|---------|----|-----------|-----------|---------|-------------|--------|-------------|----------|--------|---------|-----|-----|------|---------|-------------|-----------|----------|
| SeqId_2973_15   | CD36    | 7  | 79998891  | 80308593  | 0.0147  | rs62464490  | -2.333 | rs11760281  | 0.000675 | -4.99  | -0.4207 | 51  | 51  | enet | 0.0037  | 0.00000013  | 1.5948    | 0.110766 |
| SeqId_13062_4   | GMFG    | 19 | 39818993  | 39833012  | 0.03906 | rs1017079   | 2.598  | rs30459     | 0.022029 | -13.11 | -1.1446 | 43  | 43  | enet | 0.024   | 1.7E-40     | 1.59459   | 0.110805 |
| SeqId_3235_50   | WFIKKN2 | 17 | 48912011  | 48919714  | 0.15154 | rs11079936  | 2.392  | rs11079936  | 0.218661 | -39.74 | -1.605  | 50  | 50  | enet | 0.23    | 0           | 1.5914    | 0.11153  |
| SeqId_9849_13   | APEX1   | 14 | 20923350  | 20925931  | 0.05044 | rs72672714  | -3.276 | rs1130409   | 0.020134 | 12.21  | -1.476  | 27  | 27  | enet | 0.032   | 6E-53       | -1.5889   | 0.112    |
| SeqId_9744_139  | DNAJA4  | 15 | 78556428  | 78574538  | 0.0062  | rs61752771  | -1.492 | rs11639191  | 0.00405  | 5.81   | 0.346   | 23  | 23  | enet | 0.0047  | 0.000000003 | 1.5891    | 0.112    |
| SeqId_6620_82   | LINGO1  | 15 | 77905369  | 78113242  | 0.02161 | rs143893273 | 3.228  | rs62007781  | 0.00552  | 7.99   | -0.492  | 68  | 68  | enet | 0.014   | 1.2E-24     | -1.5866   | 0.1126   |
| SeqId_19267_14  | HAGH    | 16 | 1845621   | 1877158   | 0.13001 | rs2241071   | -3.34  | rs116869551 | 0.07462  | 23.32  | 1.04    | 77  | 77  | enet | 0.12    | 3.4E-197    | 1.586     | 0.113    |
| SeqId_3518_54   | CPB2    | 13 | 46627321  | 46679168  | 0.27143 | rs4942450   | -2.97  | rs7988836   | 0.25895  | 43.24  | -1.692  | 325 | 325 | enet | 0.33    | 0           | -1.581    | 0.114    |
| SeqId_17391_10  | RBM17   | 10 | 6130997   | 6159420   | 0.05504 | rs661985    | 2.42   | rs11256726  | 0.037729 | -17    | 1.565   | 37  | 37  | enet | 0.038   | 9.1E-63     | -1.579275 | 0.1143   |
| SeqId_12399_194 | CCDC50  | 3  | 191046874 | 191116448 | 0.01631 | rs146170086 | -2.35  | rs147604673 | 0.00938  | -8.6   | -1.575  | 48  | 1   | top1 | 0.0094  | 1E-16       | 1.575     | 0.115    |
| SeqId_4467_49   | SPARCL1 | 4  | 88394487  | 88452213  | 0.11936 | rs1965907   | -2.11  | rs7688567   | 0.181218 | 37.26  | -1.966  | 81  | 81  | enet | 0.23    | 0           | -1.5779   | 0.115    |
| SeqId_5129_12   | SCARF1  | 17 | 1537152   | 1549038   | 0.04386 | rs8076897   | 4.118  | rs2272011   | 0.332784 | -49.01 | -0.995  | 81  | 81  | enet | 0.41    | 0           | 1.5744    | 0.1154   |
| SeqId_15480_2   | VNN2    | 6  | 133065009 | 133084598 | 0.39772 | rs117715244 | -2.75  | rs9493425   | 0.24884  | -42.37 | -0.528  | 86  | 86  | enet | 0.33    | 0           | 1.573     | 0.116    |
| SeqId_2900_53   | CCL14   | 17 | 34310324  | 34314040  | 0.24117 | rs16971802  | 2.429  | rs7222922   | 0.220023 | -39.86 | 1.93    | 61  | 61  | enet | 0.27    | 0           | -1.5714   | 0.1161   |
| SeqId_12517_52  | PDCD5   | 19 | 33072096  | 33078359  | 0.2287  | rs111413644 | 2.181  | rs4499344   | 0.212807 | 39.2   | -1.436  | 27  | 27  | enet | 0.27    | 0           | -1.57076  | 0.116238 |
| SeqId_13242_134 | SHANK3  | 22 | 51112843  | 51171726  | 0.09251 | rs9616810   | 2.43   | rs6009946   | 0.06285  | 21.34  | 1.922   | 25  | 25  | enet | 0.091   | 2.1E-151    | 1.5693    | 0.11657  |
| SeqId_4763_31   | AFM     | 4  | 74347462  | 74369718  | 0.06431 | rs1894292   | -2.202 | rs72856662  | 0.05276  | -19.79 | 1.488   | 70  | 70  | enet | 0.067   | 3.3E-110    | -1.568    | 0.117    |
| SeqId_17161_1   | DDOST   | 1  | 20978260  | 20988037  | 0.03205 | rs150976169 | 2.493  | rs150466875 | 0.0195   | -12.12 | -0.996  | 42  | 42  | enet | 0.026   | 3.1E-44     | 1.5619    | 0.1183   |
| SeqId_7808_5    | GLCE    | 15 | 69452923  | 69564556  | 0.16687 | rs12148883  | -3.014 | rs3865014   | 0.24089  | 41.79  | 1.097   | 88  | 88  | enet | 0.25    | 0           | 1.5607    | 0.1186   |
| SeqId_7050_5    | NEGR1   | 1  | 71861626  | 72748222  | 0.04195 | rs17516887  | -1.937 | rs12029938  | 0.00522  | -6.86  | -0.04   | 42  | 42  | enet | 0.015   | 3.9E-26     | 1.5606    | 0.118616 |
| SeqId_5636_10   | MFAP4   | 17 | 19286755  | 19290503  | 0.1017  | rs1110466   | 2.115  | rs528684420 | 0.024167 | -13.33 | -0.8942 | 29  | 29  | enet | 0.031   | 1.1E-51     | 1.5573    | 0.11939  |
| SeqId_9297_12   | B3GNT8  | 19 | 41931264  | 41934635  | 0.15593 | rs111403414 | -2.279 | rs284663    | 0.331504 | 48.93  | -1.715  | 30  | 30  | enet | 0.34    | 0           | -1.55688  | 0.119499 |
| SeqId_18881_7   | CD97    | 19 | 14491313  | 14519537  | 0.02348 | rs185882225 | 1.879  | rs3786656   | 0.00351  | 6.68   | -0.7518 | 56  | 56  | enet | 0.011   | 8.5E-20     | -1.5568   | 0.119518 |
| SeqId_8024_64   | TPST2   | 22 | 26917962  | 26992681  | 0.05591 | rs136557022 | 2.04   | rs4275      | 0.03386  | 15.87  | -1.222  | 37  | 37  | enet | 0.052   | 8.9E-86     | -1.5544   | 0.12009  |
| SeqId_13132_14  | SEMA5A  | 5  | 9035145   | 9546187   | 0.2794  | rs139755478 | -2.355 | rs56015217  | 0.145    | 32.48  | 0.661   | 117 | 117 | enet | 0.24    | 0           | 1.5531    | 0.1204   |
| SeqId_18397_5   | AKR1C4  | 10 | 5237425   | 5260912   | 0.11617 | rs117292237 | 1.8    | rs75811842  | 0.289145 | -45.68 | 1.48    | 43  | 43  | enet | 0.29    | 0           | -1.551352 | 0.1208   |
| SeqId_15583_18  | FCRLB   | 1  | 161691353 | 161697933 | 0.099   | rs147715895 | 2.171  | rs61801163  | 0.0479   | 18.76  | 1.014   | 70  | 70  | enet | 0.091   | 2.5E-152    | 1.549     | 0.121373 |
| SeqId_12560_9   | NTSC    | 17 | 73126320  | 73127852  | 0.17685 | rs138891334 | 2.473  | rs78625720  | 0.117473 | -29.24 | -1.822  | 67  | 67  | enet | 0.13    | 1.1E-224    | 1.5444    | 0.12248  |
| SeqId_14151_4   | ISG15   | 1  | 936518    | 949920    | 0.24089 | rs4970350   | -2.15  | rs3121574   | 0.0378   | 17.82  | 1.362   | 15  | 15  | enet | 0.077   | 7.6E-128    | 1.5325    | 0.125397 |
| SeqId_2620_4    | IL6ST   | 5  | 55230923  | 55290850  | 0.10113 | rs79297018  | 2.049  | rs13183065  | 0.0891   | 25.42  | 1.575   | 61  | 61  | enet | 0.099   | 4E-166      | 1.52739   | 0.12666  |
| SeqId_5139_32   | UNC5C   | 4  | 96083655  | 96470357  | 0.07867 | rs6532537   | -1.949 | rs1994292   | 0.044631 | 18.01  | -1.163  | 78  | 78  | enet | 0.082   | 1.4E-135    | -1.5256   | 0.127    |
| SeqId_3171_57   | APP     | 21 | 27252861  | 27543446  | 0.02284 | rs172592    | -2.31  | rs439826    | 0.01192  | -9.64  | 1.31    | 34  | 34  | enet | 0.019   | 6.9E-32     | -1.5222   | 0.128    |
| SeqId_4549_78   | FUT5    | 19 | 5865837   | 5870551   | 0.26913 | rs61180947  | 2.144  | rs778809    | 0.113488 | -28.73 | -1.177  | 92  | 92  | enet | 0.27    | 0           | 1.52189   | 0.128035 |
| SeqId_2201_17   | COL18A1 | 21 | 46825080  | 46933634  | 0.19676 | rs112225010 | 3.58   | rs144147445 | 0.04222  | -17.56 | 1.07    | 110 | 110 | enet | 0.11    | 2.2E-176    | -1.5181   | 0.129    |
| SeqId_4155_3    | TNC     | 9  | 117781854 | 117880536 | 0.52315 | rs4145474   | 2.171  | rs1138545   | 0.36783  | 51.52  | -1.794  | 77  | 77  | enet | 0.4     | 0           | -1.5188   | 0.129    |
| SeqId_3600_2    | CHIT1   | 1  | 203181955 | 203242769 | 0.33584 | rs150205774 | 2.237  | rs872583    | 0.313    | -47.57 | 1.245   | 62  | 62  | enet | 0.38    | 0           | -1.5158   | 0.12957  |
| SeqId_3290_50   | CD109   | 6  | 74405508  | 74538040  | 0.34542 | rs139847894 | 2.1    | rs6925924   | 0.26694  | 43.96  | 1.481   | 179 | 179 | enet | 0.34    | 0           | 1.513     | 0.13     |
| SeqId_10561_5   | PGLYRP3 | 1  | 153269592 | 153285428 | 0.05244 | rs55991125  | 2.109  | rs55991125  | 0.0147   | -10.53 | 2.109   | 35  | 35  | enet | 0.024   | 7E-40       | -1.51     | 0.131051 |
| SeqId_15604_18  | MAPK9   | 5  | 179660143 | 179719099 | 0.04492 | rs116301830 | 2.671  | rs11741142  | 0.0372   | 16.47  | 1.043   | 41  | 41  | enet | 0.046   | 3.7E-76     | 1.50894   | 0.13131  |
| SeqId_15336_7   | SELM    | 22 | 31500758  | 31516055  | 0.01278 | rs118006664 | -1.8   | rs117551362 | 0.00542  | 7.38   | -1.206  | 11  | 11  | enet | 0.0065  | 3.9E-12     | -1.5079   | 0.13159  |
| SeqId_7060_2    | ERO1L   | 14 | 53106633  | 53162618  | 0.00421 | rs112898150 | 2.196  | rs112898150 | 0.000838 | 4.71   | 2.196   | 7   | 7   | enet | 0.001   | 0.0037      | 1.5011    | 0.133    |
| SeqId_7083_74   | MATN4   | 20 | 43922085  | 43937169  | 0.11691 | rs6104018   | 2.64   | rs11906694  | 0.047275 | -18.55 | 1.789   | 87  | 87  | enet | 0.084   | 5.1E-140    | -1.5021   | 0.13308  |
| SeqId_11354_21  | PLCB1   | 20 | 8057898   | 8949007   | 0.00434 | rs6039069   | 1.56   | rs1033398   | 0.000245 | 3.95   | 1.498   | 8   | 1   | top1 | 0.00024 | 0.096       | 1.498     | 0.13413  |
| SeqId_6393_63   | HSP90B1 | 12 | 104323885 | 104347709 | 0.26901 | rs7296626   | 4.076  | rs2722192   | 0.479947 | 58.9   | 2.029   | 85  | 85  | enet | 0.51    | 0           | 1.49512   | 0.13488  |
| SeqId_15530_33  | EPHB4   | 7  | 100400187 | 100425145 | 0.0343  | rs2553021   | 1.938  | rs314346    | 0.03065  | 15.34  | 1.222   | 27  | 27  | enet | 0.033   | 4.5E-54     | 1.4918    | 0.13576  |
| SeqId_3710_49   | PLG     | 6  | 161123270 | 161175129 | 0.54602 | rs41267809  | -3.14  | rs537579467 | 0.07847  | 24.02  | -0.2486 | 166 | 166 | enet | 0.23    | 0           | -1.492    | 0.136    |
| SeqId_11187_11  | CLEC12A | 12 | 10103915  | 10148293  | 0.3778  | rs1797526   | 2.318  | rs1060648   | 0.529498 | -61.83 | 1.255   | 52  | 52  | enet | 0.55    | 0           | -1.48752  | 0.13688  |
| SeqId_7841_84   | ESAM    | 11 | 124622479 | 124632186 | 0.0889  | rs77328902  | 1.821  | rs12541     | 0.053816 | -19.89 | 1.593   | 33  | 33  | enet | 0.068   | 4.7E-112    | -1.48759  | 0.137    |
| SeqId_3431_54   | EPHA1   | 7  | 143087382 | 143105949 | 0.34127 | rs1135411   | -2.248 | rs4421280   | 0.288917 | 45.66  | 1.866   | 61  | 61  | enet | 0.32    | 0           | 1.4853    | 0.137453 |
| SeqId_5069_9    | CD55    | 1  | 207494877 | 207560149 | 0.1014  | rs76588278  | -2.676 | rs1583090   | 0.235    | -41.23 | -1.52   | 66  | 66  | enet | 0.24    | 0           | 1.4833    | 0.137994 |
| SeqId_7019_13   | SEMA7A  | 15 | 74701630  | 74726299  | 0.01788 | rs147708965 | 1.951  | rs78994380  | 0.00591  | -6.89  | -0.988  | 38  | 38  | enet | 0.011   | 5E-19       | 1.4808    | 0.1387   |
| SeqId_7218_87   | ATP1B2  | 17 | 7549945   | 7561088   | 0.11194 | rs858518    | 2.468  | rs1642762   | 0.089559 | -25.64 | 2.0008  | 47  | 47  | enet | 0.14    | 5.5E-245    | -1.4803   | 0.13881  |
| SeqId_13405_61  | SPINK2  | 4  | 57676026  | 57687908  | 0.0729  | rs148321523 | 1.768  | rs7694521   | 0.016979 | 13.06  | -1.272  | 37  | 37  | enet | 0.054   | 1E-89       | -1.48     | 0.139    |

|                 |          |    |           |           |         |             |        |             |          |        |        |     |     |      |         |             |          |          |
|-----------------|----------|----|-----------|-----------|---------|-------------|--------|-------------|----------|--------|--------|-----|-----|------|---------|-------------|----------|----------|
| SeqId_14123_34  | C10orf54 | 10 | 73507313  | 73533277  | 0.12251 | rs75071136  | 2.69   | rs12415873  | 0.090054 | 25.59  | 0.924  | 69  | 69  | enet | 0.11    | 2.4E-186    | 1.477033 | 0.1397   |
| SeqId_15509_2   | NAGLU    | 17 | 40688259  | 40696467  | 0.17773 | rs677960    | -2.238 | rs41283429  | 0.096909 | 26.5   | 1.509  | 116 | 116 | enet | 0.12    | 8.3E-211    | 1.4749   | 0.14023  |
| SeqId_5542_22   | NRP1     | 10 | 33466420  | 33625190  | 0.0841  | rs527870997 | -2.37  | rs734186    | 0.072527 | -22.9  | -1.931 | 84  | 84  | enet | 0.094   | 1.4E-157    | 1.467715 | 0.1422   |
| SeqId_9394_19   | CPQ      | 8  | 97657470  | 98161882  | 0.24923 | rs142538426 | -2.359 | rs148684432 | 0.073058 | -23.01 | 1.1569 | 81  | 81  | enet | 0.19    | 0           | -1.465   | 0.14291  |
| SeqId_5451_1    | ALCAM    | 3  | 105085753 | 105295744 | 0.06316 | rs115498068 | 3.66   | rs751554    | 0.0227   | -13.42 | -1.457 | 97  | 97  | enet | 0.049   | 1.1E-80     | 1.46321  | 0.143    |
| SeqId_19361_78  | MATN3    | 2  | 20191813  | 20212429  | 0.44353 | rs143517494 | 2.515  | rs11694716  | 0.25901  | -43.25 | 1.381  | 100 | 100 | enet | 0.4     | 0           | -1.4564  | 0.145    |
| SeqId_12475_48  | CLIC5    | 6  | 45848564  | 46048085  | 0.26546 | rs6924107   | 2.91   | rs35822882  | 0.07306  | -23.02 | -1.117 | 75  | 75  | enet | 0.088   | 2.3E-147    | 1.457    | 0.145    |
| SeqId_3316_58   | SERPIND1 | 22 | 21128401  | 21142008  | 0.0097  | rs5749800   | -2.62  | rs73160986  | 0.00408  | 5.72   | 1.457  | 9   | 1   | top1 | 0.0041  | 0.000000034 | 1.457    | 0.14512  |
| SeqId_4407_10   | MST1     | 3  | 49721380  | 49726934  | 0.43104 | rs111744323 | -3.1   | rs3197999   | 0.444    | -56.68 | -1.453 | 73  | 73  | enet | 0.52    | 0           | 1.45261  | 0.146    |
| SeqId_12859_33  | ECI2     | 6  | 4115927   | 4135831   | 0.0645  | rs6597031   | 1.58   | rs7757606   | 0.08395  | -24.81 | 1.454  | 36  | 1   | top1 | 0.084   | 9.9E-140    | -1.454   | 0.146    |
| SeqId_11480_1   | ALDH3A1  | 17 | 19641297  | 19652256  | 0.03054 | rs1106374   | -2.956 | rs887241    | 0.021355 | 12.46  | -1.312 | 12  | 12  | enet | 0.022   | 4.3E-37     | -1.4526  | 0.14634  |
| SeqId_15453_3   | AMBP     | 9  | 116822407 | 116840608 | 0.01706 | rs2636881   | -2.02  | rs10982050  | 0.00813  | -7.82  | -0.335 | 35  | 35  | enet | 0.013   | 1.6E-22     | 1.4499   | 0.147    |
| SeqId_6433_57   | FAM20A   | 17 | 66531254  | 66597508  | 0.05851 | rs76321556  | 4.364  | rs12453086  | 0.027535 | -14.24 | -1.548 | 82  | 82  | enet | 0.046   | 1.4E-75     | 1.4475   | 0.14777  |
| SeqId_8969_49   | CD14     | 5  | 140011313 | 140013286 | 0.07745 | rs2337225   | -3.104 | rs5744441   | 0.0346   | -16.04 | 0.216  | 59  | 59  | enet | 0.047   | 2E-77       | -1.44428 | 0.14866  |
| SeqId_4878_3    | F10      | 13 | 113777113 | 113803843 | 0.1322  | rs3211752   | 2.84   | rs3211757   | 0.03809  | 16.75  | 0.829  | 48  | 48  | enet | 0.074   | 1.6E-123    | 1.44     | 0.1499   |
| SeqId_8245_27   | ICAM5    | 19 | 10400628  | 10407454  | 0.28356 | rs8113381   | -4.788 | rs281440    | 0.218619 | 39.75  | -2.495 | 58  | 58  | enet | 0.28    | 0           | -1.43877 | 0.150216 |
| SeqId_15558_63  | ENPEP    | 4  | 111286889 | 111486441 | 0.32466 | rs33966350  | -3.536 | rs33966350  | 0.088416 | -25.32 | -3.536 | 95  | 95  | enet | 0.23    | 0           | 1.4346   | 0.151    |
| SeqId_3132_1    | VEGFC    | 4  | 177604689 | 177714076 | 0.04985 | rs41278571  | 1.906  | rs41278571  | 0.024438 | 13.36  | 1.906  | 12  | 12  | enet | 0.028   | 4.1E-46     | 1.4346   | 0.151    |
| SeqId_17794_6   | PMM2     | 16 | 8882680   | 8956391   | 0.04325 | rs3826198   | 2.3    | rs34258285  | 0.023    | -13.17 | 0.445  | 24  | 24  | enet | 0.035   | 1.2E-57     | -1.4319  | 0.152    |
| SeqId_13122_19  | FLRT2    | 14 | 85996488  | 86120772  | 0.11287 | rs11849838  | 2.09   | rs17796783  | 0.118124 | -29.24 | 1.331  | 126 | 126 | enet | 0.17    | 2.9E-297    | -1.4178  | 0.156    |
| SeqId_16594_44  | FAIM     | 3  | 138327448 | 138352218 | 0.35969 | rs361058    | -2.54  | rs641320    | 0.0684   | -22.26 | 1.199  | 14  | 14  | enet | 0.1     | 2.9E-174    | -1.42001 | 0.156    |
| SeqId_13381_49  | B4GALT1  | 9  | 33104080  | 33167354  | 0.133   | rs140867747 | 2.75   | rs7019909   | 0.07296  | 22.97  | 2.108  | 59  | 59  | enet | 0.094   | 1.9E-156    | 1.4177   | 0.156    |
| SeqId_2946_52   | CFD      | 19 | 859664    | 863641    | 0.10173 | rs111607343 | -2.214 | rs72984031  | 0.014672 | -10.38 | 0.6033 | 53  | 53  | enet | 0.044   | 1.2E-72     | -1.41368 | 0.157455 |
| SeqId_6984_6    | IGSF8    | 1  | 160061130 | 160068733 | 0.03038 | rs124092798 | -2.313 | rs124092798 | 0.0285   | 14.47  | -2.188 | 18  | 18  | enet | 0.031   | 2.5E-52     | -1.4085  | 0.158997 |
| SeqId_3313_21   | FCN2     | 9  | 137772656 | 137779369 | 0.1694  | rs3124956   | 2.451  | rs3124956   | 0.10512  | -27.56 | 2.451  | 60  | 60  | enet | 0.19    | 0           | -1.4079  | 0.159    |
| SeqId_13109_82  | NEGR1    | 1  | 71861626  | 72748222  | 0.08639 | rs7524126   | 1.48   | rs11209871  | 0.0129   | -9.96  | -0.051 | 40  | 40  | enet | 0.028   | 3E-46       | 1.4049   | 0.160043 |
| SeqId_16857_2   | RAB2A    | 8  | 61429495  | 61536203  | 0.00216 | rs72652568  | -1.526 | rs11995335  | 0.000111 | 3.86   | 1.403  | 13  | 1   | top1 | 0.00011 | 0.18        | 1.403    | 0.160617 |
| SeqId_2789_26   | MMP7     | 11 | 102391239 | 102401481 | 0.20084 | rs140411048 | 2.09   | rs11568819  | 0.074558 | 23.22  | 0.886  | 87  | 87  | enet | 0.15    | 7E-248      | 1.40045  | 0.161    |
| SeqId_19561_216 | PLXND1   | 3  | 129274057 | 129325519 | 0.18218 | rs139906131 | 2.16   | rs1108584   | 0.0497   | 20.5   | -0.526 | 86  | 86  | enet | 0.13    | 1.2E-212    | -1.4013  | 0.161    |
| SeqId_12612_37  | PSMB1    | 6  | 170844208 | 170862395 | 0.06469 | rs9295415   | 1.55   | rs3734763   | 0.13249  | -31.05 | -1.383 | 26  | 26  | enet | 0.13    | 3.6E-228    | 1.394    | 0.163    |
| SeqId_18315_38  | RTP4     | 3  | 187086173 | 187089864 | 0.13668 | rs17719193  | -2.96  | rs1878861   | 0.125    | -30.09 | 1.438  | 91  | 91  | enet | 0.13    | 7.5E-220    | -1.39163 | 0.164    |
| SeqId_5462_62   | FCN3     | 1  | 27695601  | 27701315  | 0.09392 | rs58337722  | 2.428  | rs111257457 | 0.0497   | -19.12 | 1.068  | 97  | 97  | enet | 0.076   | 1.8E-126    | -1.3908  | 0.164275 |
| SeqId_8275_31   | PEAR1    | 1  | 156863490 | 156886221 | 0.14601 | rs4414033   | -1.993 | rs12041331  | 0.0459   | -18.25 | 1.06   | 56  | 56  | enet | 0.093   | 6.4E-155    | -1.3901  | 0.164495 |
| SeqId_18398_1   | AKR1D1   | 7  | 137687070 | 137803051 | 0.01342 | rs28634434  | -2.158 | rs9642091   | 0.010617 | 9.07   | 1.3895 | 30  | 1   | top1 | 0.011   | 1E-18       | 1.3895   | 0.164689 |
| SeqId_18831_6   | LRIG1    | 3  | 66429221  | 66551687  | 0.20682 | rs9856474   | 2.19   | rs2306272   | 0.228    | -40.57 | 1.429  | 83  | 83  | enet | 0.23    | 0           | -1.38555 | 0.166    |
| SeqId_6629_3    | DEFB1    | 8  | 6728114   | 6735458   | 0.09985 | rs2741674   | -2.222 | rs2741117   | 0.085581 | -25.01 | 1.6382 | 67  | 67  | enet | 0.11    | 8.7E-182    | -1.3838  | 0.166406 |
| SeqId_6544_33   | NELL1    | 11 | 20691097  | 21597232  | 0.16197 | rs2293241   | -2.601 | rs8176786   | 0.108537 | 28.12  | 1.307  | 39  | 39  | enet | 0.12    | 2.1E-200    | 1.38322  | 0.167    |
| SeqId_15570_99  | CR2      | 1  | 207627575 | 207663240 | 0.04287 | rs61821043  | -1.871 | rs61821130  | 0.0093   | -8.97  | 0.487  | 73  | 73  | enet | 0.025   | 1.5E-42     | -1.3806  | 0.167396 |
| SeqId_8840_61   | C1S      | 12 | 7096351   | 7178336   | 0.31727 | rs77365023  | 1.849  | rs73044256  | 0.248374 | 2.64   | 0.438  | 14  | 14  | enet | 0.29    | 0           | -1.38031 | 0.16749  |
| SeqId_6448_36   | SEMA3C   | 7  | 80371854  | 80551675  | 0.04045 | rs62467052  | 1.783  | rs1019916   | 0.011798 | 10.58  | -1.188 | 53  | 53  | enet | 0.029   | 1.3E-48     | -1.3798  | 0.167638 |
| SeqId_9580_5    | LAMC2    | 1  | 183155373 | 183214262 | 0.36338 | rs3965889   | -2.352 | rs2276543   | 0.215    | 39.37  | 1.189  | 57  | 57  | enet | 0.24    | 0           | 1.3797   | 0.167685 |
| SeqId_16607_78  | GSN      | 9  | 123970072 | 124095121 | 0.01103 | rs116983920 | -3.821 | rs10985196  | 0.00782  | -7.84  | 1.377  | 30  | 1   | top1 | 0.0078  | 3.2E-14     | -1.377   | 0.169    |
| SeqId_18876_77  | CHST4    | 16 | 71559136  | 71572651  | 0.04806 | rs75541566  | 2.31   | rs16973264  | 0.01695  | 11.22  | -1.734 | 27  | 27  | enet | 0.019   | 2.8E-32     | -1.3728  | 0.17     |
| SeqId_18882_7   | CLSTN2   | 3  | 139654027 | 140296239 | 0.12319 | rs982074    | -2.96  | rs9863263   | 0.0383   | -16.85 | -0.598 | 98  | 98  | enet | 0.12    | 1.4E-202    | 1.37016  | 0.171    |
| SeqId_13094_75  | RSPO3    | 6  | 127439816 | 127520626 | 0.08081 | rs7766106   | 1.52   | rs2154167   | 0.0982   | 26.98  | 0.899  | 45  | 45  | enet | 0.11    | 2.8E-180    | 1.368    | 0.171    |
| SeqId_10514_5   | PTGDS    | 9  | 139869544 | 139876194 | 0.03394 | rs925936    | -2.308 | rs11145948  | 0.03471  | 15.88  | -1.37  | 26  | 1   | top1 | 0.035   | 1.5E-57     | -1.37    | 0.171    |
| SeqId_17396_23  | ADH1A    | 4  | 100197526 | 100212160 | 0.12179 | rs10011147  | 2.116  | rs28364331  | 0.056308 | -20.3  | -0.967 | 34  | 34  | enet | 0.065   | 6E-107      | 1.3649   | 0.172    |
| SeqId_15376_134 | CTSE     | 1  | NA        | 206317459 | 0.0254  | rs113012212 | -1.989 | rs78554767  | 0.000566 | 4.5    | 0.44   | 49  | 49  | enet | 0.0051  | 8E-10       | -1.3633  | 0.172801 |
| SeqId_17515_6   | HSPA13   | 21 | 15743436  | 15755805  | 0.0312  | rs2822638   | 1.35   | rs2822638   | 0.02628  | -13.81 | 1.355  | 12  | 1   | top1 | 0.026   | 7.1E-44     | -1.355   | 0.175    |
| SeqId_15686_49  | INHBC    | 12 | 57828567  | 57845845  | 0.22299 | rs73121617  | -1.511 | rs2229357   | 0.49134  | -59.54 | 1.261  | 35  | 35  | enet | 0.49    | 0           | -1.3549  | 0.17545  |
| SeqId_5248_68   | PP1F     | 10 | 81107225  | 81115090  | 0.01472 | rs118016429 | 1.89   | rs79510127  | 0.005743 | -7     | -0.748 | 22  | 22  | enet | 0.0084  | 3.9E-15     | 1.353441 | 0.1759   |
| SeqId_4158_54   | PLAU     | 10 | 75668935  | 75677254  | 0.26072 | rs72816389  | 3.32   | rs2633322   | 0.062128 | -21.91 | -1.563 | 87  | 87  | enet | 0.11    | 2.6E-176    | 1.353368 | 0.1759   |
| SeqId_9986_14   | NPW      | 16 | 2059927   | 2070756   | 0.11251 | rs78468043  | -3.58  | rs111276210 | 0.00838  | -9.04  | 0.462  | 63  | 63  | enet | 0.029   | 1.4E-47     | -1.354   | 0.176    |

|                 |           |    |           |           |         |             |        |             |          |        |         |     |     |      |        |            |           |          |
|-----------------|-----------|----|-----------|-----------|---------|-------------|--------|-------------|----------|--------|---------|-----|-----|------|--------|------------|-----------|----------|
| SeqId_18841_1   | SERPINB13 | 18 | 61254223  | 61271873  | 0.03032 | rs75137858  | 2.77   | rs77157727  | 0.01306  | -10.29 | -1.73   | 33  | 33  | enet | 0.015  | 4.5E-25    | 1.352     | 0.1763   |
| SeqId_6521_35   | NPTX2     | 7  | 98246597  | 98259181  | 0.06153 | rs11762534  | 2.408  | rs12673464  | 0.037783 | 16.56  | -0.805  | 56  | 56  | enet | 0.053  | 1.5E-87    | -1.3515   | 0.176526 |
| SeqId_5637_81   | NTNG1     | 1  | 107682629 | 108027545 | 0.18175 | rs3813221   | 2.447  | rs76374975  | 0.147    | 32.64  | 1.092   | 39  | 39  | enet | 0.16   | 4.4E-276   | 1.351     | 0.176698 |
| SeqId_15364_101 | APOC1     | 19 | 45417504  | 45422606  | 0.06832 | rs6509208   | 3.826  | rs8106813   | 0.02889  | 15.45  | 1.6711  | 52  | 52  | enet | 0.043  | 2.3E-71    | 1.34978   | 0.177086 |
| SeqId_12508_9   | VP524     | 2  | 86730553  | 86790602  | 0.02648 | rs2044232   | -1.818 | rs59613942  | 0.02334  | 13.25  | -1.597  | 37  | 37  | enet | 0.03   | 1.5E-50    | -1.3466   | 0.178    |
| SeqId_7145_1    | ITIH3     | 3  | 52828784  | 52843025  | 0.37047 | rs62253654  | -2.54  | rs2535629   | 0.211    | 39.05  | -2.019  | 51  | 51  | enet | 0.29   | 0          | -1.34425  | 0.179    |
| SeqId_3000_66   | MBL2      | 10 | 54525140  | 54532544  | 0.5289  | rs150533883 | 2.37   | rs7899547   | 0.273513 | 44.43  | -0.454  | 65  | 65  | enet | 0.45   | 0          | -1.343022 | 0.1793   |
| SeqId_15486_126 | AOC1      | 7  | 150521715 | 150558592 | 0.4716  | rs1049742   | -3.162 | rs10452848  | 0.288496 | 45.64  | 0.286   | 172 | 172 | enet | 0.44   | 0          | 1.3415    | 0.179766 |
| SeqId_11969_5   | S100A2    | 1  | 153533584 | 153540366 | 0.01352 | rs116793967 | -1.341 | rs58056804  | 0.00869  | -8.32  | -1.202  | 16  | 16  | enet | 0.0095 | 7.7E-17    | 1.341     | 0.179936 |
| SeqId_3554_24   | ADIPOQ    | 3  | 186560493 | 186576252 | 0.11006 | rs5030068   | 2.95   | rs143257534 | 0.0358   | -17.47 | -1.95   | 43  | 43  | enet | 0.11   | 3.3E-176   | 1.34082   | 0.18     |
| SeqId_14271_23  | RAB6B     | 3  | 133543079 | 133614726 | 0.11873 | rs2715633   | 2.18   | rs9813363   | 0.125    | -30.29 | 1.266   | 26  | 26  | enet | 0.14   | 1.5E-231   | -1.33794  | 0.181    |
| SeqId_11696_7   | CRABP2    | 1  | 156669398 | 156675608 | 0.21736 | rs61813461  | -1.867 | rs3806412   | 0.142    | 32     | -1.421  | 15  | 15  | enet | 0.15   | 3.4E-263   | -1.3335   | 0.182369 |
| SeqId_3326_58   | CADM1     | 11 | 115039938 | 115375675 | 0.0386  | rs150039549 | -2.939 | rs17564430  | 0.031743 | 15.35  | -0.873  | 54  | 54  | enet | 0.039  | 2.9E-65    | -1.33287  | 0.183    |
| SeqId_17460_51  | MX1       | 21 | 42791947  | 42841998  | 0.08458 | rs8133682   | 1.56   | rs464783    | 0.08091  | -24.27 | 1.385   | 38  | 38  | enet | 0.1    | 2E-175     | -1.3305   | 0.183    |
| SeqId_2436_49   | CXCL16    | 17 | 4636828   | 4643223   | 0.03332 | rs11658971  | 2.479  | rs7214635   | 0.014744 | 11.13  | 0.214   | 36  | 36  | enet | 0.034  | 1.8E-56    | 1.3291    | 0.18382  |
| SeqId_18830_1   | ITLN1     | 1  | 160846330 | 160854970 | 0.00918 | rs191629893 | 2.017  | rs61803286  | 0.00341  | 5.84   | 0.408   | 39  | 39  | enet | 0.0037 | 0.00000013 | -1.3289   | 0.183885 |
| SeqId_7856_51   | FAM151A   | 1  | 55074854  | 55089229  | 0.11698 | rs10493176  | 2.615  | rs11206398  | 0.0408   | 17.31  | 0.328   | 143 | 143 | enet | 0.083  | 8.8E-138   | -1.3267   | 0.184602 |
| SeqId_2855_49   | MAPK3     | 16 | 30125426  | 30134827  | 0.08398 | rs11865086  | 1.88   | rs9932466   | 0.17198  | 35.6   | 0.931   | 37  | 37  | enet | 0.21   | 0          | 1.323     | 0.186    |
| SeqId_6379_62   | ADAMTSL2  | 9  | 136397286 | 136440641 | 0.02161 | rs11244064  | 4.983  | rs10120207  | 0.00162  | -6     | -0.097  | 59  | 59  | enet | 0.015  | 2.2E-25    | 1.3231    | 0.186    |
| SeqId_13460_4   | CHAD      | 17 | 48541857  | 48546267  | 0.0134  | rs79575045  | 2.098  | rs184613584 | 0.007647 | -7.65  | 0.326   | 17  | 17  | enet | 0.008  | 1.5E-14    | -1.3198   | 0.18691  |
| SeqId_5005_4    | MAPK12    | 22 | 50683879  | 50700145  | 0.0347  | rs9617126   | 3.1    | rs2272855   | 0.01889  | -11.81 | 2.003   | 62  | 62  | enet | 0.024  | 2.5E-40    | -1.3095   | 0.19035  |
| SeqId_9018_38   | PCDH10    | 4  | 134070449 | 134129761 | 0.05546 | rs2063156   | 2.494  | rs4864200   | 0.02446  | -13.89 | -0.47   | 86  | 86  | enet | 0.06   | 4.4E-100   | -1.309    | 0.191    |
| SeqId_6920_1    | GFRAL     | 6  | 55192267  | 55267291  | 0.09626 | rs4523089   | -2.98  | rs73439277  | 0.01379  | 12.13  | -0.755  | 127 | 127 | enet | 0.069  | 7E-115     | -1.309    | 0.191    |
| SeqId_9754_33   | NQO2      | 6  | 2988221   | 3019989   | 0.34602 | rs144691990 | 2.4    | rs9378755   | 0.18041  | -35.35 | -1.8622 | 95  | 95  | enet | 0.41   | 0          | 1.306     | 0.191    |
| SeqId_2381_52   | C5        | 9  | 123714613 | 123812553 | 0.09977 | rs13290556  | 2.427  | rs1035029   | 0.02449  | 13.38  | 0.104   | 35  | 35  | enet | 0.067  | 1.8E-111   | 1.3066    | 0.191    |
| SeqId_8351_17   | PRSS57    | 19 | 685546    | 695498    | 0.14704 | rs112578597 | -1.825 | rs2301741   | 0.055174 | 20.01  | 1.747   | 39  | 39  | enet | 0.061  | 4.7E-101   | 1.30596   | 0.191566 |
| SeqId_13666_222 | CA10      | 17 | 49707674  | 50237377  | 0.09418 | rs12449528  | -2.226 | rs117399000 | 0.03123  | -15.06 | 0.559   | 43  | 43  | enet | 0.063  | 9.5E-104   | -1.3001   | 0.19356  |
| SeqId_11531_24  | C10orf54  | 10 | 73507313  | 73533277  | 0.12444 | rs117140087 | -2.31  | rs10762476  | 0.082794 | 24.49  | 0.999   | 26  | 26  | enet | 0.11   | 1.4E-189   | 1.297572  | 0.1944   |
| SeqId_9468_8    | LMAN2     | 5  | 176758568 | 176778669 | 0.05878 | rs10056854  | -2.251 | rs35582636  | 0.00311  | 6.65   | 1.196   | 61  | 61  | enet | 0.021  | 1.4E-35    | 1.29639   | 0.19484  |
| SeqId_13133_73  | LTBP4     | 19 | 41098789  | 41135723  | 0.03877 | rs118163583 | -3.564 | rs34093919  | 0.014975 | -10.55 | -0.946  | 54  | 54  | enet | 0.02   | 3E-33      | -1.29494  | 0.195341 |
| SeqId_6415_90   | CPN2      | 3  | 194060497 | 194072057 | 0.31589 | rs7647309   | 1.7    | rs11711157  | 0.229    | -40.65 | 1.128   | 65  | 65  | enet | 0.29   | 0          | -1.29169  | 0.196    |
| SeqId_5089_11   | IL7R      | 5  | 35852797  | 35879705  | 0.00915 | rs114880217 | 2.175  | rs10058572  | 0.00975  | -8.75  | 1.29    | 16  | 1   | top1 | 0.0098 | 2.6E-17    | -1.2903   | 0.19695  |
| SeqId_7810_20   | C1QTNF5   | 11 | 119209652 | 119211650 | 0.04326 | rs2248863   | -1.275 | rs2509656   | 0.013078 | 10.8   | -1.125  | 9   | 9   | enet | 0.031  | 1.2E-51    | -1.28909  | 0.197    |
| SeqId_13124_20  | ISLR2     | 15 | 74392652  | 74430881  | 0.09191 | rs117625306 | -2.32  | rs11632698  | 0.02926  | -16.37 | 0.34    | 64  | 64  | enet | 0.1    | 1.4E-171   | -1.2895   | 0.1972   |
| SeqId_10627_87  | APLP2     | 11 | 129938042 | 130014706 | 0.01974 | rs3808986   | -1.43  | rs61349706  | 0.014538 | 11.13  | -1.103  | 32  | 32  | enet | 0.015  | 1.8E-26    | -1.28751  | 0.198    |
| SeqId_5632_6    | CRTAC1    | 10 | 99624757  | 99790585  | 0.25116 | rs146472753 | -2.8   | rs684225    | 0.06637  | -21.95 | -1.764  | 113 | 113 | enet | 0.11   | 2.1E-190   | 1.284949  | 0.1988   |
| SeqId_2813_11   | AGRP      | 16 | 67516474  | 67517450  | 0.05001 | rs74900413  | 2.93   | rs114322795 | 0.03163  | 15.41  | -1.111  | 28  | 28  | enet | 0.045  | 8.9E-75    | -1.2824   | 0.2      |
| SeqId_4979_34   | DPT       | 1  | 168664706 | 168698444 | 0.16255 | rs111307211 | 4.555  | rs1018454   | 0.0913   | 25.7   | -2.816  | 121 | 121 | enet | 0.16   | 2.7E-282   | -1.2808   | 0.200277 |
| SeqId_4309_59   | TPH1      | 12 | 6976283   | 6980112   | 0.03596 | rs66621175  | -1.276 | rs66621175  | 0.051657 | -18.47 | -1.276  | 3   | 1   | top1 | 0.052  | 2.2E-85    | 1.276     | 0.20196  |
| SeqId_2580_83   | MPO       | 17 | 56347216  | 56358296  | 0.12069 | rs6503841   | 2.628  | rs75394768  | 0.029912 | -15.37 | -0.916  | 50  | 50  | enet | 0.077  | 4.6E-127   | 1.2751    | 0.20229  |
| SeqId_13988_67  | NMRAL1    | 16 | 4511692   | 4545764   | 0.07722 | rs2386888   | 1.94   | rs11557236  | 0.04037  | -17.13 | -1.314  | 48  | 48  | enet | 0.043  | 1.6E-70    | 1.2727    | 0.203    |
| SeqId_9525_1    | PTK7      | 6  | 43044045  | 43129457  | 0.0594  | rs142656572 | 2.65   | rs140927825 | 0.02079  | 12.41  | 0.313   | 124 | 124 | enet | 0.033  | 2.7E-54    | 1.274     | 0.203    |
| SeqId_13093_6   | SECTM1    | 17 | 80278900  | 80291950  | 0.08418 | rs73999892  | 1.718  | rs4789684   | 0.059963 | 20.87  | -0.5825 | 45  | 45  | enet | 0.086  | 4.6E-143   | -1.273    | 0.20302  |
| SeqId_12569_25  | CCT5      | 5  | 10250041  | 10266501  | 0.00744 | rs116470800 | 1.632  | rs3844305   | 0.00717  | -7.44  | -1.27   | 27  | 1   | top1 | 0.0072 | 3.5E-13    | 1.27      | 0.20408  |
| SeqId_2742_68   | SIGLEC7   | 19 | 51645556  | 51656783  | 0.25818 | rs143914429 | 3.156  | rs12983058  | 0.049431 | 18.92  | -1.077  | 103 | 103 | enet | 0.12   | 2E-206     | -1.26936  | 0.204313 |
| SeqId_13720_95  | PRTN3     | 19 | 840999    | 848175    | 0.03426 | rs1060442   | 1.877  | rs1060442   | 0.005011 | -8.06  | 1.877   | 28  | 28  | enet | 0.018  | 4.1E-30    | -1.26913  | 0.204394 |
| SeqId_9715_15   | IGSF3     | 1  | 117117021 | 117210377 | 0.06043 | rs6658522   | -2.997 | rs655735    | 0.0203   | -12.19 | 1.844   | 79  | 79  | enet | 0.037  | 1.1E-61    | -1.2657   | 0.205627 |
| SeqId_13697_51  | GPD1      | 12 | 50497765  | 50505096  | 0.04932 | rs77546610  | 3.144  | rs75732302  | 0.003378 | -6.28  | 0.42    | 121 | 121 | enet | 0.011  | 2.2E-19    | -1.26478  | 0.20595  |
| SeqId_2994_71   | IL1RL2    | 2  | 102803466 | 102856462 | 0.11557 | rs1997504   | -2.831 | rs1960510   | 0.05147  | -19.8  | 1.504   | 59  | 59  | enet | 0.099  | 1.9E-165   | 1.2649    | 0.206    |
| SeqId_15511_37  | NPTXR     | 22 | 39214457  | 39240033  | 0.14449 | rs117773903 | -2.6   | rs4821839   | 0.09348  | 26.21  | -2.401  | 89  | 89  | enet | 0.12   | 2.9E-207   | -1.258    | 0.20838  |
| SeqId_4546_27   | ADGRE2    | 19 | 14843204  | 14889372  | 0.38598 | rs116943668 | 2.415  | rs67023356  | 0.085624 | 24.9   | 1.677   | 107 | 107 | enet | 0.16   | 1.5E-281   | 1.25554   | 0.209281 |
| SeqId_13682_47  | CSF1R     | 5  | 149432854 | 149492935 | 0.10384 | rs17600407  | -2.412 | rs572474264 | 0.021    | -12.51 | -0.098  | 56  | 56  | enet | 0.055  | 1E-90      | 1.25095   | 0.21095  |
| SeqId_11278_4   | COL11A2   | 6  | 33130458  | 33160276  | 0.21099 | rs6903433   | -3.7   | rs3129205   | 0.0647   | 21.99  | -0.443  | 75  | 75  | enet | 0.16   | 2.2E-282   | -1.247    | 0.212    |

|                 |             |    |           |           |         |             |        |             |          |        |        |     |     |      |         |           |           |          |
|-----------------|-------------|----|-----------|-----------|---------|-------------|--------|-------------|----------|--------|--------|-----|-----|------|---------|-----------|-----------|----------|
| SeqId_3220_40   | RET         | 10 | 43572512  | 43625799  | 0.10968 | rs3004258   | 2.81   | rs2506008   | 0.097101 | 26.57  | -1.737 | 116 | 116 | enet | 0.15    | 3.4E-250  | -1.241139 | 0.2146   |
| SeqId_19504_22  | DTYMK       | 2  | 242615162 | 242626359 | 0.12837 | rs79349366  | 1.914  | rs142497237 | 0.02931  | 14.71  | -1.161 | 63  | 63  | enet | 0.071   | 1.4E-117  | -1.2369   | 0.216    |
| SeqId_17345_12  | ZADH2       | 18 | 72907088  | 72921094  | 0.01927 | rs12969004  | -1.32  | rs12969004  | 0.01097  | -9.78  | -1.321 | 3   | 3   | enet | 0.012   | 2.8E-21   | 1.2377    | 0.2161   |
| SeqId_3066_12   | LGALS3      | 14 | 55590828  | 55612141  | 0.05297 | rs79531292  | -2.136 | rs118083722 | 0.103074 | -27.48 | -2.002 | 48  | 48  | enet | 0.12    | 1.3E-209  | 1.2309    | 0.218    |
| SeqId_4962_52   | CDNF        | 10 | 14861244  | 14880574  | 0.14044 | rs142562132 | 2.09   | rs188293941 | 0.017523 | -12.66 | 0.3173 | 118 | 118 | enet | 0.068   | 2.60E-112 | -1.229098 | 0.219    |
| SeqId_7861_9    | ROR2        | 9  | 94325373  | 94712510  | 0.12891 | rs9409462   | -2.399 | rs10118816  | 0.04988  | 19.16  | -2.047 | 59  | 59  | enet | 0.12    | 7.30E-203 | -1.2237   | 2.21E-01 |
| SeqId_4960_72   | ANXA1       | 9  | 75766781  | 75785309  | 0.03397 | rs7018979   | 2.081  | rs2795108   | 0.0122   | 10.29  | 1.616  | 29  | 29  | enet | 0.021   | 6.80E-35  | 1.2221    | 2.22E-01 |
| SeqId_4154_57   | SELP        | 1  | 169558087 | 169599431 | 0.3708  | rs114137203 | 9.137  | rs6136      | 8.02E-02 | -24.12 | -1.324 | 34  | 34  | enet | 0.12    | 1.60E-204 | 1.2211    | 0.222065 |
| SeqId_7933_75   | ADAM22      | 7  | 87563458  | 87832204  | 0.16205 | rs149385940 | 2.658  | rs12670575  | 0.099121 | -26.83 | 1.128  | 84  | 84  | enet | 0.15    | 7.40E-259 | -1.2161   | 0.223962 |
| SeqId_5085_18   | IL20RA      | 6  | 137321108 | 137366317 | 0.01758 | rs78994374  | 2.61   | rs1775296   | 0.00594  | -6.81  | -1.259 | 45  | 45  | enet | 0.0098  | 2.40E-17  | 1.217     | 2.24E-01 |
| SeqId_9484_75   | DSG2        | 18 | 29078140  | 29128971  | 0.12695 | rs72929966  | -2.48  | rs1460602   | 0.05727  | -20.58 | 0.638  | 91  | 91  | enet | 0.1     | 1.40E-166 | -1.212    | 0.2255   |
| SeqId_8427_118  | RSPO3       | 6  | 127439816 | 127520626 | 0.08413 | rs62437084  | -2.12  | rs1892172   | 0.12358  | 29.94  | 0.915  | 49  | 49  | enet | 0.13    | 1.60E-229 | 1.206     | 2.28E-01 |
| SeqId_17766_5   | NCF1        | 7  | 74188309  | 74203720  | 0.28903 | rs62476375  | 2.701  | rs148581667 | 0.094297 | 20.11  | 0.8245 | 128 | 128 | enet | 0.17    | 2.80E-289 | 1.2029    | 0.229031 |
| SeqId_2571_12   | IGFBP3      | 7  | 45951844  | 45961473  | 0.12873 | rs1872584   | -2.775 | rs148562589 | 0.038664 | 16.99  | 0.653  | 48  | 48  | enet | 0.061   | 3.50E-100 | 1.2025    | 0.229175 |
| SeqId_2658_27   | NTRK3       | 15 | 88402982  | 88799999  | 0.08887 | rs7180011   | -2.743 | rs28714295  | 0.04508  | 18.08  | -0.003 | 61  | 61  | enet | 0.074   | 1.50E-122 | 1.2006    | 0.2299   |
| SeqId_4996_66   | HRG         | 3  | 186378005 | 186396023 | 0.31933 | rs112096058 | 2.94   | rs60531302  | 2.77E-01 | 43.88  | -0.435 | 79  | 79  | enet | 0.36    | 0         | -1.20107  | 2.30E-01 |
| SeqId_12652_37  | AHCYL1      | 1  | 110527387 | 110566364 | 0.00916 | rs2274568   | 1.914  | rs7517624   | 9.52E-04 | 5.07   | -0.704 | 24  | 24  | enet | 0.0034  | 3.70E-07  | -1.1991   | 0.230473 |
| SeqId_3299_29   | CNTN5       | 11 | 98891679  | 100229616 | 0.13486 | rs1663423   | -2.34  | rs4528296   | 0.069459 | -22.78 | -0.723 | 56  | 56  | enet | 0.12    | 2.70E-210 | 1.19813   | 2.31E-01 |
| SeqId_17694_32  | PSME2       | 14 | 24612571  | 24616779  | 0.06574 | rs137918735 | -1.863 | rs2236352   | 0.035439 | 16.46  | -1.524 | 28  | 28  | enet | 0.044   | 2.70E-72  | -1.1987   | 2.31E-01 |
| SeqId_2977_7    | EDAR        | 2  | 109510927 | 109605828 | 0.14637 | rs62452245  | 2.388  | rs75147553  | 0.061    | 20.99  | 1.866  | 63  | 63  | enet | 0.11    | 2.60E-193 | 1.1983    | 2.31E-01 |
| SeqId_5076_53   | EPHA10      | 1  | 38179552  | 38230805  | 0.02052 | rs1809328   | 1.986  | rs12074120  | 7.85E-03 | 8.57   | -0.432 | 43  | 43  | enet | 0.015   | 2.10E-26  | -1.1968   | 0.23139  |
| SeqId_17156_72  | DCLK1       | 13 | 36342789  | 36705519  | 0.04553 | rs9546331   | 2.13   | rs7339267   | 0.02836  | 15.24  | 1.282  | 67  | 67  | enet | 0.041   | 4.90E-67  | 1.197     | 0.2315   |
| SeqId_6617_12   | FCRL6       | 1  | 159770301 | 159786047 | 0.06467 | rs876538    | -1.929 | rs6656979   | 6.62E-02 | -22.28 | 1.253  | 46  | 46  | enet | 0.077   | 6.90E-128 | -1.1963   | 0.231591 |
| SeqId_16307_22  | UNC5D       | 8  | 35092993  | 35654068  | 0.06753 | rs193231189 | 2.119  | rs3108622   | 0.037601 | -17.3  | 1.043  | 59  | 59  | enet | 0.061   | 5.60E-101 | -1.1955   | 0.23189  |
| SeqId_12738_43  | NISCH       | 3  | 52489134  | 52527084  | 0.00337 | rs143380194 | 2.25   | rs4687616   | 7.84E-04 | 3.95   | -1.196 | 31  | 1   | top1 | 0.00078 | 0.0099    | -1.196    | 2.32E-01 |
| SeqId_2737_22   | NOV         | 8  | 120428686 | 120436674 | 0.01813 | rs17793097  | 2.414  | rs17793097  | 0.011459 | 9.81   | 2.414  | 27  | 27  | enet | 0.016   | 1.10E-27  | 1.1946    | 0.232235 |
| SeqId_7916_10   | S100A7      | 1  | 153430220 | 153433127 | 0.33112 | rs12408942  | 2.304  | rs9436093   | 2.13E-01 | -39.24 | 1.069  | 37  | 37  | enet | 0.23    | 0         | -1.1928   | 0.232932 |
| SeqId_3806_55   | EPHA5       | 4  | 66185281  | 66536213  | 0.04873 | rs60472024  | 2.322  | rs28542715  | 0.017039 | 12.72  | -1.47  | 56  | 56  | enet | 0.044   | 1.40E-72  | -1.1934   | 2.33E-01 |
| SeqId_10708_3   | GNRH2       | 20 | 3024268   | 3026393   | 0.00882 | rs6084207   | -1.55  | rs6138990   | 0.006124 | -6.98  | -1.191 | 37  | 1   | top1 | 0.0061  | 1.70E-11  | 1.191     | 0.23365  |
| SeqId_17329_2   | BDH2        | 4  | 103998749 | 104021027 | 0.04677 | rs78336913  | 2.068  | rs78336913  | 0.031242 | 16.45  | 2.068  | 57  | 57  | enet | 0.045   | 8.40E-74  | 1.1909    | 2.34E-01 |
| SeqId_15300_66  | CCDC134     | 22 | 42196683  | 42228168  | 0.07995 | rs75762735  | -2.12  | rs11090057  | 0.05864  | 20.86  | 0.913  | 40  | 40  | enet | 0.079   | 1.80E-130 | 1.1894    | 0.23428  |
| SeqId_9326_33   | ITIH2       | 10 | 7745279   | 7791483   | 0.15906 | rs77086133  | 2.69   | rs17142907  | 0.225512 | 40.37  | 1.076  | 53  | 53  | enet | 0.23    | 0         | 1.188325  | 0.2347   |
| SeqId_14246_50  | DOK2        | 8  | 21766384  | 21771201  | 0.01841 | rs112252411 | -2.849 | rs2054713   | 0.002794 | 6.63   | 1.01   | 60  | 60  | enet | 0.0088  | 1.00E-15  | -1.1879   | 0.234858 |
| SeqId_12378_71  | TAPBP       | 6  | 33267471  | 33282164  | 0.33074 | rs2071889   | 2.23   | rs1014779   | 0.09983  | -27.11 | 1.98   | 122 | 122 | enet | 0.17    | 4.70E-303 | -1.187    | 2.35E-01 |
| SeqId_18222_34  | SH3GLB2     | 9  | 131769315 | 131790610 | 0.10832 | rs35106422  | 2.564  | rs11537529  | 0.16306  | -34.34 | -0.826 | 46  | 46  | enet | 0.17    | 1.00E-301 | 1.1887    | 2.35E-01 |
| SeqId_2744_57   | IIGHG3 IGHG | 14 | 106202680 | 106209408 | 0.01878 | rs6576110   | -2.434 | rs11621145  | 0.013447 | 9.98   | -1.016 | 16  | 16  | enet | 0.015   | 3.80E-26  | -1.1827   | 2.37E-01 |
| SeqId_9185_15   | TFF1        | 21 | 43782391  | 43786644  | 0.0749  | rs34333540  | 1.28   | rs3761376   | 0.04698  | -18.44 | 1.08   | 33  | 33  | enet | 0.053   | 5.30E-87  | -1.1835   | 0.237    |
| SeqId_15585_304 | FBLN5       | 14 | 92335755  | 92414331  | 0.04077 | rs12589716  | -3.949 | rs2267994   | 0.009389 | 8.54   | 1.1076 | 75  | 75  | enet | 0.022   | 8.10E-37  | 1.1809    | 2.38E-01 |
| SeqId_17672_184 | GIF         | 11 | 59596746  | 59612972  | 0.00435 | rs150884181 | 1.176  | rs150884181 | 0.005492 | -6.49  | 1.176  | 4   | 1   | top1 | 0.0055  | 1.80E-10  | -1.176    | 2.40E-01 |
| SeqId_11516_7   | FABP1       | 2  | 88422501  | 88427581  | 0.04625 | rs79992736  | 1.788  | rs2241883   | 0.0356   | -16.14 | -1.174 | 5   | 1   | top1 | 0.036   | 5.20E-59  | 1.174     | 2.40E-01 |
| SeqId_3495_15   | CXCL6       | 4  | 74702357  | 74714781  | 0.26505 | rs62312151  | -3.17  | rs16850073  | 0.179899 | 36.05  | 0.719  | 38  | 38  | enet | 0.19    | 0         | 1.1728    | 2.41E-01 |
| SeqId_12386_11  | RNPEP       | 1  | 201951500 | 201975275 | 0.38573 | rs12086240  | -3.468 | rs6689634   | 1.22E-01 | 29.8   | 0.578  | 130 | 130 | enet | 0.3     | 0         | -1.1712   | 0.241529 |
| SeqId_4479_14   | SERPING1    | 11 | 57364860  | 57386644  | 0.28042 | rs144052446 | 2.615  | rs10896631  | 0.3255   | -48.49 | 1.142  | 58  | 58  | enet | 0.35    | 0         | -1.16688  | 2.43E-01 |
| SeqId_2925_9    | SERPINE1    | 7  | 100770385 | 100782528 | 0.02664 | rs221786    | 3.844  | rs2227631   | 0.016395 | -10.97 | 0.51   | 59  | 59  | enet | 0.02    | 4.60E-34  | -1.1668   | 0.243284 |
| SeqId_16809_1   | NME4        | 16 | 446725    | 460367    | 0.04953 | rs7188886   | -2.35  | rs6600214   | 0.01225  | 9.79   | -0.25  | 66  | 66  | enet | 0.027   | 4.40E-45  | -1.164    | 2.44E-01 |
| SeqId_6706_18   | ALPPL2      | 2  | 233271554 | 233275424 | 0.00999 | rs12478529  | 1.284  | rs35458538  | 0.0059   | 7.04   | 1.166  | 9   | 1   | top1 | 0.0059  | 3.90E-11  | 1.1655    | 2.44E-01 |
| SeqId_10818_36  | SMPD1       | 11 | 6411670   | 6416228   | 0.26871 | rs117842668 | 2.175  | rs1050239   | 0.129988 | -30.64 | 0.607  | 63  | 63  | enet | 0.16    | 3.10E-282 | -1.16312  | 2.45E-01 |
| SeqId_13740_51  | FRZB        | 2  | 183698002 | 183731365 | 0.42053 | rs189723305 | 2.555  | rs288326    | 0.08248  | 24.48  | 0.279  | 123 | 123 | enet | 0.23    | 0         | -1.1618   | 2.45E-01 |
| SeqId_17164_15  | ANXA4       | 2  | 69871557  | 70054244  | 0.04655 | rs62135760  | -1.992 | rs2228203   | 0.08322  | -24.69 | -0.852 | 34  | 34  | enet | 0.085   | 2.80E-142 | 1.1631    | 2.45E-01 |
| SeqId_5132_71   | IL27RA      | 19 | 14142574  | 14164030  | 0.46807 | rs12609197  | 2.542  | rs35026308  | 0.279426 | -44.92 | -1.116 | 66  | 66  | enet | 0.29    | 0         | 1.15825   | 0.246764 |
| SeqId_3003_29   | NCR3        | 6  | 31556672  | 31560783  | 0.27617 | rs2106074   | -4.29  | rs986475    | 0.06555  | -21.8  | -0.942 | 107 | 107 | enet | 0.11    | 5.60E-188 | 1.157     | 2.47E-01 |
| SeqId_18182_24  | PCK1        | 20 | 56136136  | 56143177  | 0.04566 | rs6128058   | -1.9   | rs2070756   | 0.022954 | 13.59  | -0.997 | 20  | 20  | enet | 0.041   | 1.80E-68  | -1.1576   | 0.24704  |
| SeqId_16918_198 | TLR3        | 4  | 186990309 | 187009227 | 0.36105 | rs6839415   | -5.732 | rs3775291   | 0.255351 | -42.95 | 1.035  | 73  | 73  | enet | 0.34    | 0         | -1.1563   | 2.48E-01 |

|                 |           |    |           |           |         |             |        |             |          |        |         |     |     |      |        |           |           |          |
|-----------------|-----------|----|-----------|-----------|---------|-------------|--------|-------------|----------|--------|---------|-----|-----|------|--------|-----------|-----------|----------|
| SeqId_12703_6   | NEK7      | 1  | 198126124 | 198291550 | 0.04297 | rs12080584  | 2.022  | rs142662761 | 1.89E-02 | -11.8  | -1.152  | 11  | 1   | top1 | 0.019  | 6.50E-32  | 1.152     | 0.249321 |
| SeqId_8013_9    | LMAN2L    | 2  | 97371666  | 97405801  | 0.02994 | rs2280355   | -1.722 | rs58361269  | 0.02616  | 14.04  | -1.152  | 9   | 9   | enet | 0.026  | 8.60E-44  | -1.1476   | 2.51E-01 |
| SeqId_14131_37  | EFNB2     | 13 | 107142093 | 107188010 | 0.04744 | rs1485626   | -2.24  | rs59166663  | 0.018    | 11.75  | 2.042   | 92  | 92  | enet | 0.041  | 1.80E-68  | 1.145     | 0.2521   |
| SeqId_6461_54   | APOC3     | 11 | 116700422 | 116703788 | 0.01383 | rs3825041   | 2.231  | rs5141      | 0.003457 | -6.93  | 1.2     | 20  | 20  | enet | 0.0093 | 1.60E-16  | -1.14171  | 2.54E-01 |
| SeqId_9962_1    | CDHR5     | 11 | 616577    | 626078    | 0.02256 | rs74046658  | -2.257 | rs7108757   | 0.014275 | 10.59  | -0.633  | 33  | 33  | enet | 0.017  | 2.50E-29  | -1.13424  | 2.57E-01 |
| SeqId_8299_66   | LILRA4    | 19 | 54844456  | 54850433  | 0.21418 | rs147598737 | 2.616  | rs12976217  | 0.07329  | 23.25  | 0.879   | 38  | 38  | enet | 0.093  | 4.40E-155 | 1.13263   | 0.257371 |
| SeqId_9906_21   | SPOCK3    | 4  | 167654535 | 168155947 | 0.21002 | rs1600103   | 3.151  | rs35065151  | 0.224187 | 40.26  | 1.311   | 69  | 69  | enet | 0.25   | 0         | 1.1309    | 2.58E-01 |
| SeqId_14618_26  | VOPP1     | 7  | 55503749  | 55640681  | 0.01666 | rs9642585   | 3.26   | rs117042408 | 0.014339 | -10.22 | -0.073  | 20  | 20  | enet | 0.017  | 7.50E-29  | 1.1308    | 0.258121 |
| SeqId_8973_23   | FCRL4     | 1  | 157543537 | 157567875 | 0.40663 | rs115489340 | 1.985  | rs11582663  | 2.64E-01 | -43.69 | -0.861  | 58  | 58  | enet | 0.3    | 0         | 1.1302    | 0.258398 |
| SeqId_13118_5   | SMOC1     | 14 | 70320848  | 70499083  | 0.13356 | rs1275828   | 2.35   | rs1958078   | 0.071051 | 22.67  | -0.5811 | 96  | 96  | enet | 0.12   | 5.90E-210 | 1.1281    | 2.59E-01 |
| SeqId_3389_7    | SERPINA5  | 14 | 95027779  | 95059455  | 0.026   | rs28929474  | 3.884  | rs10133793  | 0.010214 | 8.82   | -0.181  | 48  | 48  | enet | 0.016  | 6.30E-28  | 1.1288    | 2.59E-01 |
| SeqId_6462_12   | TIMP4     | 3  | 12194568  | 12200412  | 0.07576 | rs111833688 | -2     | rs184262    | 8.61E-02 | 25.12  | -1.213  | 46  | 46  | enet | 0.11   | 1.50E-192 | -1.12897  | 2.59E-01 |
| SeqId_11388_75  | WFDC2     | 20 | 44098393  | 44110172  | 0.01647 | rs6032344   | 2.41   | rs6032226   | 0.003094 | -6.07  | 0.329   | 28  | 28  | enet | 0.0093 | 1.30E-16  | -1.1286   | 0.25908  |
| SeqId_15514_26  | BCHE      | 3  | 165490692 | 165555250 | 0.06265 | rs143756012 | 1.8    | rs73165060  | 5.83E-02 | -21.34 | 0.716   | 51  | 51  | enet | 0.093  | 5.20E-156 | -1.12711  | 2.60E-01 |
| SeqId_18373_13  | RDX       | 11 | 109735021 | 110167437 | 0.01341 | rs9633913   | -2.105 | rs7935163   | 0.002671 | -5.48  | -0.815  | 51  | 51  | enet | 0.0055 | 1.90E-10  | 1.12304   | 2.61E-01 |
| SeqId_17782_23  | ACAA1     | 3  | 38144620  | 38178733  | 0.09243 | rs116805069 | -2.6   | rs2229528   | 4.29E-02 | -17.66 | 1.063   | 49  | 49  | enet | 0.046  | 5.20E-76  | -1.123    | 2.61E-01 |
| SeqId_13624_17  | NADK      | 1  | 1682671   | 1711896   | 0.0276  | rs12567685  | 1.289  | rs4648629   | 4.58E-02 | -18.51 | -0.952  | 29  | 29  | enet | 0.047  | 7.00E-77  | 1.1207    | 0.262436 |
| SeqId_18295_102 | GRHPR     | 9  | 37422663  | 37436987  | 0.09237 | rs12379335  | -2.14  | rs4878690   | 0.05844  | 20.59  | -0.8    | 60  | 60  | enet | 0.064  | 1.10E-105 | -1.1203   | 2.63E-01 |
| SeqId_4220_39   | FER       | 5  | 108083542 | 108532542 | 0.03782 | rs62362299  | -2.186 | rs79536589  | 1.97E-02 | 12.42  | 0.684   | 52  | 52  | enet | 0.03   | 1.20E-50  | 1.11767   | 0.26371  |
| SeqId_7980_72   | B3GNT2    | 2  | 62423250  | 62451866  | 0.04809 | rs62179413  | 2.629  | rs34361686  | 0.02153  | 13.95  | 1.023   | 72  | 72  | enet | 0.051  | 2.90E-84  | -1.1145   | 2.65E-01 |
| SeqId_5509_7    | EGF       | 4  | 110834039 | 110934922 | 0.05944 | rs74344680  | -2.523 | rs10029654  | 0.064586 | 21.75  | -1.139  | 38  | 38  | enet | 0.068  | 5.40E-113 | -1.1141   | 2.65E-01 |
| SeqId_9266_1    | TREM1     | 6  | 41235664  | 41254420  | 0.18034 | rs78433713  | 2.23   | rs2234243   | 0.12285  | -29.82 | -0.557  | 107 | 107 | enet | 0.23   | 0         | 1.11      | 2.67E-01 |
| SeqId_17384_110 | PFKM      | 12 | 48498922  | 48540187  | 0.00611 | rs7960122   | -1.636 | rs3742074   | 0.003959 | 6.37   | -0.772  | 29  | 29  | enet | 0.0069 | 9.20E-13  | -1.10697  | 0.26831  |
| SeqId_8989_40   | SCUBE1    | 22 | 43593286  | 43739378  | 0.05513 | rs150081595 | -2.46  | rs13053545  | 0.01369  | 10.9   | 0.023   | 68  | 68  | enet | 0.038  | 5.60E-63  | -1.1061   | 0.26867  |
| SeqId_9251_28   | MAN2B2    | 4  | 6576916   | 6625089   | 0.31372 | rs7685745   | 3.088  | rs2301790   | 0.416168 | 54.8   | -1.248  | 39  | 39  | enet | 0.44   | 0         | -1.106    | 2.69E-01 |
| SeqId_13472_35  | HDHD2     | 18 | 44633779  | 44676871  | 0.17178 | rs191751997 | -3.06  | rs79231363  | 0.18418  | 36.68  | 1.637   | 106 | 106 | enet | 0.23   | 0         | 1.102     | 0.2704   |
| SeqId_19372_7   | MDGA2     | 14 | 47308832  | 48144808  | 0.31916 | rs113731710 | -2.856 | rs145891385 | 0.06205  | 21.22  | 1.051   | 218 | 218 | enet | 0.1    | 6.50E-171 | 1.0987    | 2.72E-01 |
| SeqId_3173_49   | NAAA      | 4  | 76834813  | 76862166  | 0.25311 | rs66828967  | -3.072 | rs28451731  | 0.243323 | -41.99 | -1.48   | 114 | 114 | enet | 0.37   | 0         | 1.0968    | 2.73E-01 |
| SeqId_5634_39   | POFUT1    | 20 | 30795683  | 30826461  | 0.25401 | rs57532134  | 1.97   | rs76143353  | 0.124336 | -29.97 | -1.227  | 18  | 18  | enet | 0.13   | 1.40E-213 | 1.0949    | 0.27355  |
| SeqId_15367_38  | BPIFB1    | 20 | 31861286  | 31897677  | 0.06088 | rs6087517   | 2.15   | rs2424963   | 0.047786 | -18.88 | 0.88182 | 65  | 65  | enet | 0.059  | 2.80E-98  | -1.0942   | 0.27385  |
| SeqId_8296_117  | KDEL2     | 11 | 108342839 | 108369111 | 0.28739 | rs76395038  | -2.257 | rs141379009 | 0.109415 | -28.42 | -0.559  | 76  | 76  | enet | 0.15   | 8.20E-261 | 1.09195   | 2.75E-01 |
| SeqId_12524_18  | SAT2      | 17 | 7529552   | 7531194   | 0.02866 | rs3027231   | -2.252 | rs13894     | 0.008789 | -9.71  | -1.352  | 18  | 18  | enet | 0.024  | 1.10E-40  | 1.0902    | 0.27563  |
| SeqId_2677_1    | EGFR      | 7  | 55086710  | 55279321  | 0.09007 | rs9642585   | 3.26   | rs75059484  | 0.010444 | -10.5  | 0.599   | 76  | 76  | enet | 0.058  | 9.60E-96  | -1.09     | 0.275695 |
| SeqId_5663_18   | PF4V1     | 4  | 74719013  | 74720200  | 0.00674 | rs11729931  | 3.242  | rs872914    | 0.006023 | -6.69  | 1.086   | 16  | 1   | top1 | 0.006  | 2.50E-11  | -1.086    | 2.77E-01 |
| SeqId_9950_229  | LAG3      | 12 | 6881678   | 6887621   | 0.03133 | rs3782735   | 2.246  | rs3782735   | 0.012072 | 10.06  | 2.246   | 23  | 23  | enet | 0.017  | 1.60E-29  | 1.08509   | 0.27788  |
| SeqId_15395_15  | GSTM1     | 1  | 110230436 | 110251661 | 0.37219 | rs116377258 | 3.336  | rs115929572 | 7.54E-02 | 24.34  | -0.989  | 182 | 182 | enet | 0.3    | 0         | 1.0827    | 0.278955 |
| SeqId_3366_51   | ECM1      | 1  | 150480538 | 150486265 | 0.26156 | rs4970935   | -2.343 | rs3737240   | 3.48E-01 | -50.13 | -1.739  | 49  | 49  | enet | 0.4    | 0         | 1.0792    | 0.28049  |
| SeqId_6359_50   | POMGNT2   | 3  | 43120724  | 43147571  | 0.06195 | rs13433902  | 2.74   | rs2002182   | 7.94E-02 | -24.04 | -1.049  | 19  | 19  | enet | 0.08   | 4.70E-133 | 1.07742   | 2.81E-01 |
| SeqId_6520_87   | MGP       | 12 | 15033798  | 15038791  | 0.05311 | rs12832328  | 2.935  | rs2900342   | 0.083105 | -25.06 | 0.566   | 74  | 74  | enet | 0.092  | 4.80E-154 | -1.07619  | 0.28184  |
| SeqId_9312_8    | AZGP1     | 7  | 99564343  | 99573665  | 0.09743 | rs79250696  | 2.52   | rs1981550   | 0.112418 | -28.56 | -1.1293 | 21  | 21  | enet | 0.11   | 6.00E-193 | 1.0731    | 0.283248 |
| SeqId_15615_8   | LILRB3    | 19 | 54720147  | 54727378  | 0.38178 | rs41514951  | 2.812  | rs12985875  | 0.093072 | 26.04  | 0.2242  | 275 | 275 | enet | 0.25   | 0         | 1.07285   | 0.283336 |
| SeqId_3045_72   | PTN       | 7  | 136912088 | 137028520 | 0.05357 | rs3800642   | -3.096 | rs10255150  | 0.040897 | 17.31  | -0.32   | 69  | 69  | enet | 0.051  | 1.20E-83  | -1.0726   | 0.283457 |
| SeqId_5105_2    | RTN4R     | 22 | 20228938  | 20270769  | 0.16685 | rs117474730 | -2.94  | rs75766     | 0.06115  | -21.05 | -1.464  | 73  | 73  | enet | 0.13   | 5.20E-217 | -1.0693   | 0.28496  |
| SeqId_2974_61   | CNTN1     | 12 | 41086241  | 41466217  | 0.163   | rs4768311   | 2.974  | rs11177604  | 0.036702 | 16.97  | 0.097   | 81  | 81  | enet | 0.11   | 3.20E-187 | -1.06483  | 0.28695  |
| SeqId_8346_9    | DPP7      | 9  | 140004998 | 140009629 | 0.15319 | rs34223864  | -3.437 | rs4880198   | 0.09399  | -26.1  | -0.765  | 105 | 105 | enet | 0.11   | 1.00E-182 | 1.0636    | 2.88E-01 |
| SeqId_6388_21   | CCDC126   | 7  | 23637001  | 23684327  | 0.08979 | rs112506627 | -1.359 | rs35121828  | 0.092782 | 26.08  | 0.6     | 27  | 27  | enet | 0.11   | 9.70E-181 | 1.0619    | 0.288263 |
| SeqId_2834_54   | KLK8      | 19 | 51499263  | 51505967  | 0.11625 | rs17800825  | -2.688 | rs10410942  | 0.07841  | -23.88 | 1.153   | 70  | 70  | enet | 0.11   | 4.40E-180 | -1.06121  | 0.288593 |
| SeqId_9282_12   | KRISP2    | 6  | 49660071  | 49681303  | 0.22014 | rs188220503 | -1.89  | rs555247    | 0.12361  | 29.92  | 0.356   | 82  | 82  | enet | 0.24   | 0         | -1.056    | 2.91E-01 |
| SeqId_10754_113 | PROK2     | 3  | 71820806  | 71834357  | 0.16007 | rs73092567  | -1.72  | rs7644362   | 1.70E-01 | -35.01 | 1.027   | 22  | 22  | enet | 0.19   | 0         | -1.05326  | 2.92E-01 |
| SeqId_13463_1   | PXDN      | 2  | 1635659   | 1748624   | 0.03503 | rs143118143 | 2.222  | rs10185594  | 0.02213  | 12.78  | -0.65   | 49  | 49  | enet | 0.032  | 5.50E-53  | -1.0509   | 2.93E-01 |
| SeqId_4984_83   | ESD       | 13 | 47345391  | 47371555  | 0.30363 | rs73491331  | 2.37   | rs9778      | 0.12571  | -30.14 | -0.813  | 43  | 43  | enet | 0.2    | 0         | 1.05      | 0.2939   |
| SeqId_8304_50   | TNFRSF11B | 8  | 119935796 | 119964124 | 0.06053 | rs117962464 | -2.863 | rs2468184   | 0.007545 | 8.38   | -0.03   | 92  | 92  | enet | 0.044  | 2.80E-73  | -1.0491   | 0.294122 |
| SeqId_12571_14  | ARL3      | 10 | 104433488 | 104474154 | 0.16645 | rs11191349  | 2.8    | rs8354      | 0.088622 | -25.42 | 1.16    | 46  | 46  | enet | 0.16   | 6.50E-274 | -1.048998 | 0.2942   |

|                 |          |    |           |           |         |             |        |             |          |        |         |     |     |      |         |           |           |          |
|-----------------|----------|----|-----------|-----------|---------|-------------|--------|-------------|----------|--------|---------|-----|-----|------|---------|-----------|-----------|----------|
| SeqId_4455_89   | MFGE8    | 15 | 89441914  | 89456612  | 0.06656 | rs6496536   | -1.42  | rs12911703  | 0.07782  | 23.78  | 0.986   | 33  | 33  | enet | 0.092   | 4.70E-153 | 1.049     | 0.2942   |
| SeqId_7059_14   | LILRA6   | 19 | 54740468  | 54746640  | 0.46874 | rs12975366  | -2.502 | rs34810796  | 0.191227 | 37.18  | 0.841   | 152 | 152 | enet | 0.32    | 0         | 1.04359   | 0.296676 |
| SeqId_6425_87   | MMP19    | 12 | 56229217  | 56236750  | 0.10332 | rs145081572 | 1.979  | rs56180965  | 0.008361 | -8.18  | -1.172  | 65  | 65  | enet | 0.021   | 1.80E-35  | 1.04296   | 0.29697  |
| SeqId_17832_12  | IDI2     | 10 | 1064850   | 1071799   | 0.04554 | rs187940740 | 2.38   | rs1044261   | 0.04325  | -17.74 | 0.744   | 28  | 28  | enet | 0.056   | 2.60E-92  | -1.035213 | 0.3006   |
| SeqId_8337_65   | PTPRU    | 1  | 29563028  | 29653325  | 0.07169 | rs271381    | 1.889  | rs2179795   | 2.53E-02 | -13.69 | 1.169   | 89  | 89  | enet | 0.048   | 3.00E-79  | -1.0349   | 0.300705 |
| SeqId_8300_82   | PEX14    | 1  | 10532345  | 10690815  | 0.00692 | rs75827648  | 1.389  | rs184041999 | 1.51E-03 | -5.01  | -1.176  | 17  | 17  | enet | 0.0038  | 1.10E-07  | 1.0346    | 0.300835 |
| SeqId_3009_3    | TGFBR3   | 1  | 92145900  | 92371892  | 0.04179 | rs284184    | -2.837 | rs79859654  | 1.10E-02 | 9.34   | -1.288  | 75  | 75  | enet | 0.029   | 6.70E-49  | -1.0325   | 0.301853 |
| SeqId_5742_14   | ACP6     | 1  | 147101453 | 147142646 | 0.60994 | rs2236570   | 2.049  | rs12119079  | 3.50E-01 | 49.94  | 1.217   | 49  | 49  | enet | 0.51    | 0         | 1.0322    | 0.301963 |
| SeqId_15627_83  | AKT1     | 14 | 105235686 | 105262088 | 0.00475 | rs34207932  | 1.903  | rs2494741   | 0.000426 | -4.62  | -1.286  | 21  | 21  | enet | 0.0028  | 4.60E-06  | 1.0309    | 3.03E-01 |
| SeqId_4908_6    | ENG      | 9  | 130577292 | 130616937 | 0.08494 | rs113453017 | 2.433  | rs11794565  | 0.02918  | 14.55  | -0.602  | 29  | 29  | enet | 0.041   | 3.70E-67  | -1.0291   | 3.03E-01 |
| SeqId_17764_108 | RHOC     | 1  | 113243749 | 113250056 | 0.0367  | rs6537749   | 1.453  | rs7415820   | 2.34E-02 | -13.13 | 1.143   | 42  | 42  | enet | 0.029   | 7.20E-48  | -1.0296   | 0.303181 |
| SeqId_2730_58   | MICA     | 6  | 31367561  | 31383092  | 0.41169 | rs2442719   | -4.34  | rs2523496   | 0.33362  | -49.08 | -3.0788 | 158 | 158 | enet | 0.5     | 0         | 1.027     | 3.04E-01 |
| SeqId_18895_54  | GSTM4    | 1  | 110198721 | 110217458 | 0.30574 | rs116831366 | 3.46   | rs687643    | 6.85E-02 | -23.38 | -0.089  | 186 | 186 | enet | 0.24    | 0         | 1.0279    | 0.304019 |
| SeqId_5586_66   | MINPP1   | 10 | 89264632  | 89313218  | 0.02581 | rs183082741 | 3.29   | rs59980852  | 0.01089  | -9     | -0.473  | 45  | 45  | enet | 0.015   | 4.90E-26  | 1.025361  | 0.3052   |
| SeqId_8005_1    | MXRA7    | 17 | 74668633  | 74707086  | 0.14886 | rs629896    | 2.053  | rs4789345   | 0.112949 | 28.82  | 1.3257  | 70  | 70  | enet | 0.16    | 2.10E-282 | 1.0226    | 0.30651  |
| SeqId_5601_2    | PGLYRP2  | 19 | 15579456  | 15609767  | 0.13338 | rs4808309   | -3.404 | rs10164310  | 0.044805 | -18.08 | 1.7802  | 110 | 110 | enet | 0.062   | 2.10E-102 | -1.02235  | 0.306614 |
| SeqId_14048_7   | IL1RAP   | 3  | 190231840 | 190377539 | 0.40058 | rs4687162   | -3.04  | rs7611887   | 4.19E-01 | -55.02 | -0.837  | 69  | 69  | enet | 0.49    | 0         | 1.0186    | 3.08E-01 |
| SeqId_5128_53   | SLAMF6   | 1  | 160454820 | 160493052 | 0.06053 | rs12144820  | 1.47   | rs1041067   | 4.66E-02 | -18.66 | -1.022  | 21  | 21  | enet | 0.048   | 2.70E-79  | 1.0187    | 0.308343 |
| SeqId_15384_15  | KL       | 13 | 33590561  | 33640280  | 0.04859 | rs147014069 | 2.71   | rs73176836  | 0.00917  | 9.32   | -1.639  | 96  | 96  | enet | 0.03    | 1.00E-50  | -1.014    | 0.3104   |
| SeqId_4969_2    | CA1      | 8  | 86239837  | 86291243  | 0.08683 | rs144801746 | -2.098 | rs116866430 | 0.045104 | -18.24 | 0.3784  | 41  | 41  | enet | 0.064   | 1.30E-106 | -1.0134   | 0.310876 |
| SeqId_9267_2    | CPA4     | 7  | 129932974 | 129964020 | 0.42622 | rs78828774  | -2.766 | rs34587586  | 0.46478  | -57.9  | 1.012   | 77  | 77  | enet | 0.48    | 0         | -1.0124   | 0.311354 |
| SeqId_15503_20  | LEFTY2   | 1  | 226124298 | 226129083 | 0.24944 | rs138459974 | 2.707  | rs360077    | 2.59E-01 | -43.22 | 1.062   | 68  | 68  | enet | 0.34    | 0         | -1.0115   | 0.311763 |
| SeqId_11493_169 | DYNLL2   | 17 | 56160780  | 56172903  | 0.07713 | rs117312367 | -2.247 | rs9902118   | 0.064374 | 21.65  | -1.45   | 36  | 36  | enet | 0.084   | 1.70E-139 | -1.011    | 0.31201  |
| SeqId_8465_52   | CTSH     | 15 | 79213400  | 79241916  | 0.39211 | rs55919125  | 2.759  | rs2289702   | 0.30453  | -46.9  | 1.248   | 77  | 77  | enet | 0.38    | 0         | -1.0099   | 0.3125   |
| SeqId_9738_7    | FAF2     | 5  | 175874629 | 175937075 | 0.00325 | rs72807229  | 1.126  | rs1366240   | 1.73E-04 | 4.17   | 1.018   | 4   | 4   | enet | 0.00028 | 0.083     | 1.00814   | 0.31339  |
| SeqId_8759_29   | A4GALT   | 22 | 43088127  | 43117304  | 0.07726 | rs5758893   | 3.23   | rs8138197   | 0.06816  | -22.27 | 0.698   | 48  | 48  | enet | 0.072   | 3.10E-119 | -1.007    | 0.31391  |
| SeqId_16851_50  | SCO2     | 22 | 50961997  | 50964890  | 0.01816 | rs131811    | 2.96   | rs11479     | 0.0118   | -9.55  | -1.158  | 11  | 11  | enet | 0.012   | 5.10E-21  | 1.0039    | 0.31543  |
| SeqId_6086_15   | CHRD12   | 11 | 74407474  | 74442471  | 0.09653 | rs55837439  | 2.244  | rs61389091  | 0.044891 | -18.03 | -0.173  | 64  | 64  | enet | 0.057   | 8.30E-95  | 1.00286   | 3.16E-01 |
| SeqId_9021_1    | HAVCR1   | 5  | 156456424 | 156486130 | 0.09816 | rs112487859 | 2.702  | rs13173581  | 8.67E-02 | -25.06 | 0.287   | 47  | 47  | enet | 0.12    | 7.40E-195 | 0.99795   | 0.3183   |
| SeqId_3352_80   | CA6      | 1  | 9005926   | 9035151   | 0.43027 | rs72645559  | 2.393  | rs3765963   | 2.02E-01 | 38.17  | 0.071   | 63  | 63  | enet | 0.35    | 0         | -0.9973   | 0.318639 |
| SeqId_3331_8    | RGBM     | 5  | 98104354  | 98134347  | 0.06865 | rs2369266   | -2.085 | rs2368553   | 5.70E-02 | 20.4   | -0.674  | 61  | 61  | enet | 0.082   | 1.60E-136 | -0.99708  | 0.31873  |
| SeqId_4929_55   | SHBG     | 17 | 7517264   | 7536700   | 0.05799 | rs7223364   | 2.917  | rs11651783  | 0.30256  | -15.03 | -0.462  | 100 | 100 | enet | 0.065   | 7.10E-108 | 0.9958    | 0.31934  |
| SeqId_16609_106 | KIRREL2  | 19 | 36346763  | 36358038  | 0.01776 | rs1005194   | 2.558  | rs35854130  | 0.004491 | -8.34  | -0.978  | 34  | 34  | enet | 0.015   | 2.00E-25  | -0.99487  | 0.319798 |
| SeqId_3041_55   | MRC2     | 17 | 60705031  | 60770958  | 0.27258 | rs146385050 | -2.812 | rs146385050 | 0.052744 | -19.64 | -2.812  | 97  | 97  | enet | 0.12    | 1.00E-207 | 0.9925    | 0.32098  |
| SeqId_2999_6    | LSAMP    | 3  | 115521210 | 116858236 | 0.08755 | rs115930484 | -2.73  | rs1835674   | 3.31E-02 | 15.94  | 0.118   | 70  | 70  | enet | 0.054   | 8.80E-89  | -0.9899   | 3.22E-01 |
| SeqId_12549_33  | HPGDS    | 4  | 95219686  | 95264027  | 0.20218 | rs72665697  | 2.127  | rs10033662  | 0.153231 | 33.27  | 0.037   | 63  | 63  | enet | 0.25    | 0         | -0.9906   | 3.22E-01 |
| SeqId_2948_58   | GHR      | 5  | 42423541  | 42721980  | 0.1449  | rs4146624   | -1.781 | rs4866942   | 5.56E-02 | -20.26 | -0.767  | 26  | 26  | enet | 0.1     | 2.10E-175 | 0.99027   | 0.32204  |
| SeqId_9459_7    | FAS      | 10 | 90750288  | 90776816  | 0.15623 | rs117578788 | 2.25   | rs7911226   | 0.078941 | -23.93 | -1.437  | 106 | 106 | enet | 0.11    | 8.70E-189 | 0.987807  | 0.3232   |
| SeqId_19560_23  | PLXNA4   | 7  | 131808091 | 132333447 | 0.04441 | rs62467596  | -2.255 | rs62622406  | 0.013922 | -10.16 | -1.073  | 81  | 81  | enet | 0.026   | 2.90E-43  | 0.985     | 0.324644 |
| SeqId_19254_125 | GMPR     | 6  | 16238818  | 16295780  | 0.2731  | rs62387699  | -1.81  | rs6459467   | 0.42834  | 55.59  | 0.97    | 29  | 29  | enet | 0.43    | 0         | 0.984     | 3.25E-01 |
| SeqId_17692_2   | BTN3A3   | 6  | 26440700  | 26453643  | 0.4582  | rs117225308 | 2.43   | rs9393711   | 0.2584   | -43.2  | -1.236  | 116 | 116 | enet | 0.47    | 0         | 0.985     | 0.325    |
| SeqId_5060_62   | CD274    | 9  | 5450503   | 5470566   | 0.07503 | rs71498619  | -1.604 | rs8223242   | 0.04959  | 19.08  | -1.285  | 23  | 23  | enet | 0.057   | 1.70E-93  | -0.9795   | 3.27E-01 |
| SeqId_3617_80   | HGFAC    | 4  | 3443695   | 3451213   | 0.52478 | rs13137747  | 4.081  | rs2498323   | 0.311692 | -47.42 | 0.527   | 79  | 79  | enet | 0.39    | 0         | 0.9757    | 3.29E-01 |
| SeqId_7999_23   | ENTPD1   | 10 | 97471536  | 97637023  | 0.03226 | rs17111247  | 2.56   | rs11598475  | 0.037809 | 16.64  | 0.601   | 62  | 62  | enet | 0.045   | 2.70E-74  | 0.975936  | 0.3291   |
| SeqId_19161_1   | USP15    | 12 | 62654119  | 62811211  | 0.09869 | rs71465154  | -2.986 | rs11612349  | 0.140268 | 32.01  | 1.15    | 64  | 64  | enet | 0.21    | 0         | 0.97579   | 0.32917  |
| SeqId_4548_4    | FUT3     | 19 | 5842899   | 5851485   | 0.25994 | rs12460963  | 2.957  | rs708686    | 0.189613 | -37.04 | -1.045  | 116 | 116 | enet | 0.22    | 0         | 0.97502   | 0.32955  |
| SeqId_9241_40   | SIRPG    | 20 | 1609798   | 1638425   | 0.08429 | rs2144546   | 1.59   | rs6043409   | 0.108276 | 28.06  | -1.139  | 30  | 30  | enet | 0.11    | 1.50E-185 | -0.9718   | 0.33116  |
| SeqId_12396_19  | HIBCH    | 2  | 191054461 | 191208919 | 0.14258 | rs291431    | 1.224  | rs291466    | 0.33359  | 49.07  | 1.037   | 30  | 30  | enet | 0.33    | 0         | 0.9643    | 3.35E-01 |
| SeqId_15523_9   | ALAD     | 9  | 116148592 | 116163570 | 0.37231 | rs78352057  | 3.036  | rs8177797   | 0.0642   | -21.56 | 1.914   | 135 | 135 | enet | 0.16    | 5.40E-283 | -0.9643   | 3.35E-01 |
| SeqId_19130_81  | SERPINB8 | 18 | 61637263  | 61687013  | 0.39607 | rs1363002   | 2.56   | rs3826616   | 0.08947  | -25.49 | 0.675   | 54  | 54  | enet | 0.12    | 6.30E-204 | -0.963    | 0.3354   |
| SeqId_4992_49   | GRN      | 17 | 42422614  | 42430474  | 0.0453  | rs187822209 | -1.678 | rs5848      | 0.024947 | -13.49 | -0.9508 | 28  | 28  | enet | 0.028   | 1.30E-46  | 0.9598    | 0.33715  |
| SeqId_5392_73   | FAS      | 10 | 90750288  | 90776816  | 0.15453 | rs117578788 | 2.25   | rs7911226   | 0.069757 | -22.48 | -1.437  | 96  | 96  | enet | 0.11    | 2.30E-177 | 0.958715  | 0.3377   |
| SeqId_3151_6    | IL2RA    | 10 | 6052652   | 6104333   | 0.01792 | rs12778662  | 2.17   | rs12722497  | 0.008421 | 8      | 0.958   | 13  | 1   | top1 | 0.0084  | 3.50E-15  | 0.958     | 0.3381   |

|                 |           |    |           |           |         |             |        |             |          |        |         |     |     |      |         |           |           |          |
|-----------------|-----------|----|-----------|-----------|---------|-------------|--------|-------------|----------|--------|---------|-----|-----|------|---------|-----------|-----------|----------|
| SeqId_4250_23   | NSFL1C    | 20 | 1422807   | 1454487   | 0.0254  | rs77123904  | -1.67  | rs4814391   | 0.003087 | 7.54   | -0.753  | 50  | 50  | enet | 0.016   | 7.40E-27  | -0.9557   | 0.33921  |
| SeqId_3340_53   | THBS4     | 5  | 79287134  | 79379110  | 0.12817 | rs7725944   | 2.463  | rs13167730  | 7.16E-02 | 22.77  | -1.356  | 48  | 48  | enet | 0.12    | 3.10E-206 | -0.95489  | 0.33963  |
| SeqId_18206_18  | ADH6      | 4  | 100123795 | 100140694 | 0.07629 | rs144053138 | -2.642 | rs62325239  | 0.097044 | -26.54 | -0.366  | 74  | 74  | enet | 0.14    | 5.60E-233 | 0.9546    | 3.40E-01 |
| SeqId_3499_77   | IL17B     | 5  | 148750887 | 148783765 | 0.01892 | rs1438688   | -2.061 | rs6862301   | 1.46E-02 | 10.38  | 0.954   | 11  | 1   | top1 | 0.015   | 3.60E-25  | 0.954     | 0.34008  |
| SeqId_18173_11  | AKR7A3    | 1  | 19609067  | 19615264  | 0.26029 | rs56070474  | -2.335 | rs2231198   | 1.07E-01 | -24.06 | 1.216   | 117 | 117 | enet | 0.23    | 0         | 0.9518    | 0.341201 |
| SeqId_9536_16   | EDDM3A    | 14 | 21214046  | 21216539  | 0.01405 | rs34552133  | 0.948  | rs34552133  | 0.008686 | -8.25  | 0.948   | 3   | 1   | top1 | 0.0087  | 1.30E-15  | -0.948    | 3.43E-01 |
| SeqId_12575_30  | MTHFD1    | 14 | 64854749  | 64930175  | 0.03986 | rs3783731   | -2.302 | rs10146204  | 0.016785 | -11.12 | -0.646  | 50  | 50  | enet | 0.031   | 9.20E-51  | 0.9463    | 3.44E-01 |
| SeqId_17702_53  | UGT1A1    | 2  | 234668916 | 234681946 | 0.08571 | rs113868955 | 2.15   | rs887829    | 0.16126  | -34.14 | 0.771   | 32  | 32  | enet | 0.17    | 2.70E-289 | -0.9456   | 3.44E-01 |
| SeqId_10737_96  | SERPINB1  | 6  | 2832566   | 2842193   | 0.0611  | rs17214342  | 2.45   | rs316343    | 0.0432   | 18.1   | 0.665   | 25  | 25  | enet | 0.051   | 6.60E-85  | 0.946     | 0.344    |
| SeqId_7918_114  | AMY1A     | 1  | 104198382 | 104207176 | 0.40275 | rs113091904 | 3.12   | rs78811372  | 3.70E-02 | -16.57 | 0.849   | 174 | 174 | enet | 0.14    | 7.40E-231 | 0.9462    | 0.344048 |
| SeqId_10924_258 | CYB5D2    | 17 | 4046462   | 4090605   | 0.1055  | rs72833799  | -2.292 | rs183282334 | 0.049895 | -19.13 | -0.1746 | 34  | 34  | enet | 0.088   | 7.10E-147 | 0.946     | 0.34416  |
| SeqId_17456_53  | GOLM1     | 9  | 88641061  | 88715088  | 0.07783 | rs149100304 | -2.519 | rs138447426 | 0.04061  | 18.04  | 0.029   | 40  | 40  | enet | 0.075   | 4.70E-125 | 0.9428    | 3.46E-01 |
| SeqId_2590_69   | ROR1      | 1  | 64239688  | 64647181  | 0.256   | rs855312    | -3.385 | rs2224876   | 1.22E-01 | -29.64 | 0.978   | 134 | 134 | enet | 0.2     | 0         | -0.9394   | 0.347524 |
| SeqId_2985_35   | CXCL1     | 4  | 74735110  | 74737025  | 0.1322  | rs6832422   | -3.255 | rs1366946   | 0.132887 | 31     | 0.806   | 42  | 42  | enet | 0.17    | 2.00E-295 | 0.9378    | 3.48E-01 |
| SeqId_6965_19   | CNTNAP2   | 7  | 145813094 | 148118090 | 0.1456  | rs188929111 | -2.416 | rs6951436   | 0.228564 | -40.76 | -1.167  | 85  | 85  | enet | 0.25    | 0         | 0.932     | 0.351356 |
| SeqId_12672_16  | IGFLR1    | 19 | 36229702  | 36233354  | 0.21721 | rs112050622 | 2.262  | rs12459634  | 0.25179  | -42.63 | -0.781  | 68  | 68  | enet | 0.31    | 0         | 0.93001   | 0.352368 |
| SeqId_11208_15  | NAGPA     | 16 | 5074845   | 5084142   | 0.2774  | rs7197168   | 1.72   | rs12599777  | 0.10104  | -27.07 | -0.377  | 92  | 92  | enet | 0.19    | 0         | 0.9251    | 3.55E-01 |
| SeqId_8866_53   | QPCTL     | 19 | 46195661  | 46207247  | 0.14485 | rs11083768  | 2.993  | rs17850756  | 0.098341 | -26.66 | 1.6904  | 103 | 103 | enet | 0.11    | 4.80E-189 | -0.92471  | 0.355118 |
| SeqId_19590_46  | SFTPD     | 10 | 81697223  | 81742370  | 0.15866 | rs150481960 | -2.64  | rs7084667   | 0.124325 | 30.06  | 0.177   | 112 | 112 | enet | 0.16    | 7.90E-279 | 0.922852  | 0.3561   |
| SeqId_15617_8   | XCL2      | 1  | 168510006 | 168513235 | 0.02332 | rs10429892  | 1.429  | rs1998510   | 1.54E-02 | 10.68  | 0.922   | 12  | 1   | top1 | 0.015   | 2.20E-26  | 0.922     | 0.356529 |
| SeqId_7926_13   | SPINT3    | 20 | 44141101  | 44144262  | 0.05571 | rs7272717   | -2.38  | rs6032259   | 0.081334 | 24.43  | 1.327   | 33  | 33  | enet | 0.084   | 1.60E-140 | 0.9197    | 0.35771  |
| SeqId_5034_79   | PRSS2     | 7  | 142468247 | NA        | 0.27186 | rs75940454  | -3.382 | rs1799886   | 0.074061 | 23.19  | -1.2962 | 49  | 49  | enet | 0.16    | 1.80E-271 | -0.9187   | 0.358247 |
| SeqId_3324_51   | LY9       | 1  | 160765864 | 160798051 | 0.14097 | rs723155    | 2.558  | rs12128261  | 1.24E-01 | 30.13  | 1.764   | 94  | 94  | enet | 0.15    | 2.30E-262 | 0.916     | 0.359655 |
| SeqId_6404_20   | CIQL1     | 17 | 43037061  | 43045671  | 0.07454 | rs1230084   | -3.275 | rs7225162   | 0.054374 | -19.9  | 0.776   | 56  | 56  | enet | 0.081   | 6.10E-134 | -0.9159   | 0.3597   |
| SeqId_5803_24   | C3        | 19 | 6677715   | 6730573   | 0.0332  | rs143835362 | 1.298  | rs11569415  | 0.009865 | 10.79  | -0.5454 | 33  | 33  | enet | 0.025   | 1.60E-41  | -0.91219  | 0.361668 |
| SeqId_10445_20  | APOM      | 6  | 31620193  | 31625987  | 0.10012 | rs2855811   | -2.77  | rs805264    | 0.04408  | -18.05 | -0.511  | 40  | 40  | enet | 0.051   | 1.20E-83  | 0.912     | 3.62E-01 |
| SeqId_7945_10   | SEMA6A    | 5  | 115779251 | 115910519 | 0.08417 | rs111705252 | -3.101 | rs3733724   | 2.27E-02 | 12.89  | 1.626   | 72  | 72  | enet | 0.052   | 4.40E-86  | 0.91141   | 0.36208  |
| SeqId_16872_248 | GSTZ1     | 14 | 77787339  | 77797940  | 0.26234 | rs11850771  | -2.278 | rs7975      | 0.302694 | 46.75  | 0.505   | 69  | 69  | enet | 0.33    | 0         | 0.9071    | 3.64E-01 |
| SeqId_11681_8   | AGFG1     | 2  | 228336868 | 228425933 | 0.05258 | rs3769641   | -2.032 | rs11679534  | 0.07358  | -23.08 | 0.907   | 21  | 1   | top1 | 0.074   | 4.40E-122 | -0.907    | 3.64E-01 |
| SeqId_8097_77   | LIPN      | 10 | 90519739  | 90539383  | 0.21984 | rs72809325  | 2.48   | rs10509554  | 0.276844 | 44.7   | 0.306   | 25  | 25  | enet | 0.31    | 0         | 0.907055  | 0.3644   |
| SeqId_3283_21   | TGFBI     | 5  | 135364677 | 135399507 | 0.21024 | rs77410943  | -2.659 | rs13159365  | 2.21E-01 | -39.94 | -0.744  | 106 | 106 | enet | 0.24    | 0         | 0.9034    | 0.36631  |
| SeqId_18387_7   | ST13      | 22 | 41220539  | 41252643  | 0.03693 | rs9611338   | -1.68  | rs1385137   | 0.0379   | 16.86  | -0.937  | 21  | 21  | enet | 0.039   | 2.80E-64  | -0.9007   | 0.36774  |
| SeqId_14708_59  | C8G       | 9  | 139839637 | 139841427 | 0.12842 | rs4880088   | 1.576  | rs7862602   | 0.12423  | -30.11 | 1.336   | 10  | 10  | enet | 0.15    | 7.50E-253 | -0.8999   | 3.68E-01 |
| SeqId_7246_4    | FREM2     | 13 | 39261214  | 39461268  | 0.01892 | rs149141963 | 2.13   | rs9603418   | 0.00737  | 8.64   | 0.591   | 37  | 37  | enet | 0.0082  | 7.30E-15  | 0.899     | 0.3688   |
| SeqId_5349_69   | DLL1      | 6  | 170591294 | 170615653 | 0.05426 | rs112066611 | 2.07   | rs4710790   | 0.01431  | 10.45  | -0.858  | 51  | 51  | enet | 0.033   | 2.20E-54  | -0.899    | 3.69E-01 |
| SeqId_14684_17  | CAPN2     | 1  | 223889295 | 223963720 | 0.13521 | rs11580460  | -2.193 | rs188530181 | 4.39E-02 | -17.83 | 0.86    | 86  | 86  | enet | 0.066   | 5.10E-110 | -0.8926   | 0.372068 |
| SeqId_13090_17  | S100A6    | 1  | 153507075 | 153508720 | 0.03502 | rs116793967 | -1.341 | rs60969679  | 1.97E-02 | 12.14  | -0.485  | 24  | 24  | enet | 0.029   | 1.00E-47  | -0.8909   | 0.372963 |
| SeqId_15435_4   | PNP       | 14 | 20937113  | 20945248  | 0.25605 | rs17277543  | 2.583  | rs1049564   | 0.127699 | -30.47 | -0.689  | 142 | 142 | enet | 0.18    | 2.30E-305 | 0.8901    | 3.73E-01 |
| SeqId_13998_26  | ADSSL1    | 14 | 105190566 | 105213662 | 0.01694 | rs61758463  | -2.417 | rs10142660  | 0.005586 | 7.35   | 0.986   | 38  | 38  | enet | 0.0093  | 1.40E-16  | 0.8896    | 3.74E-01 |
| SeqId_15610_72  | LAP3      | 4  | 17578821  | 17609595  | 0.02543 | rs77726502  | 1.641  | rs114838597 | 0.013428 | 9.92   | 0.1     | 25  | 25  | enet | 0.02    | 4.80E-33  | -0.8863   | 3.75E-01 |
| SeqId_10938_13  | CD58      | 1  | 117057156 | 117113661 | 0.03207 | rs143770903 | 2.147  | rs60612523  | 1.55E-02 | 10.81  | 1.005   | 20  | 20  | enet | 0.016   | 4.20E-27  | 0.8862    | 0.375518 |
| SeqId_3519_3    | CCL17     | 16 | 57438679  | 57449975  | 0.05517 | rs9922349   | 2.72   | rs4396523   | 0.04     | 17.09  | -0.34   | 50  | 50  | enet | 0.061   | 1.90E-101 | -0.8857   | 3.76E-01 |
| SeqId_9826_135  | FHIT      | 3  | 59733003  | 61237133  | 0.01434 | rs189635795 | -2.08  | rs13070475  | 1.00E-02 | 8.93   | -1.291  | 25  | 25  | enet | 0.011   | 1.70E-19  | -0.8856   | 3.76E-01 |
| SeqId_3445_53   | IL15RA    | 10 | 5985602   | 6020150   | 0.02793 | rs10508303  | -2.55  | rs8177643   | 0.010609 | 8.99   | -0.233  | 31  | 31  | enet | 0.018   | 9.70E-31  | -0.884396 | 0.3765   |
| SeqId_13669_6   | FGFR3     | 4  | 1795020   | 1810599   | 0.11668 | rs188698778 | -2.585 | rs79825628  | 0.03711  | 17.01  | 0.142   | 85  | 85  | enet | 0.089   | 3.90E-149 | 0.8831    | 3.77E-01 |
| SeqId_12343_14  | ACAP2     | 3  | 194995474 | 195163773 | 0.00509 | rs9886959   | 2.5    | rs1832666   | 9.53E-04 | -4.47  | 0.882   | 37  | 1   | top1 | 0.00095 | 0.005     | -0.882    | 3.78E-01 |
| SeqId_5581_28   | FGL1      | 8  | 17721889  | 17767874  | 0.17575 | rs6586641   | -3.009 | rs3739406   | 0.220796 | 40.11  | 0.743   | 51  | 51  | enet | 0.3     | 0         | 0.8808    | 0.378417 |
| SeqId_8476_11   | CHGA      | 14 | 93389495  | 93401630  | 0.05369 | rs35665900  | -1.891 | rs729940    | 0.026188 | -13.88 | 0.564   | 23  | 23  | enet | 0.033   | 8.40E-55  | -0.8797   | 3.79E-01 |
| SeqId_2851_63   | C5        | 9  | 123714613 | 123812553 | 0.04546 | rs143406446 | -2.049 | rs17220750  | 0.01522  | 10.69  | 0.355   | 28  | 28  | enet | 0.035   | 1.60E-58  | 0.8768    | 3.81E-01 |
| SeqId_18884_22  | DNAJB4    | 1  | 78444859  | 78483648  | 0.08837 | rs278853    | 2.436  | rs7514180   | 3.96E-02 | -17.17 | -2.128  | 44  | 44  | enet | 0.074   | 3.00E-123 | 0.8746    | 0.381785 |
| SeqId_11227_31  | TBL2      | 7  | 72981867  | 72993121  | 0.04047 | rs4717865   | 2.704  | rs73134986  | 0.013668 | 10.12  | 0.729   | 27  | 27  | enet | 0.014   | 8.00E-24  | -0.8742   | 0.38202  |
| SeqId_9002_36   | SERPINA11 | 14 | 94908801  | 94919137  | 0.09915 | rs28929474  | 3.884  | rs55911632  | 0.030851 | -15.12 | -0.074  | 95  | 95  | enet | 0.075   | 1.30E-124 | -0.8732   | 3.83E-01 |
| SeqId_10907_116 | NTM       | 11 | 131240373 | 132206716 | 0.1924  | rs585512    | 2.921  | rs2511781   | 0.160317 | 34.04  | -0.515  | 92  | 92  | enet | 0.2     | 0         | -0.86794  | 3.85E-01 |

|                 |          |    |           |           |         |             |        |             |           |        |        |     |     |      |        |           |          |          |
|-----------------|----------|----|-----------|-----------|---------|-------------|--------|-------------|-----------|--------|--------|-----|-----|------|--------|-----------|----------|----------|
| SeqId_5102_55   | MICB     | 6  | 31462658  | 31478901  | 0.43328 | rs3130062   | -4.45  | rs3094011   | 0.16346   | -34.42 | -0.071 | 159 | 159 | enet | 0.36   | 0         | -0.869   | 3.85E-01 |
| SeqId_12687_2   | DECR1    | 8  | 91013633  | 91065861  | 0.02246 | rs117770316 | 2.406  | rs1805806   | 0.015824  | -11.25 | 0.041  | 29  | 29  | enet | 0.023  | 6.60E-38  | -0.8672  | 0.385812 |
| SeqId_9264_11   | CTSO     | 4  | 156842732 | 156875064 | 0.02782 | rs114671994 | 1.559  | rs2334114   | 0.009841  | -10.47 | 0.477  | 67  | 67  | enet | 0.029  | 1.70E-47  | -0.8665  | 3.86E-01 |
| SeqId_13931_22  | PSMD9    | 12 | 122326638 | 122356203 | 0.01611 | rs111773380 | -1.53  | rs10743185  | 0.020002  | 12.18  | 0.866  | 13  | 1   | top1 | 0.02   | 9.20E-34  | 0.866    | 0.38649  |
| SeqId_10451_11  | NUCB1    | 19 | 49403569  | 49426629  | 0.04165 | rs34332722  | -2.343 | rs28450126  | 0.031031  | -15.1  | -1.124 | 32  | 32  | enet | 0.039  | 3.50E-64  | 0.86472  | 0.387191 |
| SeqId_10816_150 | PILRA    | 7  | 99965153  | 99997719  | 0.4249  | rs34919929  | 1.21   | rs1859788   | 0.515673  | -61.01 | 0.869  | 11  | 11  | enet | 0.51   | 0         | -0.8621  | 0.388642 |
| SeqId_9837_60   | NQO1     | 16 | 69740899  | 69760571  | 0.13816 | rs149992071 | -2.3   | rs57488237  | 0.1912    | -37.23 | -1.194 | 42  | 42  | enet | 0.23   | 0         | 0.8615   | 3.89E-01 |
| SeqId_19556_12  | CR1      | 1  | 207669492 | 207815110 | 0.33889 | rs1932817   | -3.543 | rs679515    | 1.14E-01  | -28.77 | -0.456 | 168 | 168 | enet | 0.21   | 0         | 0.86     | 0.389806 |
| SeqId_9370_69   | GGH      | 8  | 63927440  | 63951966  | 0.14682 | rs6472077   | 3.091  | rs4739037   | 0.099957  | 27.29  | -1.802 | 83  | 83  | enet | 0.19   | 4e-323    | -0.8588  | 0.390448 |
| SeqId_18235_16  | PGP      | 16 | 2261594   | 2264841   | 0.09732 | rs4787270   | 2.38   | rs116977380 | 0.05448   | 19.9   | 0.488  | 31  | 31  | enet | 0.06   | 4.70E-99  | 0.8587   | 3.91E-01 |
| SeqId_6467_65   | POGLUT1  | 3  | 119187810 | 119213555 | 0.16294 | rs114040582 | 2.79   | rs17203139  | 1.56E-01  | 34.17  | -0.515 | 58  | 58  | enet | 0.25   | 0         | -0.85785 | 3.91E-01 |
| SeqId_12619_14  | PPM1A    | 14 | 60712470  | 60765805  | 0.01405 | rs148399942 | 2.598  | rs183404450 | 0.002548  | -6.35  | 0.0928 | 14  | 14  | enet | 0.0067 | 2.10E-12  | -0.8553  | 3.92E-01 |
| SeqId_3320_49   | IGFBP7   | 4  | 57896939  | 57976551  | 0.1029  | rs11573114  | 1.719  | rs1718860   | 0.101743  | -27.56 | 0.451  | 72  | 72  | enet | 0.13   | 2.10E-217 | -0.8567  | 3.92E-01 |
| SeqId_9409_11   | TPSAB1   | 16 | 1290380   | 1292555   | 0.30187 | rs117631661 | 2.38   | rs35116045  | 0.04873   | 20.87  | 0.711  | 124 | 124 | enet | 0.21   | 0         | 0.8541   | 3.93E-01 |
| SeqId_7970_315  | ART3     | 4  | 76932337  | 77033955  | 0.09853 | rs4859610   | -2.565 | rs4859610   | 0.056013  | -20.16 | -2.565 | 92  | 92  | enet | 0.11   | 1.30E-176 | 0.8542   | 3.93E-01 |
| SeqId_6402_8    | PILRA    | 7  | 99965153  | 99997719  | 0.37083 | rs117864261 | 2.031  | rs1859788   | 0.465302  | -57.95 | 0.869  | 15  | 15  | enet | 0.46   | 0         | -0.8534  | 0.393444 |
| SeqId_14107_1   | MTHFS    | 15 | 80125927  | 80189721  | 0.41199 | rs2562749   | 2.334  | rs8039272   | 0.23231   | -40.99 | -0.45  | 81  | 81  | enet | 0.44   | 0         | -0.851   | 0.3947   |
| SeqId_8794_13   | DPEP1    | 16 | 89679716  | 89704864  | 0.16532 | rs61754918  | -2.89  | rs409170    | 0.13083   | 31.18  | -0.218 | 73  | 73  | enet | 0.18   | 8.3e-310  | -0.8506  | 3.95E-01 |
| SeqId_3420_21   | CA13     | 8  | 86132816  | 86196302  | 0.14248 | rs2279701   | 1.367  | rs113014331 | 0.176119  | -35.67 | -0.294 | 44  | 44  | enet | 0.26   | 0         | 0.8482   | 0.396339 |
| SeqId_2849_49   | AI1      | 6  | 31582994  | 31584798  | 0.04494 | rs9266302   | -3.49  | rs3130623   | 0.00865   | 9.37   | 0.874  | 50  | 50  | enet | 0.027  | 8.00E-46  | 0.845    | 3.98E-01 |
| SeqId_6373_54   | DLK1     | 14 | 101192042 | 101204561 | 0.08551 | rs75741145  | 3.308  | rs4905998   | 0.097793  | 26.91  | -0.1   | 80  | 80  | enet | 0.12   | 3.60E-196 | -0.8433  | 3.99E-01 |
| SeqId_17802_4   | NANS     | 9  | 100819014 | 100845359 | 0.0435  | rs774330    | 2.575  | rs7855984   | 0.01407   | 10.44  | 0.373  | 95  | 95  | enet | 0.035  | 7.70E-58  | 0.8432   | 3.99E-01 |
| SeqId_5657_28   | ST3GAL1  | 8  | 134467091 | 134584183 | 0.10361 | rs2702970   | 1.825  | rs9643300   | 0.060857  | -21.08 | 1.399  | 65  | 65  | enet | 0.082  | 4.70E-136 | -0.8422  | 0.399703 |
| SeqId_15391_114 | GAS6     | 13 | 114523522 | 114567049 | 0.08791 | rs9604570   | -3.8   | rs6602909   | 0.0715    | -22.74 | 0.151  | 35  | 35  | enet | 0.078  | 3.00E-129 | -0.842   | 0.3999   |
| SeqId_4459_68   | PCSK7    | 11 | 117075053 | 117103241 | 0.19654 | rs12802202  | -2.116 | rs236910    | 0.339376  | -49.49 | -0.9   | 40  | 40  | enet | 0.35   | 0         | 0.84144  | 4.00E-01 |
| SeqId_15441_6   | GM2A     | 5  | 150591711 | 150650001 | 0.25278 | rs59201789  | -2.275 | rs72794132  | 1.24E-01  | 31.46  | 1.339  | 65  | 65  | enet | 0.26   | 0         | 0.84119  | 0.40024  |
| SeqId_16616_137 | ENO3     | 17 | 4851387   | 4860426   | 0.03575 | rs8067142   | 2.247  | rs238238    | 0.052059  | -19.77 | -0.6   | 11  | 11  | enet | 0.056  | 5.30E-93  | 0.8378   | 0.40212  |
| SeqId_5858_6    | YWHAZ    | 8  | 101928751 | 101965616 | 0.01463 | rs34041620  | 1.987  | rs12335167  | 0.001866  | 5.2    | -0.528 | 43  | 43  | enet | 0.0049 | 1.60E-09  | -0.8361  | 0.403086 |
| SeqId_15513_108 | PRSS8    | 16 | 31142754  | 31147048  | 0.01243 | rs12925010  | 1.92   | rs1060506   | 0.00544   | 6.81   | 0.835  | 25  | 1   | top1 | 0.0054 | 2.10E-10  | 0.835    | 4.04E-01 |
| SeqId_3820_68   | MAPKAPK2 | 1  | 206858250 | 206907626 | 0.05599 | rs78702774  | -2.606 | rs4256810   | 4.66E-02  | 18.42  | 0.833  | 34  | 1   | top1 | 0.047  | 4.50E-77  | 0.833    | 0.404845 |
| SeqId_14112_40  | RELT     | 11 | 73087444  | 73108519  | 0.00613 | rs12365017  | 3.13   | rs56801796  | 0.006252  | 7.73   | 0.832  | 14  | 1   | top1 | 0.0063 | 1.10E-11  | 0.832    | 4.05E-01 |
| SeqId_4534_10   | PRSS2    | 16 | 2902731   | 2908171   | 0.07031 | rs12927970  | 3.33   | rs7204669   | 0.03963   | 17.13  | -0.625 | 65  | 65  | enet | 0.06   | 7.80E-100 | 0.8314   | 4.06E-01 |
| SeqId_11649_3   | SMAP1    | 6  | 71377479  | 71571714  | 0.2703  | rs150032833 | 2.35   | rs1917342   | 0.2381    | -41.47 | 1.009  | 89  | 89  | enet | 0.32   | 0         | -0.831   | 4.06E-01 |
| SeqId_9183_7    | IFNAR1   | 21 | 34696734  | 34732170  | 0.23867 | rs62226371  | -1.84  | rs2211687   | 0.2283    | -40.65 | -0.613 | 75  | 75  | enet | 0.26   | 0         | 0.8259   | 0.409    |
| SeqId_7813_6    | ALPP     | 2  | 233243434 | 233247599 | 0.13737 | rs75668915  | 2.285  | rs35458538  | 0.05541   | 20.1   | 0.927  | 57  | 57  | enet | 0.098  | 4.20E-164 | 0.8246   | 4.10E-01 |
| SeqId_10440_26  | CLMP     | 11 | 122940580 | 123065956 | 0.07886 | rs11218797  | 2.583  | rs2302605   | 0.093958  | 26.22  | 0.941  | 55  | 55  | enet | 0.1    | 2.40E-171 | 0.81467  | 4.15E-01 |
| SeqId_3073_51   | IL18BP   | 11 | 71709659  | 71716761  | 0.00883 | rs72958308  | 1.826  | rs17884883  | 0.004719  | -5.98  | 0.814  | 40  | 1   | top1 | 0.0047 | 3.10E-09  | -0.814   | 4.16E-01 |
| SeqId_8309_12   | HYAL1    | 3  | 50337321  | 50349812  | 0.0455  | rs143885784 | -3.29  | rs116482870 | 1.52E-02  | -10.72 | -0.546 | 34  | 34  | enet | 0.021  | 1.40E-34  | 0.81295  | 4.16E-01 |
| SeqId_9748_31   | GSTM3    | 1  | 110276554 | 110283660 | 0.2599  | rs17024393  | 3.255  | rs1292096   | 9.45E-02  | -26.32 | -0.479 | 113 | 113 | enet | 0.23   | 0         | 0.812    | 0.416818 |
| SeqId_11103_24  | HSPB1    | 7  | 75931990  | 75933612  | 0.28721 | rs112829231 | 3.662  | rs2908201   | 0.241565  | -41.81 | 1.484  | 83  | 83  | enet | 0.3    | 0         | -0.8104  | 0.417723 |
| SeqId_6919_3    | HBZ      | 16 | 192727    | 204502    | 0.28302 | rs891145    | 2.89   | rs2461286   | 0.2181    | -39.69 | 0.976  | 55  | 55  | enet | 0.25   | 0         | -0.8097  | 4.18E-01 |
| SeqId_4775_34   | GSN      | 9  | 123970072 | 124095121 | 0.06051 | rs41296071  | -2.852 | rs78573713  | 0.01968   | -12.34 | 0.34   | 44  | 44  | enet | 0.045  | 6.60E-74  | 0.8076   | 4.19E-01 |
| SeqId_5744_12   | MENT     | 1  | 151020227 | 151024462 | 0.0072  | rs4589116   | 1.91   | rs34725710  | -1.35E-04 | -3.68  | 1.479  | 21  | 21  | enet | 0.0013 | 0.0012    | -0.807   | 0.419645 |
| SeqId_15525_294 | ADH1C    | 4  | 100257654 | 100273903 | 0.12968 | rs10006545  | -1.742 | rs283415    | 0.144197  | 32.27  | -0.755 | 117 | 117 | enet | 0.17   | 7.50E-300 | -0.8061  | 4.20E-01 |
| SeqId_12449_16  | PIIH     | 1  | 43124006  | 43142429  | 0.00868 | rs912074    | 1.638  | rs78676038  | 3.11E-03  | 6.67   | -0.337 | 18  | 18  | enet | 0.0074 | 1.40E-13  | 0.8046   | 0.421053 |
| SeqId_8368_102  | TNFRSF1B | 1  | 12227048  | 12269285  | 0.10458 | rs41279452  | -2.175 | rs519064    | 8.16E-02  | -24.77 | 0.517  | 42  | 42  | enet | 0.13   | 4.80E-217 | -0.801   | 0.423146 |
| SeqId_17325_10  | GUK1     | 1  | 228327663 | 228336685 | 0.09996 | rs4653973   | 2.69   | rs61825157  | 1.43E-01  | 32.17  | 1.229  | 53  | 53  | enet | 0.15   | 3.90E-252 | 0.7978   | 0.424999 |
| SeqId_9385_4    | GAA      | 17 | 78075355  | 78093680  | 0.11264 | rs6565696   | 2.979  | rs2304850   | 0.053004  | -19.65 | 0.4182 | 41  | 41  | enet | 0.081  | 4.40E-135 | -0.7978  | 0.425    |
| SeqId_17756_69  | DCTD     | 4  | 183811213 | 183839089 | 0.00563 | rs65539904  | 2.206  | rs6552631   | 0.000739  | 4.41   | -0.567 | 72  | 72  | enet | 0.0012 | 0.0016    | -0.7983  | 4.25E-01 |
| SeqId_17748_21  | TP53I3   | 2  | 24300303  | 24308731  | 0.23754 | rs6756785   | -2.785 | rs10191964  | 0.26518   | -43.86 | -0.93  | 70  | 70  | enet | 0.3    | 0         | 0.7965   | 4.26E-01 |
| SeqId_4328_2    | BOC      | 3  | 112929850 | 113006306 | 0.07114 | rs13085192  | 2.48   | rs3856718   | 3.36E-02  | 16.16  | 1.174  | 88  | 88  | enet | 0.045  | 9.50E-74  | 0.79529  | 4.26E-01 |
| SeqId_4991_12   | GPC5     | 13 | 92050875  | 93525935  | 0.14702 | rs79825477  | -2.63  | rs342706    | 0.1875    | -36.81 | 0.817  | 66  | 66  | enet | 0.24   | 0         | -0.794   | 0.427    |
| SeqId_19488_1   | PDCD6    | 5  | 271736    | 315089    | 0.03902 | rs4956935   | -2.521 | rs56075848  | 5.82E-03  | 6.93   | -0.444 | 39  | 39  | enet | 0.014  | 1.30E-23  | 0.79423  | 0.42706  |



|                 |          |    |           |           |         |             |        |             |          |        |         |     |     |      |        |           |          |          |
|-----------------|----------|----|-----------|-----------|---------|-------------|--------|-------------|----------|--------|---------|-----|-----|------|--------|-----------|----------|----------|
| SeqId_8248_222  | SIGLEC14 | 19 | 52145806  | 52150054  | 0.52882 | rs71358836  | 2.485  | rs872629    | 0.214229 | -39.37 | -0.776  | 214 | 214 | enet | 0.34   | 0         | 0.79125  | 0.428799 |
| SeqId_5671_1    | CTRB1    | 16 | 75252886  | 75260236  | 0.16513 | rs188133085 | 2.45   | rs8057145   | 0.11474  | 28.92  | -1.038  | 62  | 62  | enet | 0.21   | 0         | -0.7903  | 4.29E-01 |
| SeqId_5687_5    | PRKCSH   | 19 | 11546105  | 11561783  | 0.05246 | rs11554706  | -2.502 | rs11557488  | 0.02712  | 14.05  | -0.244  | 33  | 33  | enet | 0.036  | 1.10E-59  | 0.79007  | 0.429488 |
| SeqId_15474_7   | PIN1     | 19 | 9945933   | 9960365   | 0.01415 | rs144087245 | 2.396  | rs730554    | 0.001159 | -5.1   | -0.058  | 43  | 43  | enet | 0.0026 | 8.50E-06  | 0.78923  | 0.429979 |
| SeqId_3024_18   | SERPINF2 | 17 | 1646130   | 1658559   | 0.10113 | rs2957924   | 4.171  | rs11078596  | 0.030707 | -16.14 | 0.7396  | 121 | 121 | enet | 0.055  | 2.30E-91  | 0.7852   | 0.43233  |
| SeqId_3894_15   | NAGK     | 2  | 71291474  | 71306938  | 0.10153 | rs12611717  | 1.351  | rs11680831  | 0.12057  | -29.53 | 0.447   | 33  | 33  | enet | 0.13   | 3.40E-227 | -0.7821  | 4.34E-01 |
| SeqId_3292_75   | CD48     | 1  | 160648536 | 160681621 | 0.1763  | rs790626    | 1.86   | rs352684    | 5.78E-02 | 20.98  | 1.774   | 42  | 42  | enet | 0.12   | 4.80E-205 | 0.7819   | 0.434288 |
| SeqId_18214_2   | GCCLM    | 1  | 94350755  | 94375012  | 0.05508 | rs17398377  | 2.231  | rs7521934   | 2.52E-02 | -13.98 | 0.311   | 37  | 37  | enet | 0.054  | 5.50E-90  | -0.7794  | 0.435719 |
| SeqId_17170_15  | CALCB    | 11 | 14926543  | 15103888  | 0.02739 | rs4757301   | 1.48   | rs7104596   | 0.033138 | -15.97 | 0.853   | 30  | 30  | enet | 0.036  | 4.00E-59  | -0.77968 | 4.36E-01 |
| SeqId_8258_22   | UXS1     | 2  | 106709764 | 106810757 | 0.03886 | rs74770020  | 2.396  | rs7591409   | 0.02703  | -14.12 | -1.574  | 44  | 44  | enet | 0.031  | 5.60E-52  | 0.777    | 4.37E-01 |
| SeqId_3285_23   | C1R      | 12 | 7187518   | 7245136   | 0.07994 | rs7313471   | 0.987  | rs143238956 | 0.080694 | -2.58  | -0.388  | 5   | 5   | enet | 0.085  | 7.80E-142 | 0.77613  | 0.43767  |
| SeqId_5480_49   | CCL5     | 17 | 34198495  | 34207797  | 0.05681 | rs117276112 | -2.442 | rs2107538   | 0.106811 | -28.09 | -0.829  | 50  | 50  | enet | 0.11   | 2.50E-185 | 0.7744   | 0.4387   |
| SeqId_11098_1   | PDXK     | 21 | 45138975  | 45182188  | 0.03824 | rs113597750 | 1.6    | rs79343092  | 0.0136   | -10.13 | -0.125  | 28  | 28  | enet | 0.024  | 1.70E-39  | -0.7739  | 0.439    |
| SeqId_9894_13   | MYO6     | 6  | 76458909  | 76629254  | 0.03649 | rs80009052  | -2.07  | rs41269323  | 0.01579  | -10.88 | 0.8788  | 18  | 18  | enet | 0.017  | 2.00E-28  | -0.774   | 4.39E-01 |
| SeqId_17773_26  | NAPG     | 18 | 10525902  | 10552761  | 0.00417 | rs71364220  | 1.08   | rs518978    | 0.0031   | -5.09  | 0.772   | 6   | 1   | top1 | 0.0031 | 1.30E-06  | -0.772   | 0.4401   |
| SeqId_3305_6    | DLL4     | 15 | 41221538  | 41231271  | 0.00881 | rs11634187  | 2.839  | rs117454282 | 0.00515  | 6.47   | -0.029  | 20  | 20  | enet | 0.0054 | 2.40E-10  | -0.7692  | 0.4418   |
| SeqId_10940_25  | SRL      | 16 | 4239375   | 4292081   | 0.02021 | rs130052    | 3      | rs9930802   | 0.0126   | -10.1  | -0.763  | 17  | 1   | top1 | 0.013  | 6.90E-22  | 0.763    | 4.45E-01 |
| SeqId_3435_53   | FN1      | 2  | 216225163 | 216300796 | 0.04318 | rs12694363  | -2.462 | rs1250258   | 0.03081  | 15.11  | 0.337   | 24  | 24  | enet | 0.034  | 3.30E-57  | 0.7643   | 4.45E-01 |
| SeqId_9401_57   | TRABD2A  | 2  | 85048774  | 85134132  | 0.00487 | rs17025827  | -2.273 | rs80090251  | 0.004    | 5.66   | 0.763   | 18  | 1   | top1 | 0.004  | 4.50E-08  | 0.763    | 4.45E-01 |
| SeqId_13114_50  | LUM      | 12 | 91496406  | 91505271  | 0.12144 | rs143053515 | -2.302 | rs3782580   | 0.014368 | -11.95 | 0.743   | 137 | 137 | enet | 0.054  | 1.80E-89  | -0.76237 | 0.44584  |
| SeqId_5238_26   | PPIE     | 1  | 40157854  | 40229586  | 0.1455  | rs146327150 | -1.141 | rs1046988   | 1.61E-01 | -34.36 | -0.994  | 43  | 43  | enet | 0.19   | 0         | 0.7623   | 0.445873 |
| SeqId_10800_15  | SERPINH1 | 11 | 75273101  | 75283828  | 0.05811 | rs59368208  | -2.181 | rs599816    | 0.02143  | 12.66  | 0.792   | 62  | 62  | enet | 0.039  | 3.80E-65  | -0.76127 | 4.46E-01 |
| SeqId_4976_57   | CRK      | 17 | 1323983   | 1366456   | 0.02293 | rs8066044   | 1.762  | rs12936625  | 0.01823  | -11.61 | 1.375   | 32  | 32  | enet | 0.019  | 6.00E-33  | -0.7596  | 0.44751  |
| SeqId_5620_13   | PAM      | 5  | 102089685 | 102365434 | 0.5164  | rs72781852  | -2.636 | rs3733939   | 1.29E-01 | -32.5  | 0.146   | 89  | 89  | enet | 0.32   | 0         | -0.75717 | 0.44895  |
| SeqId_4866_59   | NTRK2    | 9  | 87283466  | 87641969  | 0.02317 | rs4381025   | -3.954 | rs11140774  | 0.00558  | -6.87  | -2.334  | 98  | 98  | enet | 0.012  | 2.40E-21  | 0.7571   | 4.49E-01 |
| SeqId_15544_25  | KLK14    | 19 | 51580752  | 51587502  | 0.16196 | rs190552    | -1.843 | rs11666870  | 0.029998 | 14.88  | -0.8212 | 104 | 104 | enet | 0.11   | 4.70E-178 | 0.75535  | 0.450038 |
| SeqId_3168_8    | ADAMTS5  | 21 | 28290241  | 28339407  | 0.27228 | rs147421162 | -2.06  | rs2830585   | 0.22635  | -40.42 | 0.922   | 47  | 47  | enet | 0.27   | 0         | -0.7542  | 0.451    |
| SeqId_16318_12  | ACVRL1   | 12 | 52300692  | 52317145  | 0.06622 | rs303765    | 2.964  | rs78197611  | 0.039205 | 17.06  | 1.894   | 42  | 42  | enet | 0.05   | 2.90E-83  | 0.75211  | 0.45199  |
| SeqId_18319_7   | PDHX     | 11 | 34937376  | 35042138  | 0.07716 | rs56410006  | -2.034 | rs2915221   | 0.046208 | -18.83 | -1.032  | 143 | 143 | enet | 0.09   | 3.20E-150 | 0.75008  | 4.53E-01 |
| SeqId_10672_75  | SFTPB    | 2  | 85884437  | 85895864  | 0.41198 | rs77433347  | 2.708  | rs1130866   | 0.13379  | -31.1  | -1.046  | 68  | 68  | enet | 0.14   | 9.00E-244 | 0.7506   | 4.53E-01 |
| SeqId_15457_14  | ANPEP    | 15 | 90328126  | 90358633  | 0.00994 | rs79483623  | 2.368  | rs1042499   | 0.00495  | 6.2    | -0.75   | 24  | 1   | top1 | 0.005  | 1.30E-09  | -0.75    | 0.4533   |
| SeqId_6496_60   | DLK1     | 14 | 101192042 | 101204561 | 0.08558 | rs75741145  | 3.308  | rs4905998   | 0.094834 | 26.48  | -0.1    | 60  | 60  | enet | 0.11   | 3.70E-192 | -0.7472  | 4.55E-01 |
| SeqId_4435_66   | ENPP7    | 17 | 77704705  | 77716018  | 0.2973  | rs141015675 | 2.146  | rs8077074   | 0.370276 | 52.08  | 0.498   | 75  | 75  | enet | 0.42   | 0         | 0.7463   | 0.45548  |
| SeqId_14100_63  | C1QC     | 1  | 22970126  | 22974603  | 0.29541 | rs139801860 | -2.378 | rs75380810  | 6.90E-02 | 22.37  | -0.53   | 159 | 159 | enet | 0.19   | 0         | 0.7455   | 0.455957 |
| SeqId_9201_13   | TAGLN2   | 1  | 159887897 | 159895297 | 0.04108 | rs8192602   | -2.002 | rs2789422   | 2.77E-02 | -14.29 | 0.113   | 46  | 46  | enet | 0.029  | 1.00E-48  | -0.7451  | 0.45623  |
| SeqId_13112_179 | FSTL1    | 3  | 120111140 | 120169840 | 0.03726 | rs146626560 | -3.05  | rs916510    | 1.06E-02 | -9.03  | 0.503   | 87  | 87  | enet | 0.018  | 2.00E-30  | -0.74375 | 4.57E-01 |
| SeqId_8336_267  | GRAMD1C  | 3  | 113547029 | 113666021 | 0.08358 | rs4339084   | -1.76  | rs61634901  | 4.94E-02 | 19.01  | -0.309  | 24  | 24  | enet | 0.061  | 2.60E-100 | -0.7441  | 4.57E-01 |
| SeqId_6649_51   | NTN1     | 17 | 8924827   | 9147317   | 0.13331 | rs77511930  | -2.757 | rs9897200   | 0.087398 | -25.17 | 0.891   | 78  | 78  | enet | 0.16   | 1.10E-277 | -0.7431  | 0.45741  |
| SeqId_11510_31  | APOL1    | 22 | 36649117  | 36663576  | 0.12171 | rs9607318   | -2.38  | rs10854688  | 0.07552  | 23.54  | -0.804  | 57  | 57  | enet | 0.1    | 6.40E-169 | -0.7425  | 0.45777  |
| SeqId_4886_3    | CCL7     | 17 | 32597240  | 32599261  | 0.17405 | rs2530797   | -1.911 | rs3138037   | 0.118813 | -29.31 | 0.109   | 35  | 35  | enet | 0.18   | 2.50E-307 | -0.7414  | 0.45845  |
| SeqId_6897_38   | B3GAT3   | 11 | 62382768  | 62389626  | 0.06405 | rs11231079  | -2.26  | rs7122950   | 0.068374 | -22.62 | 0.151   | 47  | 47  | enet | 0.074  | 1.70E-123 | -0.73991 | 4.59E-01 |
| SeqId_19277_4   | TSTD1    | 1  | 161007421 | 161008767 | 0.26994 | rs74879368  | 2.231  | rs11580071  | 1.76E-01 | 35.71  | 0.376   | 52  | 52  | enet | 0.24   | 0         | 0.7403   | 0.459099 |
| SeqId_2731_29   | POR      | 7  | 75528518  | 75616173  | 0.01521 | rs239958    | -1.944 | rs59882870  | 0.00733  | 7.61   | 1.362   | 29  | 29  | enet | 0.012  | 4.40E-21  | 0.7363   | 0.461556 |
| SeqId_7928_183  | TPST1    | 7  | 65670304  | 65885530  | 0.04976 | rs12539696  | 3.777  | rs313829    | 0.054094 | 20.69  | 0.022   | 56  | 56  | enet | 0.096  | 4.80E-161 | -0.7343  | 0.462788 |
| SeqId_3367_8    | FETUB    | 3  | 186353758 | 186370930 | 0.25019 | rs13070687  | -2.41  | rs5030103   | 4.16E-02 | -19.72 | 1.341   | 88  | 88  | enet | 0.14   | 3.50E-235 | -0.73399 | 4.63E-01 |
| SeqId_8345_27   | GPX7     | 1  | 53068043  | 53074723  | 0.13396 | rs835352    | 1.169  | rs6669154   | 1.43E-01 | -32.23 | -0.654  | 16  | 16  | enet | 0.17   | 3.10E-289 | 0.731    | 0.464785 |
| SeqId_11514_196 | CD59     | 11 | 33724556  | 33758025  | 0.07006 | rs145951489 | -1.752 | rs831630    | 0.066144 | -22.11 | 0.33    | 44  | 44  | enet | 0.085  | 4.90E-142 | -0.72918 | 4.66E-01 |
| SeqId_11212_7   | TXNDC5   | 6  | 7881750   | 7911021   | 0.08261 | rs111331197 | 1.98   | rs111331197 | 0.03401  | 15.78  | 1.981   | 28  | 28  | enet | 0.06   | 1.10E-98  | 0.73     | 4.66E-01 |
| SeqId_15385_116 | FABP2    | 4  | 120238405 | 120243293 | 0.17634 | rs7665125   | -2.432 | rs1799883   | 0.325812 | 48.49  | -0.645  | 37  | 37  | enet | 0.33   | 0         | -0.7275  | 4.67E-01 |
| SeqId_15304_1   | REG3A    | 2  | 79384129  | 79386879  | 0.06516 | rs1261238   | -2.282 | rs116652994 | 0.02359  | 13.12  | -0.438  | 41  | 41  | enet | 0.048  | 3.40E-79  | 0.7219   | 4.70E-01 |
| SeqId_9910_9    | MTAP     | 9  | 21802635  | 21937650  | 0.00287 | rs1345026   | 0.723  | rs1345026   | 0.00187  | -5.15  | 0.723   | 4   | 1   | top1 | 0.0019 | 0.00014   | -0.723   | 4.70E-01 |
| SeqId_18183_3   | LDLRAP1  | 1  | 25870097  | 25895377  | 0.12575 | rs76148397  | -2.519 | rs4523506   | 6.09E-02 | -21.29 | -1.513  | 33  | 33  | enet | 0.099  | 1.10E-165 | 0.7218   | 0.470443 |
| SeqId_13930_3   | APOBEC3G | 22 | 39473072  | 39483748  | 0.04197 | rs1043395   | 2.03   | rs17537581  | 0.01773  | -12.03 | 0.195   | 35  | 35  | enet | 0.032  | 7.00E-54  | 0.7217   | 0.47046  |

|                 |          |    |           |           |         |             |        |             |          |        |         |     |     |      |        |           |          |          |
|-----------------|----------|----|-----------|-----------|---------|-------------|--------|-------------|----------|--------|---------|-----|-----|------|--------|-----------|----------|----------|
| SeqId_2614_28   | EFNA4    | 1  | 155036213 | 155042029 | 0.01414 | rs9426832   | -1.977 | rs3806256   | 3.65E-03 | 6.1    | 0.719   | 12  | 1   | top1 | 0.0037 | 1.70E-07  | 0.719    | 0.472141 |
| SeqId_19448_104 | UPP1     | 7  | 48128225  | 48148333  | 0.01051 | rs3763504   | 0.989  | rs3763505   | 0.008189 | 8.58   | 0.716   | 10  | 1   | top1 | 0.0082 | 8.20E-15  | 0.716    | 0.473991 |
| SeqId_3004_67   | PDCD1LG2 | 9  | 5510531   | 5571282   | 0.2984  | rs117058003 | 2.422  | rs16923189  | 0.19427  | 37.44  | 1.458   | 36  | 36  | enet | 0.28   | 0         | 0.7168   | 4.74E-01 |
| SeqId_5609_92   | FAM19A5  | 22 | 48885365  | 49246724  | 0.01624 | rs113299767 | 3.06   | rs5768649   | 0.00184  | -6.42  | 0.362   | 33  | 33  | enet | 0.0061 | 2.10E-11  | 0.7141   | 0.47515  |
| SeqId_19606_28  | IHH      | 2  | 219919146 | 219925643 | 0.0052  | rs55838820  | 0.758  | rs55836193  | 0.00205  | -4.66  | 0.713   | 7   | 1   | top1 | 0.002  | 7.20E-05  | -0.713   | 4.76E-01 |
| SeqId_6255_74   | CPXM1    | 20 | 2774720   | 2781273   | 0.4105  | rs214808    | -2.45  | rs11697820  | 0.245067 | 42.06  | 1.21474 | 90  | 90  | enet | 0.36   | 0         | 0.7112   | 0.47699  |
| SeqId_16057_6   | IGF2R    | 6  | 160390114 | 160534539 | 0.34715 | rs146785976 | 2.96   | rs2282140   | 0.17549  | 35.59  | -0.945  | 82  | 82  | enet | 0.29   | 0         | -0.71    | 4.77E-01 |
| SeqId_10666_7   | GNPTG    | 16 | 1401932   | 1415738   | 0.1391  | rs35903896  | -2.17  | rs6600137   | 0.08929  | -25.45 | 1.14    | 59  | 59  | enet | 0.13   | 4.10E-216 | -0.7094  | 4.78E-01 |
| SeqId_17138_8   | GSTA1    | 6  | 52656169  | 52668658  | 0.1122  | rs61444306  | 1.21   | rs4715316   | 0.26096  | 43.6   | -0.628  | 64  | 64  | enet | 0.28   | 0         | -0.71    | 4.78E-01 |
| SeqId_15644_1   | BTD      | 3  | 15642848  | 15763818  | 0.35051 | rs9855575   | 2.51   | rs71627145  | 1.58E-01 | -34.12 | -0.162  | 108 | 108 | enet | 0.26   | 0         | 0.70734  | 4.79E-01 |
| SeqId_16753_46  | COL6A2   | 21 | 47518026  | 47552762  | 0.18107 | rs148946852 | -2.3   | rs35548026  | 0.04705  | -18.56 | -0.579  | 73  | 73  | enet | 0.086  | 6.70E-143 | 0.7067   | 0.48     |
| SeqId_13676_46  | INHBB    | 2  | 121103712 | 121109379 | 0.13809 | rs36302060  | 1.912  | rs17050272  | 0.08664  | 25.11  | 0.724   | 29  | 29  | enet | 0.089  | 2.80E-148 | 0.7048   | 4.81E-01 |
| SeqId_19187_21  | STAMPB   | 2  | 74056043  | 74100786  | 0.01159 | rs7419346   | -2.765 | rs77000353  | 0.00392  | 5.82   | 0.704   | 25  | 25  | enet | 0.0053 | 3.90E-10  | -0.7046  | 4.81E-01 |
| SeqId_3348_49   | BMP1     | 8  | 22022653  | 22069839  | 0.02845 | rs146424305 | 1.487  | rs1126931   | 0.008018 | -8.93  | 0.4515  | 25  | 25  | enet | 0.015  | 2.90E-26  | -0.7011  | 0.483247 |
| SeqId_5465_32   | HS6ST1   | 2  | 128994290 | 129076442 | 0.0792  | rs190342391 | 3.255  | rs4662790   | 0.02909  | -14.99 | 0.071   | 99  | 99  | enet | 0.054  | 1.20E-88  | -0.6997  | 4.84E-01 |
| SeqId_19377_14  | OLFM2    | 19 | 9964394   | 10047191  | 0.32232 | rs34561079  | -2.464 | rs62104305  | 0.313106 | 47.61  | 0.605   | 70  | 70  | enet | 0.33   | 0         | 0.69818  | 0.485067 |
| SeqId_13657_2   | PNKP     | 19 | 50363139  | 50381608  | 0.01334 | rs117347783 | -1.54  | rs2290774   | 0.003347 | -5.93  | -0.086  | 17  | 17  | enet | 0.007  | 5.70E-13  | 0.69726  | 0.485643 |
| SeqId_19279_42  | RBP1     | 3  | 139236276 | 139258671 | 0.01923 | rs16849559  | -2.89  | rs2071387   | 1.09E-02 | 9.37   | -0.514  | 54  | 54  | enet | 0.014  | 1.60E-23  | 0.69605  | 4.86E-01 |
| SeqId_5593_11   | PDIA5    | 3  | 122785872 | 122944074 | 0.36847 | rs115111146 | 2.17   | rs3804749   | 4.82E-01 | -58.98 | -0.709  | 102 | 102 | enet | 0.5    | 0         | 0.69614  | 4.86E-01 |
| SeqId_8900_28   | NEO1     | 15 | 73344051  | 73597546  | 0.07191 | rs117366855 | -2.506 | rs1379875   | 0.05916  | -20.7  | 0.501   | 34  | 34  | enet | 0.08   | 4.20E-133 | -0.6957  | 0.4866   |
| SeqId_5400_52   | LEPR     | 1  | 65886335  | 66107242  | 0.17    | rs75148473  | 1.956  | rs2376018   | 4.54E-01 | -57.24 | 0.615   | 74  | 74  | enet | 0.47   | 0         | -0.6924  | 0.488717 |
| SeqId_3028_36   | CCL23    | 17 | 34340096  | 34345009  | 0.41392 | rs113688187 | 2.983  | rs712048    | 0.17946  | -36.04 | 1.026   | 127 | 127 | enet | 0.3    | 0         | -0.6922  | 0.48884  |
| SeqId_5630_48   | CD300A   | 17 | 72462538  | 72480933  | 0.23383 | rs62063449  | 2.06   | rs2272111   | 0.245113 | -42.06 | -0.641  | 80  | 80  | enet | 0.29   | 0         | 0.691    | 0.48959  |
| SeqId_7891_45   | UGT1A6   | 2  | 234600253 | 234681946 | 0.06011 | rs234681946 | -1.934 | rs887829    | 0.06198  | -21.31 | 0.771   | 39  | 39  | enet | 0.079  | 8.00E-131 | -0.6861  | 4.93E-01 |
| SeqId_3651_50   | KDR      | 4  | 55944648  | 55991762  | 0.42042 | rs10434440  | 2.958  | rs34231037  | 0.072418 | -22.98 | -0.564  | 67  | 67  | enet | 0.16   | 4.70E-268 | 0.6856   | 4.93E-01 |
| SeqId_14116_129 | S100A4   | 1  | 153516089 | 153522612 | 0.01561 | rs150059283 | -3.009 | rs79399329  | 4.38E-03 | 6.82   | -1.172  | 45  | 45  | enet | 0.0094 | 8.20E-17  | 0.6848   | 0.493458 |
| SeqId_15602_43  | IL6R     | 1  | 154377669 | 154441926 | 0.38332 | rs41308403  | -2.763 | rs4129267   | 5.28E-01 | 61.74  | 1.212   | 49  | 49  | enet | 0.57   | 0         | 0.6809   | 0.495964 |
| SeqId_4125_52   | AGER     | 6  | 32148745  | 32152099  | 0.1132  | rs204999    | -1.41  | rs2070600   | 0.04918  | -18.86 | -0.681  | 17  | 1   | top1 | 0.049  | 2.70E-81  | 0.681    | 4.96E-01 |
| SeqId_8428_102  | NTM      | 11 | 131240373 | 132206716 | 0.22768 | rs7938687   | -2.817 | rs2511781   | 0.187727 | 36.83  | -0.515  | 121 | 121 | enet | 0.25   | 0         | -0.67864 | 4.97E-01 |
| SeqId_5430_66   | SIRPA    | 20 | 1874813   | 1921238   | 0.29157 | rs35556047  | -2.39  | rs6136376   | 0.524266 | -61.53 | -0.671  | 51  | 51  | enet | 0.53   | 0         | 0.6745   | 0.49997  |
| SeqId_17761_2   | NUDT5    | 10 | 12207329  | 12238143  | 0.00659 | rs7895525   | 1.93   | rs7099650   | 0.00191  | -5.99  | -0.182  | 8   | 8   | enet | 0.0042 | 2.40E-08  | 0.674126 | 0.5002   |
| SeqId_4487_1    | FGF7     | 15 | 49715434  | 49780972  | 0.09684 | rs143076571 | -2.127 | rs7161744   | 0.01258  | -10.97 | -0.124  | 46  | 46  | enet | 0.038  | 1.40E-62  | 0.6737   | 0.5005   |
| SeqId_11369_23  | ADH5     | 4  | 99992129  | 100009952 | 0.06273 | rs72681991  | -1.55  | rs62325239  | 0.069219 | -22.43 | -0.366  | 66  | 66  | enet | 0.091  | 2.00E-152 | 0.6692   | 5.03E-01 |
| SeqId_3166_92   | CD33     | 19 | 51728320  | 51747115  | 0.5964  | rs75883262  | -3.236 | rs3865444   | 0.393413 | -53.32 | -0.319  | 149 | 149 | enet | 0.5    | 0         | 0.66898  | 0.503508 |
| SeqId_5121_3    | SEMA6B   | 19 | 4542605   | 4581788   | 0.02603 | rs10415374  | -1.845 | rs4353572   | 0.009394 | 8.38   | 0.7961  | 46  | 46  | enet | 0.01   | 3.10E-18  | 0.66827  | 0.503963 |
| SeqId_16763_11  | LECT2    | 5  | 135257968 | 135290672 | 0.50447 | rs143103412 | -1.945 | rs2526147   | 2.31E-01 | -40.92 | -0.795  | 79  | 79  | enet | 0.43   | 0         | 0.66714  | 0.50468  |
| SeqId_18408_26  | ARF4     | 3  | 57557090  | 57583947  | 0.01704 | rs144612862 | -1.42  | rs141818286 | 5.25E-03 | 6.5    | 0.307   | 10  | 10  | enet | 0.0081 | 1.30E-14  | 0.66596  | 5.05E-01 |
| SeqId_12534_10  | CALCOCO2 | 17 | 46908380  | 46943884  | 0.02518 | rs688945    | -2.13  | rs318100    | 0.020006 | -12.47 | -0.42   | 15  | 15  | enet | 0.023  | 2.70E-38  | 0.6641   | 0.50662  |
| SeqId_10948_14  | PLD3     | 19 | 40854363  | 40886346  | 0.03145 | rs535840    | 2.688  | rs4803321   | 0.020549 | 12.41  | -0.664  | 50  | 1   | top1 | 0.021  | 1.20E-34  | -0.664   | 0.50669  |
| SeqId_8970_9    | RIPK2    | 8  | 90770034  | 90803292  | 0.00492 | rs13267411  | 1.224  | rs34211510  | 0.004766 | 6.2    | 0.664   | 5   | 1   | top1 | 0.0048 | 2.60E-09  | 0.664    | 0.50669  |
| SeqId_5353_89   | IL1RN    | 2  | 113864791 | 113891593 | 0.07229 | rs2515391   | -2.246 | rs55709272  | 0.06882  | -22.37 | 0.107   | 81  | 81  | enet | 0.12   | 4.50E-197 | 0.663    | 5.07E-01 |
| SeqId_6715_63   | ALPL2    | 2  | 233271554 | 233275424 | 0.0988  | rs11688622  | 2.446  | rs35458538  | 0.03769  | 16.62  | 0.949   | 45  | 45  | enet | 0.066  | 2.00E-109 | 0.6639   | 5.07E-01 |
| SeqId_11377_19  | ADH7     | 4  | 100333418 | 100356667 | 0.07908 | rs114002582 | -2.321 | rs17529509  | 0.035284 | -16.11 | 0.855   | 83  | 83  | enet | 0.048  | 2.50E-79  | -0.6607  | 5.09E-01 |
| SeqId_6927_7    | NDST1    | 5  | 149865381 | 149937773 | 0.05693 | rs17149324  | 1.453  | rs11746198  | 2.39E-02 | 13.43  | -0.347  | 33  | 33  | enet | 0.04   | 5.20E-67  | -0.66014 | 5.0917   |
| SeqId_11615_16  | DAPP1    | 4  | 100737984 | 100791347 | 0.09032 | rs7666555   | 1.864  | rs3822103   | 0.058752 | -20.68 | 0.108   | 80  | 80  | enet | 0.07   | 7.30E-117 | -0.6572  | 5.11E-01 |
| SeqId_8307_47   | C11orf68 | 11 | 65684281  | 65686533  | 0.07142 | rs565972    | 2.236  | rs554169857 | 0.031177 | 15.05  | 0.266   | 26  | 26  | enet | 0.034  | 2.60E-56  | 0.65553  | 5.12E-01 |
| SeqId_4874_3    | ANG      | 14 | 21152336  | 21167130  | 0.29317 | rs72672714  | -3.276 | rs4982325   | 0.136212 | 32.27  | -1.066  | 98  | 98  | enet | 0.31   | 0         | -0.6551  | 5.12E-01 |
| SeqId_18243_9   | CMPP1    | 1  | 47799462  | 47844511  | 0.10147 | rs1249089   | -2.981 | rs35687416  | 3.77E-02 | -16.54 | -0.628  | 54  | 54  | enet | 0.052  | 1.90E-85  | 0.6547   | 0.512686 |
| SeqId_11656_110 | EVL      | 14 | 100437786 | 100610573 | 0.02878 | rs71422786  | 2.89   | rs34612764  | 0.008856 | 9.26   | 0.409   | 68  | 68  | enet | 0.021  | 4.80E-36  | 0.6546   | 5.13E-01 |
| SeqId_9357_4    | CREG1    | 1  | 167498354 | 167523042 | 0.05114 | rs113928789 | 1.49   | rs7513428   | 2.85E-02 | -14.37 | -0.692  | 19  | 19  | enet | 0.035  | 6.30E-58  | 0.6516   | 0.514669 |
| SeqId_4374_45   | GDF15    | 19 | 18485541  | 18499986  | 0.28223 | rs76580597  | 1.383  | rs16982345  | 0.176533 | 35.78  | -0.892  | 46  | 46  | enet | 0.27   | 0         | -0.64793 | 0.517032 |
| SeqId_12812_25  | ACYP2    | 2  | 54197975  | 54532437  | 0.07498 | rs10427395  | 2.636  | rs11125524  | 0.07379  | 23.12  | -0.443  | 65  | 65  | enet | 0.11   | 8.70E-179 | -0.6468  | 5.18E-01 |
| SeqId_11257_1   | QDPR     | 4  | 17461884  | 17513829  | 0.27052 | rs187658266 | -2.212 | rs7661303   | 0.200076 | -38.01 | 0.622   | 67  | 67  | enet | 0.26   | 0         | -0.646   | 5.18E-01 |

|                 |          |    |           |           |         |             |        |             |          |        |        |     |     |      |        |           |           |          |
|-----------------|----------|----|-----------|-----------|---------|-------------|--------|-------------|----------|--------|--------|-----|-----|------|--------|-----------|-----------|----------|
| SeqId_17447_52  | SFRP4    | 7  | 37945534  | 38065297  | 0.07458 | rs17171306  | -2.361 | rs2598109   | 0.029307 | -14.92 | 0.72   | 55  | 55  | enet | 0.049  | 1.10E-80  | -0.6459   | 0.518332 |
| SeqId_17148_7   | BLVRB    | 19 | 40953672  | 40971671  | 0.08382 | rs111533484 | -2.666 | rs184723794 | 0.026996 | -14.13 | 1.873  | 56  | 56  | enet | 0.032  | 6.10E-53  | -0.64341  | 0.519959 |
| SeqId_5532_53   | FGFR1    | 8  | 38257733  | 38326352  | 0.03695 | rs6985355   | 1.829  | rs11997244  | 0.007566 | -8.88  | 0.838  | 42  | 42  | enet | 0.028  | 7.50E-47  | -0.6397   | 0.522386 |
| SeqId_15503_15  | LEFTY2   | 1  | 226124298 | 226129083 | 0.0791  | rs4653426   | 2.101  | rs360078    | 4.83E-02 | -19.06 | 0.388  | 59  | 59  | enet | 0.066  | 7.60E-109 | -0.6372   | 0.523973 |
| SeqId_3060_43   | C9       | 5  | 39284242  | 39424970  | 0.11258 | rs41302832  | -2.749 | rs696766    | 2.22E-02 | -12.71 | -1.475 | 135 | 135 | enet | 0.067  | 3.90E-110 | 0.63656   | 0.52441  |
| SeqId_11636_33  | TAGLN2   | 1  | 159887897 | 159895297 | 0.04534 | rs73021687  | -2.183 | rs2789422   | 3.13E-02 | -15.09 | 0.113  | 36  | 36  | enet | 0.033  | 5.10E-54  | -0.6346   | 0.525699 |
| SeqId_7968_15   | CRTAM    | 11 | 122709208 | 122743351 | 0.11801 | rs140345204 | -1.999 | rs2370794   | 0.040466 | 17.16  | -0.078 | 34  | 34  | enet | 0.08   | 3.80E-132 | 0.63269   | 5.27E-01 |
| SeqId_13929_27  | CROT     | 7  | 86974980  | 87029110  | 0.08529 | rs34110100  | 1.753  | rs31659     | 0.06532  | 22.33  | 0.686  | 23  | 23  | enet | 0.078  | 1.60E-129 | 0.6314    | 0.527761 |
| SeqId_5355_69   | TNFSF14  | 19 | 6661264   | 6670599   | 0.00851 | rs74585960  | 3.025  | rs413141    | 0.000351 | -4.85  | -0.283 | 53  | 53  | enet | 0.0048 | 2.30E-09  | 0.63046   | 0.528396 |
| SeqId_3799_11   | CA3      | 8  | 86285665  | 86361269  | 0.04038 | rs74603761  | -2.686 | rs1543852   | 0.03604  | 16.76  | 1.061  | 29  | 29  | enet | 0.044  | 1.90E-73  | 0.628     | 0.529973 |
| SeqId_6472_40   | PMEL     | 12 | 56347889  | 56367101  | 0.02901 | rs3213122   | 0.628  | rs3213122   | 0.027629 | 14.4   | 0.628  | 5   | 1   | top1 | 0.028  | 4.60E-46  | 0.628     | 0.53     |
| SeqId_8606_39   | GNPMB    | 7  | 23275586  | 23314727  | 0.17268 | rs1542608   | 3.005  | rs2268748   | 0.036597 | 16.29  | 1.094  | 98  | 98  | enet | 0.067  | 3.40E-111 | 0.6263    | 0.531132 |
| SeqId_2212_69   | PLAT     | 8  | 42032236  | 42065227  | 0.00992 | rs2020921   | -0.796 | rs77346091  | 0.011275 | -9.23  | -0.623 | 4   | 1   | top1 | 0.011  | 9.30E-20  | 0.623     | 0.533285 |
| SeqId_8409_3    | RSPO2    | 8  | 108911544 | 109095870 | 0.00231 | rs78052592  | -0.876 | rs640068    | 0.002116 | -4.47  | 0.622  | 10  | 1   | top1 | 0.0021 | 5.50E-05  | -0.622    | 0.533942 |
| SeqId_8842_16   | GRAMD1C  | 3  | 113547029 | 113666021 | 0.19339 | rs4339084   | -1.76  | rs61634901  | 1.45E-01 | 32.48  | -0.309 | 43  | 43  | enet | 0.19   | 0         | -0.62126  | 5.34E-01 |
| SeqId_11431_235 | RECQL    | 12 | 21621844  | 21654603  | 0.03608 | rs76497895  | 3.424  | rs74626198  | 0.005838 | -7.7   | 0.648  | 78  | 78  | enet | 0.02   | 8.70E-34  | 0.62181   | 0.53407  |
| SeqId_8364_74   | UST      | 6  | 149068166 | 149398126 | 0.04723 | rs1768328   | -2.46  | rs7764228   | 0.009    | -9.26  | 0.0494 | 86  | 86  | enet | 0.033  | 2.50E-55  | -0.621    | 5.35E-01 |
| SeqId_12381_26  | CBR1     | 21 | 37442239  | 37445464  | 0.1335  | rs2835230   | 2.82   | rs16993864  | 0.08399  | -24.73 | 0.663  | 28  | 28  | enet | 0.093  | 3.50E-155 | -0.6184   | 0.536    |
| SeqId_3074_6    | LBP      | 20 | 36974885  | 37005655  | 0.40262 | rs1739655   | 2.61   | rs2232613   | 0.216406 | -39.54 | -0.76  | 64  | 64  | enet | 0.28   | 0         | -0.6182   | 0.53643  |
| SeqId_19446_1   | GMPR2    | 14 | 24701628  | 24708448  | 0.17871 | rs144673701 | -2.496 | rs34354104  | 0.079308 | -23.95 | -0.463 | 54  | 54  | enet | 0.09   | 1.00E-149 | 0.6176    | 5.37E-01 |
| SeqId_4337_49   | CRP      | 1  | 159682079 | 159684379 | 0.06035 | rs876538    | -1.929 | rs2794520   | 3.24E-02 | -15.46 | -0.961 | 36  | 36  | enet | 0.047  | 2.20E-78  | 0.6166    | 0.53751  |
| SeqId_3773_15   | TEK      | 9  | 27109139  | 27230172  | 0.15471 | rs10967916  | 2.29   | rs35030851  | 0.06059  | 21.06  | 0.399  | 35  | 35  | enet | 0.11   | 4.70E-179 | -0.6155   | 5.38E-01 |
| SeqId_17836_17  | S100A16  | 1  | 153579362 | 153585621 | 0.06095 | rs188550783 | 3.417  | rs9729773   | 4.84E-02 | 19.33  | 0.146  | 45  | 45  | enet | 0.057  | 1.60E-94  | 0.615     | 0.538557 |
| SeqId_11634_32  | RGSI0    | 10 | 121259329 | 121302231 | 0.01567 | rs117261018 | -2.5   | rs61874690  | 0.001397 | 5.39   | -0.621 | 39  | 39  | enet | 0.0035 | 3.50E-07  | -0.613159 | 0.5398   |
| SeqId_8786_6    | FAM171B  | 2  | 187558787 | 187630686 | 0.03568 | rs17334436  | -1.487 | rs12621915  | 0.02092  | -12.37 | -0.667 | 42  | 42  | enet | 0.028  | 1.70E-46  | 0.6134    | 5.40E-01 |
| SeqId_14158_17  | ANXA5    | 4  | 122589101 | 122618150 | 0.00637 | rs10034975  | -1.642 | rs36177180  | 0.00096  | -4.77  | 0.094  | 11  | 11  | enet | 0.0015 | 0.00056   | -0.6116   | 5.41E-01 |
| SeqId_4535_50   | BST1     | 4  | 15704688  | 15739936  | 0.29954 | rs34921119  | -2.387 | rs6842052   | 0.392827 | -53.28 | 0.115  | 103 | 103 | enet | 0.48   | 0         | -0.6106   | 5.41E-01 |
| SeqId_18342_2   | PSAT1    | 9  | 80912041  | 80945009  | 0.06013 | rs7858423   | 2.226  | rs1929402   | 0.04883  | 19     | -0.194 | 18  | 18  | enet | 0.062  | 2.80E-103 | 0.6118    | 5.41E-01 |
| SeqId_11142_11  | ANGPTL1  | 1  | 178818670 | 178840212 | 0.12965 | rs146233229 | -1.57  | rs10913568  | 9.44E-02 | -26.19 | 0.738  | 89  | 89  | enet | 0.17   | 3.10E-287 | -0.6107   | 0.541384 |
| SeqId_11211_7   | TBCE     | 1  | 235491885 | 235615756 | 0.16991 | rs113752657 | -2.543 | rs4469707   | 7.33E-02 | -23.07 | 0.478  | 89  | 89  | enet | 0.15   | 3.70E-261 | 0.6105    | 0.54151  |
| SeqId_12641_3   | INPP5B   | 1  | 38326369  | 38412729  | 0.12002 | rs150788669 | 1.753  | rs112836202 | 2.00E-01 | -38.17 | -1.134 | 71  | 71  | enet | 0.25   | 0         | 0.6076    | 0.543444 |
| SeqId_6713_4    | LRP11    | 6  | 150139893 | 150185495 | 0.21424 | rs111576955 | -2.36  | rs1889471   | 0.49903  | 60.28  | 0.6212 | 88  | 88  | enet | 0.56   | 0         | 0.607     | 5.44E-01 |
| SeqId_2647_66   | GDI2     | 10 | 5807186   | 5884095   | 0.07521 | rs12722563  | -2.77  | rs55913768  | 0.097712 | -26.73 | -1.227 | 79  | 79  | enet | 0.13   | 3.20E-212 | 0.605949  | 0.5445   |
| SeqId_8269_327  | ARSK     | 5  | 94890805  | 94940806  | 0.01586 | rs7737930   | -1.763 | rs956274    | 8.19E-03 | -7.78  | 0.949  | 17  | 17  | enet | 0.0087 | 1.40E-15  | -0.60473  | 0.54536  |
| SeqId_8932_1    | ENTPD6   | 20 | 25176329  | 25208711  | 0.05151 | rs78827294  | 2.64   | rs6050446   | 0.018226 | 12.13  | 0.956  | 44  | 44  | enet | 0.019  | 1.60E-32  | 0.6045    | 0.54548  |
| SeqId_4559_64   | KYNU     | 2  | 143635226 | 143813402 | 0.12654 | rs35055777  | 1.804  | rs112211045 | 0.22066  | -39.97 | -0.704 | 59  | 59  | enet | 0.23   | 0         | 0.6034    | 5.46E-01 |
| SeqId_3516_60   | CXCL12   | 10 | 44865613  | 44881941  | 0.03624 | rs79775926  | 1.85   | rs1023264   | 0.012705 | -9.8   | -0.116 | 24  | 24  | enet | 0.021  | 1.10E-34  | -0.602091 | 0.5471   |
| SeqId_5491_12   | SPOCK2   | 10 | 73818792  | 73848790  | 0.0272  | rs117273499 | 1.58   | rs3312      | 0.029813 | 15.13  | 0.822  | 28  | 28  | enet | 0.03   | 5.70E-50  | 0.601625  | 0.5474   |
| SeqId_2741_22   | SIGLEC6  | 19 | 52021073  | 52035110  | 0.24169 | rs145673783 | 3.116  | rs4802807   | 0.175583 | -35.67 | -1.393 | 98  | 98  | enet | 0.29   | 0         | 0.60025   | 0.548341 |
| SeqId_12662_82  | ECH1     | 19 | 39306062  | 39322481  | 0.13938 | rs117807208 | -1.769 | rs2292959   | 0.095574 | 26.32  | -0.599 | 10  | 1   | top1 | 0.096  | 9.30E-160 | -0.599    | 0.549173 |
| SeqId_6409_57   | ADGRF5   | 6  | 46820259  | 46922680  | 0.1501  | rs114374752 | -1.94  | rs586024    | 0.23165  | 40.97  | 0.249  | 59  | 59  | enet | 0.26   | 0         | 0.596     | 5.51E-01 |
| SeqId_10521_10  | MXRA8    | 1  | 1288069   | 1297157   | 0.00991 | rs17162854  | 1.362  | rs1240713   | 4.87E-03 | -7.46  | 0.006  | 26  | 26  | enet | 0.0078 | 3.80E-14  | -0.5955   | 0.551541 |
| SeqId_16900_29  | MDGA1    | 6  | 37598455  | 37667082  | 0.57444 | rs11755738  | 2.2    | rs9349050   | 0.50047  | -60.11 | 0.434  | 173 | 173 | enet | 0.55   | 0         | -0.595    | 5.52E-01 |
| SeqId_15620_4   | NLGN1    | 3  | 173114074 | 174004434 | 0.05058 | rs11709498  | -2.43  | rs497383    | 2.04E-02 | 12.35  | 0.385  | 49  | 49  | enet | 0.036  | 4.90E-60  | -0.5939   | 5.53E-01 |
| SeqId_17821_20  | NMT2     | 10 | 15144583  | 15210692  | 0.05676 | rs11592551  | -1.82  | rs11259539  | 0.024348 | -13.5  | 0.73   | 20  | 20  | enet | 0.038  | 1.20E-62  | -0.592315 | 0.5536   |
| SeqId_5091_28   | LILRB2   | 19 | 54777666  | 54785039  | 0.33336 | rs11668189  | -1.602 | rs383925    | 0.372729 | 51.87  | -0.692 | 47  | 47  | enet | 0.41   | 0         | -0.59155  | 0.554152 |
| SeqId_3535_84   | DKK1     | 10 | 54074041  | 54077802  | 0.1963  | rs1733725   | -2.45  | rs11003047  | 0.055424 | 20.94  | 0.514  | 77  | 77  | enet | 0.14   | 8.80E-243 | 0.591103  | 0.5545   |
| SeqId_6576_1    | ART4     | 12 | 14978503  | 14996460  | 0.16954 | rs2233623   | 1.718  | rs7311924   | 0.444401 | 56.72  | 0.557  | 87  | 87  | enet | 0.45   | 0         | 0.59013   | 0.5551   |
| SeqId_5648_28   | CTRB2    | 16 | 75238001  | 75241059  | 0.38782 | rs4888354   | -1.89  | rs1808427   | 0.28264  | -45.29 | -1.173 | 56  | 56  | enet | 0.42   | 0         | 0.5882    | 5.56E-01 |
| SeqId_5404_53   | TNFRSF21 | 6  | 47199268  | 47277641  | 0.10755 | rs1884046   | 2.08   | rs6458555   | 0.03594  | 16.25  | 0.932  | 92  | 92  | enet | 0.071  | 1.90E-118 | 0.584     | 5.59E-01 |
| SeqId_13717_15  | FCN2     | 9  | 137772656 | 137779369 | 0.25372 | rs3124956   | 2.451  | rs11103563  | 0.19802  | -37.89 | -0.346 | 96  | 96  | enet | 0.29   | 0         | -0.5835   | 5.60E-01 |
| SeqId_10605_22  | APMAP    | 20 | 24943561  | 24973387  | 0.02571 | rs35378778  | 1.99   | rs6036977   | 0.009598 | -8.88  | -0.526 | 21  | 21  | enet | 0.014  | 2.20E-24  | -0.58     | 0.56189  |
| SeqId_6234_74   | VIT      | 2  | 36923833  | 37041935  | 0.30328 | rs78196400  | -3.041 | rs1468810   | 0.12902  | -30.58 | -0.201 | 111 | 111 | enet | 0.23   | 0         | 0.5793    | 5.62E-01 |

|                 |           |    |           |           |         |             |        |             |          |        |         |     |     |      |        |           |           |          |
|-----------------|-----------|----|-----------|-----------|---------|-------------|--------|-------------|----------|--------|---------|-----|-----|------|--------|-----------|-----------|----------|
| SeqId_12469_19  | MAPRE1    | 20 | 31407760  | 31438211  | 0.08465 | rs6058900   | 2.58   | rs414049    | 0.111524 | -28.5  | 0.116   | 29  | 29  | enet | 0.13   | 3.50E-223 | -0.5762   | 0.56451  |
| SeqId_17676_13  | TRIP10    | 19 | 6737936   | 6751541   | 0.06296 | rs2018815   | 2.314  | rs8106212   | 0.008587 | 7.98   | -0.196  | 80  | 80  | enet | 0.024  | 1.50E-40  | 0.57403   | 0.56595  |
| SeqId_19289_29  | UROD      | 1  | 45476622  | 45481247  | 0.09849 | rs1152017   | -1.205 | rs12749939  | 2.38E-01 | -41.56 | -0.532  | 44  | 44  | enet | 0.24   | 0         | 0.5731    | 0.566555 |
| SeqId_13427_66  | MAN1C1    | 1  | 25943282  | 26112697  | 0.0733  | rs181237797 | 2.291  | rs11247595  | 4.33E-02 | -17.72 | 0.211   | 50  | 50  | enet | 0.067  | 1.10E-111 | -0.5714   | 0.567743 |
| SeqId_15499_11  | ATRN      | 20 | 3451665   | 3631765   | 0.25444 | rs75221813  | 2.99   | rs118065662 | 0.092487 | -25.88 | -0.833  | 69  | 69  | enet | 0.16   | 6.60E-284 | 0.5687    | 0.56957  |
| SeqId_12563_2   | TNFAIP8   | 5  | 118604387 | 118735383 | 0.07231 | rs79013506  | -1.617 | rs1035376   | 5.05E-02 | 19.14  | 0.791   | 61  | 61  | enet | 0.074  | 3.40E-123 | 0.56799   | 0.57004  |
| SeqId_10603_1   | HTN3      | 4  | 70894172  | 70902255  | 0.01781 | rs17644018  | -1.609 | rs78169960  | 0.0117   | -9.35  | -0.013  | 16  | 16  | enet | 0.013  | 2.10E-22  | -0.5652   | 5.72E-01 |
| SeqId_5605_77   | MFNG      | 22 | 37865101  | 37882431  | 0.01482 | rs56272819  | 1.44   | rs8192548   | 0.01514  | -11.15 | -0.308  | 13  | 13  | enet | 0.016  | 2.50E-27  | 0.5639    | 0.57283  |
| SeqId_5090_49   | LILRB1    | 19 | 55128612  | 55149473  | 0.1176  | rs79648432  | 2.264  | rs2098953   | 0.225319 | -40.34 | 1.052   | 67  | 67  | enet | 0.3    | 0         | -0.56308  | 0.573382 |
| SeqId_15471_29  | PNLIPRP2  | 10 | 118380465 | 118404654 | 0.28711 | rs7071432   | 1.77   | rs4751995   | 0.36881  | 51.59  | -0.543  | 23  | 23  | enet | 0.37   | 0         | -0.563106 | 0.5734   |
| SeqId_17799_9   | PGLS      | 19 | 17622445  | 17632097  | 0.11908 | rs28400331  | 3.146  | rs73020480  | 0.055315 | 20.13  | 1.326   | 63  | 63  | enet | 0.079  | 1.70E-130 | 0.56229   | 0.573918 |
| SeqId_13186_2   | C2        | 6  | 31865562  | 31913449  | 0.22122 | rs3094738   | -3.68  | rs115204832 | 0.03112  | -16.56 | -0.7613 | 137 | 137 | enet | 0.12   | 2.10E-204 | -0.558    | 5.77E-01 |
| SeqId_6551_94   | SERPINA12 | 14 | 94953611  | 94984181  | 0.21298 | rs149206929 | -2.767 | rs4900236   | 0.098191 | 26.78  | 0.69    | 55  | 55  | enet | 0.15   | 2.40E-258 | 0.5563    | 5.78E-01 |
| SeqId_18896_23  | HS6ST3    | 13 | 96742361  | 97491816  | 0.00977 | rs61968033  | -1.34  | rs12860877  | 0.00656  | 7.68   | -0.431  | 21  | 21  | enet | 0.0082 | 7.40E-15  | -0.554    | 0.5798   |
| SeqId_9337_43   | TAC1      | 7  | 97361396  | 97369784  | 0.04265 | rs6950795   | 2.302  | rs2072099   | 0.019149 | -12.12 | 1.074   | 53  | 53  | enet | 0.034  | 3.80E-57  | -0.5535   | 0.57994  |
| SeqId_8288_27   | APOH      | 17 | 64208151  | 64252643  | 0.37179 | rs76413180  | -2.462 | rs1801689   | 0.148047 | -32.7  | -0.92   | 53  | 53  | enet | 0.17   | 2.70E-294 | 0.5525    | 0.58058  |
| SeqId_4294_16   | SPHK1     | 17 | 74372665  | 74383941  | 0.0322  | rs140293715 | -3.363 | rs12941069  | 0.010233 | 8.77   | 0.1387  | 76  | 76  | enet | 0.015  | 5.40E-26  | 0.5514    | 0.58137  |
| SeqId_7156_2    | FUT10     | 8  | 33228342  | 33330664  | 0.23747 | rs112753196 | -2.354 | rs2732317   | 0.297514 | -46.34 | 0.455   | 91  | 91  | enet | 0.41   | 0         | -0.5487   | 0.583235 |
| SeqId_19143_38  | CYB5R2    | 11 | 7686331   | 7698453   | 0.14049 | rs4078281   | -2.335 | rs11041504  | 0.129922 | 30.75  | 0.164   | 95  | 95  | enet | 0.17   | 1.40E-287 | 0.54671   | 5.85E-01 |
| SeqId_9940_35   | DUSP28    | 2  | 241499471 | 241504673 | 0.09634 | rs147468658 | -2.591 | rs112548426 | 0.04681  | -18.57 | 0.394   | 49  | 49  | enet | 0.075  | 3.50E-125 | 0.5447    | 5.86E-01 |
| SeqId_4961_17   | ANXA2     | 15 | 60639333  | 60695082  | 0.04041 | rs62003317  | -2.674 | rs12440452  | 0.02174  | -13.49 | 0.026   | 43  | 43  | enet | 0.04   | 1.30E-65  | 0.5444    | 0.5861   |
| SeqId_15363_32  | APOA5     | 11 | 116660083 | 116663136 | 0.15951 | rs10750096  | 1.95   | rs35120633  | 0.21183  | 39.14  | 0.441   | 17  | 17  | enet | 0.22   | 0         | 0.54095   | 5.89E-01 |
| SeqId_2968_61   | TNFSF15   | 9  | 117546932 | 117568319 | 0.01527 | rs10114470  | 2.094  | rs56339337  | 0.00377  | -6.71  | -0.198  | 36  | 36  | enet | 0.0091 | 2.50E-16  | 0.5404    | 5.89E-01 |
| SeqId_13969_24  | KPNA6     | 1  | 32573657  | 32642164  | 0.03535 | rs72666741  | 2.136  | rs72666741  | 3.99E-02 | 17.09  | -0.54   | 19  | 1   | top1 | 0.04   | 4.50E-66  | -0.54     | 0.589197 |
| SeqId_18819_21  | PPIC      | 5  | 122358945 | 122372420 | 0.45101 | rs145479776 | -3.008 | rs17388251  | 2.71E-01 | -44.22 | -0.307  | 106 | 106 | enet | 0.36   | 0         | 0.53917   | 0.58977  |
| SeqId_9175_48   | DSCAM     | 21 | 41382926  | 42219084  | 0.02924 | rs79908646  | 1.69   | rs78111814  | 0.01894  | 11.89  | 0.589   | 41  | 41  | enet | 0.023  | 2.60E-39  | 0.5389    | 0.59     |
| SeqId_17450_51  | HARS      | 5  | 140052620 | 140071122 | 0.05935 | rs186566632 | -1.784 | rs112352450 | 7.67E-03 | 7.68   | -0.662  | 22  | 22  | enet | 0.012  | 6.00E-21  | -0.53833  | 0.59035  |
| SeqId_6227_1    | KLK10     | 19 | 51515995  | 51523431  | 0.31779 | rs116958492 | 3.336  | rs2569454   | 0.210947 | 39.05  | 1.7405  | 77  | 77  | enet | 0.32   | 0         | 0.53812   | 0.590498 |
| SeqId_4430_44   | COLEC11   | 2  | 3642422   | 3692234   | 0.28181 | rs112087264 | 2.24   | rs6542680   | 0.13339  | -31.11 | -1.469  | 81  | 81  | enet | 0.18   | 4.5e-312  | 0.5368    | 5.91E-01 |
| SeqId_19578_19  | DOK2      | 8  | 21766384  | 21771201  | 0.1036  | rs11783414  | 2.692  | rs17615788  | 0.016655 | 12.07  | 1.15    | 111 | 111 | enet | 0.061  | 4.30E-101 | -0.5365   | 0.591582 |
| SeqId_19124_9   | UBLCP1    | 5  | 158690298 | 158713044 | 0.00783 | rs1363561   | 0.914  | rs71593333  | 1.10E-02 | -9.2   | -0.533  | 12  | 1   | top1 | 0.011  | 2.20E-19  | 0.533     | 0.59403  |
| SeqId_14121_24  | TNFRSF10D | 8  | 22993101  | 23021540  | 0.00818 | rs73222535  | -1.921 | rs4460371   | 0.004982 | -6.16  | 0.0824  | 12  | 12  | enet | 0.0051 | 6.60E-10  | -0.5317   | 0.594904 |
| SeqId_5107_7    | NOTCH1    | 9  | 139388885 | 139440500 | 0.03739 | rs79265255  | -2.883 | rs9411207   | 0.01574  | 10.73  | 0.667   | 32  | 32  | enet | 0.027  | 1.20E-45  | 0.5294    | 5.97E-01 |
| SeqId_8958_51   | CHL1      | 3  | 238446    | 451100    | 0.07969 | rs145183044 | 2.54   | rs990284    | 4.27E-02 | -17.68 | 1.579   | 90  | 90  | enet | 0.082  | 4.20E-136 | -0.52664  | 5.98E-01 |
| SeqId_19557_3   | KLB       | 4  | 39408550  | 39453153  | 0.34112 | rs151161244 | -2.389 | rs13112140  | 0.183892 | -36.47 | 0.073   | 90  | 90  | enet | 0.31   | 0         | -0.5276   | 5.98E-01 |
| SeqId_10391_1   | ANGPTL3   | 1  | 63063191  | 63071984  | 0.02604 | rs7555577   | 0.615  | rs10889333  | 4.97E-02 | -19.2  | -0.299  | 26  | 26  | enet | 0.055  | 2.50E-91  | 0.5262    | 0.598718 |
| SeqId_16907_3   | CADM2     | 3  | 85008140  | 86123579  | 0.02    | rs112333528 | 1.19   | rs9880919   | 6.55E-03 | 7.89   | 0.558   | 23  | 23  | enet | 0.0078 | 3.20E-14  | 0.5252    | 5.99E-01 |
| SeqId_19238_12  | GLUL      | 1  | 182347233 | 182361341 | 0.00748 | rs594066    | -2.108 | rs61805076  | 4.99E-03 | 6.47   | 0.525   | 6   | 1   | top1 | 0.005  | 1.10E-09  | 0.525     | 0.599583 |
| SeqId_8983_7    | GOLM1     | 9  | 88641061  | 88715088  | 0.04087 | rs17430361  | 2.177  | rs13844726  | 0.0181   | 11.59  | 0.029   | 43  | 43  | enet | 0.025  | 7.90E-42  | 0.5179    | 6.05E-01 |
| SeqId_2654_19   | TNFRSF1A  | 12 | 6437923   | 6451280   | 0.02826 | rs113445398 | 3.326  | rs1800693   | 0.017409 | -11.41 | -0.516  | 20  | 1   | top1 | 0.017  | 1.30E-29  | 0.516     | 6.0585   |
| SeqId_4437_56   | ENTPD5    | 14 | 74424713  | 74486102  | 0.13505 | rs150999504 | -2.794 | rs73301475  | 0.166056 | -34.85 | 0.144   | 134 | 134 | enet | 0.2    | 0         | -0.5161   | 6.06E-01 |
| SeqId_6557_50   | LRRCL5    | 3  | 194075978 | 194090472 | 0.1651  | rs71316299  | -2.35  | rs923930    | 1.38E-01 | 31.69  | -0.102  | 52  | 52  | enet | 0.2    | 0         | -0.51626  | 6.06E-01 |
| SeqId_2697_7    | PF4       | 4  | 74846528  | 74847744  | 0.02601 | rs147841901 | -2.271 | rs199877023 | 0.016767 | -11.32 | -0.133  | 30  | 30  | enet | 0.02   | 3.40E-33  | 0.5154    | 6.06E-01 |
| SeqId_19523_215 | PARK7     | 1  | 8014351   | 8045565   | 0.11256 | rs228684    | -1.426 | rs17523802  | 1.79E-01 | 36.04  | -0.63   | 29  | 29  | enet | 0.21   | 0         | -0.5156   | 0.606148 |
| SeqId_9470_15   | METTL24   | 6  | 110565143 | 110679552 | 0.05212 | rs62420292  | -3.14  | rs7767851   | 0.01198  | 10.14  | -0.299  | 38  | 38  | enet | 0.028  | 5.70E-47  | -0.514    | 6.07E-01 |
| SeqId_6416_8    | GKN2      | 2  | 69172364  | 69180025  | 0.20397 | rs6726044   | -2.356 | rs62133344  | 0.0949   | -26.21 | -0.332  | 37  | 37  | enet | 0.11   | 4.00E-181 | 0.5126    | 6.08E-01 |
| SeqId_7110_2    | DNAJB11   | 3  | 186285192 | 186303589 | 0.0555  | rs6804130   | -1.96  | rs56227532  | 4.58E-02 | -18.27 | -0.413  | 21  | 21  | enet | 0.047  | 1.00E-77  | 0.51217   | 6.09E-01 |
| SeqId_5852_6    | S100A12   | 1  | 153346187 | 153348097 | 0.05795 | rs656572    | 2.103  | rs3014874   | 2.89E-02 | -14.53 | 0.255   | 28  | 28  | enet | 0.036  | 6.20E-60  | -0.5098   | 0.610193 |
| SeqId_7096_30   | RMDN1     | 8  | 87480486  | 87526586  | 0.21384 | rs183776621 | -1.987 | rs7818213   | 0.449132 | -56.94 | -0.106  | 62  | 62  | enet | 0.5    | 0         | 0.5087    | 0.610995 |
| SeqId_17814_8   | BPNT1     | 1  | 220230824 | 220263804 | 0.02611 | rs17006829  | 2.684  | rs7530481   | 2.24E-02 | -12.83 | -0.432  | 35  | 35  | enet | 0.025  | 1.20E-41  | 0.5086    | 0.61102  |
| SeqId_5108_72   | NOTCH3    | 19 | 15269849  | 15311806  | 0.01756 | rs4808310   | -2.968 | rs4808238   | 0.011483 | 9.31   | -0.336  | 38  | 38  | enet | 0.013  | 4.20E-22  | -0.50785  | 0.611559 |
| SeqId_11361_73  | TYMP      | 22 | 50964181  | 50968461  | 0.05174 | rs13054036  | -2.37  | rs131805    | 0.04514  | 18.15  | 0.278   | 22  | 22  | enet | 0.05   | 1.90E-82  | 0.5076    | 0.61176  |
| SeqId_11178_21  | SVEP1     | 9  | 113127528 | 113342160 | 0.20286 | rs77229776  | 3.414  | rs78742138  | 0.05747  | 20.4   | 0.812   | 132 | 132 | enet | 0.13   | 5.00E-221 | 0.5051    | 6.13E-01 |

|                 |          |    |           |           |         |             |        |             |          |        |         |     |     |      |        |           |           |          |
|-----------------|----------|----|-----------|-----------|---------|-------------|--------|-------------|----------|--------|---------|-----|-----|------|--------|-----------|-----------|----------|
| SeqId_11568_2   | FKBP1B   | 2  | 24272571  | 24286551  | 0.08239 | rs13397566  | -2.703 | rs72781698  | 0.13115  | -30.89 | -0.038  | 36  | 36  | enet | 0.17   | 5.10E-291 | -0.501    | 6.16E-01 |
| SeqId_4145_58   | NTF3     | 12 | 5541274   | 5630702   | 0.01927 | rs117715128 | -1.947 | rs67394720  | 0.002991 | -6.73  | -0.146  | 26  | 26  | enet | 0.01   | 8.50E-18  | -0.50091  | 0.61643  |
| SeqId_10903_50  | STX8     | 17 | 9153788   | 9479908   | 0.04359 | rs147422219 | 1.758  | rs35082231  | 0.038385 | 16.84  | 0.771   | 48  | 48  | enet | 0.041  | 2.60E-68  | 0.4989    | 0.61788  |
| SeqId_11109_56  | SVEP1    | 9  | 113127528 | 113342160 | 0.21226 | rs79564263  | 3.084  | rs78742138  | 0.04967  | 19     | 0.812   | 137 | 137 | enet | 0.12   | 1.10E-210 | 0.4964    | 6.20E-01 |
| SeqId_12395_86  | DARS2    | 1  | 173793791 | 173827946 | 0.04659 | rs9425772   | -2.231 | rs12564699  | 3.08E-02 | -16.26 | -0.444  | 35  | 35  | enet | 0.051  | 4.60E-85  | 0.4948    | 0.620752 |
| SeqId_16890_37  | ADAMTSL1 | 9  | 17906561  | 18910948  | 0.0467  | rs58879811  | -3.495 | rs117766170 | 0.01414  | 10.41  | -0.414  | 52  | 52  | enet | 0.022  | 6.30E-37  | -0.4937   | 6.21E-01 |
| SeqId_5272_55   | SHC1     | 1  | 154934774 | 154946871 | 0.00997 | rs954785    | 1.656  | rs114272540 | 2.98E-03 | -5.46  | 0.398   | 23  | 23  | enet | 0.0035 | 2.70E-07  | -0.4914   | 0.623108 |
| SeqId_14101_2   | CNTRF    | 9  | 34551430  | 34590138  | 0.11745 | rs58616892  | -1.864 | rs73645429  | 0.0362   | -16.15 | 0.053   | 58  | 58  | enet | 0.063  | 2.40E-104 | 0.4894    | 6.25E-01 |
| SeqId_8956_96   | SCARF2   | 22 | 20778874  | 20792113  | 0.07979 | rs62222175  | 2.57   | rs5763025   | 0.04055  | 17.25  | -1.362  | 36  | 36  | enet | 0.062  | 8.30E-102 | -0.4868   | 0.62643  |
| SeqId_5036_50   | TNFAIP6  | 2  | 152214106 | 152236560 | 0.14032 | rs71415133  | -2.821 | rs2278089   | 0.10268  | -27.24 | 0.431   | 72  | 72  | enet | 0.19   | 0         | -0.4824   | 6.30E-01 |
| SeqId_4188_1    | AKR7A2   | 1  | 19630459  | 19638638  | 0.33359 | rs76539818  | 2.891  | rs11800204  | 4.39E-02 | -18.34 | -0.099  | 134 | 134 | enet | 0.22   | 0         | -0.4804   | 0.630921 |
| SeqId_12594_5   | GCA      | 2  | 163175350 | 163228105 | 0.19376 | rs1032411   | -2.031 | rs17783344  | 0.07967  | -24.11 | -0.48   | 10  | 1   | top1 | 0.08   | 2.00E-132 | 0.48      | 6.31E-01 |
| SeqId_6627_25   | PNLIPRP1 | 10 | 118349897 | 118368687 | 0.07206 | rs7912020   | -3.14  | rs7906926   | 0.021035 | -12.48 | -1.419  | 76  | 76  | enet | 0.043  | 2.00E-71  | 0.479977  | 0.6312   |
| SeqId_13384_110 | FH       | 1  | 241660811 | 241683099 | 0.01261 | rs7550909   | -1.136 | rs10926507  | 1.27E-02 | 10.1   | -0.522  | 8   | 8   | enet | 0.013  | 8.10E-23  | -0.4778   | 0.63276  |
| SeqId_15447_45  | SORD     | 15 | 45315345  | 45369383  | 0.18178 | rs2443978   | 3.188  | rs56060952  | 0.04549  | 18.25  | -0.219  | 74  | 74  | enet | 0.082  | 5.60E-136 | 0.4701    | 0.6383   |
| SeqId_17685_9   | APOA4    | 11 | 116691416 | 116694020 | 0.05273 | rs112357006 | 1.296  | rs12721043  | 0.031056 | -15.07 | -0.546  | 20  | 20  | enet | 0.04   | 3.90E-66  | 0.46891   | 6.39E-01 |
| SeqId_18174_79  | PDCD6IP  | 3  | 33840063  | 33911199  | 0.10502 | rs11928797  | -2.73  | rs1141054   | 1.76E-01 | -35.68 | 0.053   | 109 | 109 | enet | 0.19   | 0         | 0.46909   | 6.39E-01 |
| SeqId_18916_25  | ITPA     | 20 | 3189514   | 3204516   | 0.42794 | rs6051329   | -2.3   | rs67002563  | 0.251905 | -42.75 | -0.707  | 83  | 83  | enet | 0.44   | 0         | 0.4683    | 0.63958  |
| SeqId_4925_54   | MMP13    | 11 | 102813724 | 102826461 | 0.00759 | rs498614    | 1.291  | rs655316    | 0.00661  | -7.47  | -0.468  | 13  | 1   | top1 | 0.0066 | 2.80E-12  | 0.46826   | 6.40E-01 |
| SeqId_4126_22   | BPI      | 20 | 36932552  | 36965907  | 0.26323 | rs41310809  | -2.66  | rs6127742   | 0.093459 | -27.19 | -0.252  | 186 | 186 | enet | 0.25   | 0         | -0.464    | 0.64262  |
| SeqId_11104_13  | CHI3L1   | 1  | 203148059 | 203155832 | 0.44056 | rs12755165  | -1.785 | rs946259    | 3.45E-01 | -49.9  | -0.258  | 60  | 60  | enet | 0.45   | 0         | 0.4637    | 0.642851 |
| SeqId_2938_55   | APOE     | 19 | 45409048  | 45412650  | 0.00984 | rs111794050 | 2.157  | rs5117      | 0.002029 | 5.85   | 0.708   | 17  | 17  | enet | 0.003  | 2.20E-06  | 0.46104   | 0.644773 |
| SeqId_3866_7    | SBDS     | 7  | 66452667  | 66460574  | 0.19429 | rs149507545 | 3.775  | rs79344818  | 0.09158  | -26.4  | -0.1878 | 67  | 67  | enet | 0.095  | 2.80E-158 | 0.4577    | 0.647151 |
| SeqId_3803_10   | CST5     | 20 | 23856571  | 23860385  | 0.16751 | rs6036561   | 1.13   | rs6138152   | 0.154322 | 33.58  | 0.828   | 28  | 28  | enet | 0.2    | 0         | 0.4565    | 0.648    |
| SeqId_12020_39  | BPGM     | 7  | 134331563 | 134364568 | 0.00591 | rs12669278  | -0.535 | rs4732044   | 0.005718 | 6.66   | -0.455  | 21  | 1   | top1 | 0.0057 | 7.60E-11  | -0.455    | 0.649109 |
| SeqId_16758_96  | HDGF     | 1  | 156711901 | 156736717 | 0.20278 | rs12401436  | 1.62   | rs12145743  | 2.76E-01 | -44.65 | 0.407   | 26  | 26  | enet | 0.28   | 0         | -0.4549   | 0.649181 |
| SeqId_8464_31   | RSPO4    | 20 | 939095    | 982954    | 0.04057 | rs73892620  | 1.49   | rs75904281  | 0.009482 | -9.82  | 0.021   | 43  | 43  | enet | 0.035  | 8.50E-58  | 0.4549    | 0.64921  |
| SeqId_6431_68   | PCYOX1   | 2  | 70484518  | 70508317  | 0.36554 | rs73839899  | 2.316  | rs2706762   | 0.22805  | -40.61 | 0.341   | 48  | 48  | enet | 0.24   | 0         | -0.4531   | 6.50E-01 |
| SeqId_13544_9   | HMHA1    | 19 | 1065922   | 1086627   | 0.05755 | rs72981685  | -1.322 | rs2240051   | 0.051829 | 20.31  | 0.713   | 24  | 24  | enet | 0.072  | 6.80E-120 | 0.45314   | 0.65045  |
| SeqId_5688_65   | CBLN4    | 20 | 54572413  | 54580575  | 0.08579 | rs6064313   | 2.63   | rs4811612   | 0.025308 | 13.56  | -0.501  | 120 | 120 | enet | 0.085  | 4.90E-142 | -0.4519   | 0.65131  |
| SeqId_5087_5    | IL22RA2  | 6  | 137464957 | 137494785 | 0.04763 | rs74654606  | -3.05  | rs6917836   | 0.00776  | -8.28  | -0.618  | 46  | 46  | enet | 0.032  | 2.60E-53  | -0.45     | 6.52E-01 |
| SeqId_13692_154 | WISP1    | 8  | 134203282 | 134243933 | 0.08165 | rs118029191 | 2.112  | rs60282000  | 0.037253 | -16.59 | -0.3469 | 56  | 56  | enet | 0.079  | 1.20E-130 | -0.446    | 0.655564 |
| SeqId_18289_16  | CCL15    | 17 | 34323476  | 34328592  | 0.19092 | rs2075746   | 2.476  | rs854624    | 0.286256 | 45.51  | -0.76   | 32  | 32  | enet | 0.3    | 0         | -0.4444   | 0.65674  |
| SeqId_16605_2   | C1QTNF9  | 13 | 24881304  | 24896673  | 0.06016 | rs9578655   | 1.9    | rs56069023  | 0.04961  | -19    | 0.438   | 48  | 48  | enet | 0.063  | 1.70E-104 | -0.441    | 0.6589   |
| SeqId_3044_3    | CCL18    | 17 | 34391632  | 34399392  | 0.23388 | rs112689088 | 2.445  | rs2015086   | 0.173953 | 35.46  | -0.059  | 63  | 63  | enet | 0.22   | 0         | -0.4393   | 0.66043  |
| SeqId_2888_49   | C7       | 5  | 40909599  | 40984745  | 0.6453  | rs184457268 | 1.856  | rs74480769  | 1.48E-01 | -32.73 | 0.947   | 86  | 86  | enet | 0.31   | 0         | -0.4384   | 0.6611   |
| SeqId_5363_51   | SEMA3E   | 7  | 82992554  | 83278455  | 0.29888 | rs7458708   | -1.885 | rs3801499   | 0.246002 | -42.17 | -0.339  | 72  | 72  | enet | 0.39   | 0         | 0.4376    | 0.661644 |
| SeqId_10396_6   | MCL1     | 1  | 150533371 | 150552214 | 0.09241 | rs140520803 | -1.698 | rs190596489 | 4.21E-02 | -17.73 | 0.249   | 37  | 37  | enet | 0.043  | 2.80E-71  | -0.4358   | 0.662951 |
| SeqId_3376_49   | IL17RD   | 3  | 57124010  | 57204334  | 0.12749 | rs139950577 | 1.36   | rs6776722   | 1.55E-01 | -34.67 | -0.15   | 34  | 34  | enet | 0.2    | 0         | -0.43641  | 6.63E-01 |
| SeqId_6609_22   | CNP      | 17 | 40118781  | 40122958  | 0.03523 | rs3760522   | 1.835  | rs4432296   | 0.030978 | 15.14  | -0.946  | 42  | 42  | enet | 0.037  | 2.80E-61  | -0.4351   | 0.6635   |
| SeqId_11333_82  | ARHGAP25 | 2  | 68906733  | 69053965  | 0.12147 | rs147495962 | -2.247 | rs13413887  | 0.03282  | 15.59  | -0.178  | 57  | 57  | enet | 0.077  | 3.40E-127 | -0.435    | 6.64E-01 |
| SeqId_12486_8   | GLRX2    | 1  | 193059996 | 193075244 | 0.11091 | rs10801173  | -2.104 | rs143131184 | 3.61E-02 | 16.2   | 0.739   | 28  | 28  | enet | 0.04   | 1.50E-66  | 0.4342    | 0.664176 |
| SeqId_6364_7    | TAPBP1   | 12 | 6560856   | 6575683   | 0.29285 | rs2041388   | 0.613  | rs2534709   | 0.485497 | 59.27  | 0.116   | 29  | 29  | enet | 0.54   | 0         | 0.43283   | 0.66513  |
| SeqId_16300_4   | TREM2    | 6  | 41126244  | 41130924  | 0.10774 | rs60991481  | 2.12   | rs143332484 | 0.04849  | -18.74 | -0.4755 | 39  | 39  | enet | 0.053  | 2.30E-87  | 0.432     | 6.66E-01 |
| SeqId_4240_31   | PKM2     | 15 | 72491370  | 72524163  | 0.00429 | rs117900766 | 1.808  | rs28379368  | 0.00208  | -5.35  | -0.233  | 7   | 7   | enet | 0.0023 | 2.50E-05  | -0.431    | 0.6665   |
| SeqId_4971_1    | CTSZ     | 20 | 57560741  | 57583293  | 0.02545 | rs79843552  | -2.31  | rs75940688  | 0.019924 | -12.14 | -0.39   | 27  | 27  | enet | 0.031  | 4.80E-52  | 0.4295    | 0.66754  |
| SeqId_17377_1   | AKR1C3   | 10 | 5077546   | 5149878   | 0.01239 | rs4491123   | 1.57   | rs4880709   | 0.007828 | -7.76  | 0.014   | 15  | 15  | enet | 0.0082 | 8.90E-15  | -0.429205 | 0.6678   |
| SeqId_15472_16  | LRP11    | 6  | 150139893 | 150185495 | 0.24207 | rs111576955 | -2.36  | rs3805753   | 0.38271  | 52.63  | 0.459   | 146 | 146 | enet | 0.42   | 0         | 0.429     | 6.68E-01 |
| SeqId_2692_74   | PLA2G2A  | 1  | 20301924  | 20306909  | 0.27634 | rs77277881  | 2.223  | rs2307246   | 2.23E-01 | 40.15  | -0.204  | 54  | 54  | enet | 0.25   | 0         | -0.427    | 0.669388 |
| SeqId_16614_27  | RSPO1    | 1  | 38076951  | 38100564  | 0.07475 | rs115228768 | 2.03   | rs36043533  | 5.58E-02 | 20.11  | 0.296   | 26  | 26  | enet | 0.07   | 1.10E-115 | 0.4222    | 0.672886 |
| SeqId_8403_18   | FASN     | 17 | 80036214  | 80056170  | 0.0082  | rs147067974 | -2.527 | rs62078746  | 0.013469 | -10.88 | -0.578  | 25  | 25  | enet | 0.014  | 2.50E-24  | 0.4218    | 0.67315  |
| SeqId_15614_168 | LILRA2   | 19 | 55084387  | 55101752  | 0.12131 | rs1626971   | 2.849  | rs2151868   | 0.064809 | -21.71 | -0.0148 | 59  | 59  | enet | 0.093  | 1.10E-155 | 0.42012   | 0.674397 |
| SeqId_4192_10   | AKR1A1   | 1  | 46016215  | 46035721  | 0.3428  | rs148417473 | -2.712 | rs2229540   | 2.31E-01 | -40.86 | -0.653  | 51  | 51  | enet | 0.27   | 0         | 0.4182    | 0.675818 |

|                 |          |    |           |           |         |             |        |             |          |        |         |     |     |      |        |           |           |          |
|-----------------|----------|----|-----------|-----------|---------|-------------|--------|-------------|----------|--------|---------|-----|-----|------|--------|-----------|-----------|----------|
| SeqId_4563_61   | PLCG1    | 20 | 39765600  | 39825441  | 0.01564 | rs34423638  | 2.35   | rs753381    | 0.01116  | 9.23   | -0.418  | 22  | 1   | top1 | 0.011  | 1.40E-19  | -0.418    | 0.67595  |
| SeqId_13102_1   | FAM3D    | 3  | 58619673  | 58652561  | 0.05865 | rs56391639  | -1.87  | rs7433100   | 3.31E-02 | 15.87  | -1.271  | 26  | 26  | enet | 0.042  | 1.00E-68  | -0.41816  | 6.76E-01 |
| SeqId_3488_64   | CAT      | 11 | 34460481  | 34493607  | 0.09623 | rs11032656  | 1.956  | rs4756148   | 0.042283 | -17.58 | -0.669  | 63  | 63  | enet | 0.084  | 4.80E-139 | -0.41472  | 6.78E-01 |
| SeqId_8358_30   | PRDX3    | 10 | 120927232 | 120938324 | 0.0056  | rs10886323  | -1.95  | rs1810159   | 0.005467 | -6.56  | -0.415  | 10  | 1   | top1 | 0.0055 | 1.90E-10  | 0.415     | 0.6781   |
| SeqId_2844_53   | TIE1     | 1  | 43766653  | 43788779  | 0.02963 | rs12145511  | 2.02   | rs1556580   | 2.87E-02 | 15.13  | -0.67   | 27  | 27  | enet | 0.031  | 5.10E-52  | -0.4148   | 0.678315 |
| SeqId_7948_129  | GLTPD2   | 17 | 4692259   | 4693884   | 0.09076 | rs543281879 | -1.878 | rs34460487  | 0.036337 | 16.33  | 0.059   | 45  | 45  | enet | 0.061  | 5.80E-101 | -0.4147   | 0.67839  |
| SeqId_17332_3   | ADPRHL2  | 1  | 36554493  | 36559533  | 0.01837 | rs12567252  | 2.265  | rs58350664  | 1.72E-03 | 5.19   | -0.238  | 59  | 59  | enet | 0.0028 | 3.50E-06  | -0.4116   | 0.680614 |
| SeqId_15516_12  | SAA4     | 11 | 18252902  | 18258349  | 0.39314 | rs144559255 | -3.107 | rs4757628   | 0.164993 | -35.62 | 1.06    | 138 | 138 | enet | 0.36   | 0         | -0.41075  | 6.81E-01 |
| SeqId_5460_60   | DDX19B   | 16 | 70323566  | 70369208  | 0.03402 | rs34608864  | -2.28  | rs138325325 | 0.01178  | -9.86  | -0.925  | 18  | 18  | enet | 0.012  | 1.00E-21  | 0.4109    | 6.81E-01 |
| SeqId_4234_8    | IL1RL1   | 2  | 102927962 | 102968497 | 0.29196 | rs3917329   | -2.456 | rs950880    | 0.18228  | -38.27 | -0.303  | 54  | 54  | enet | 0.3    | 0         | 0.4117    | 6.81E-01 |
| SeqId_6556_5    | ENPP5    | 6  | 46126922  | 46138717  | 0.33537 | rs7758684   | 2.25   | rs1047153   | 0.29297  | -46    | -0.35   | 74  | 74  | enet | 0.46   | 0         | 0.411     | 6.81E-01 |
| SeqId_16792_4   | SIGLEC5  | 19 | 52115180  | 52148798  | 0.58557 | rs55912643  | -2.427 | rs872629    | 0.208728 | -38.85 | -0.776  | 270 | 270 | enet | 0.4    | 0         | 0.41094   | 0.681114 |
| SeqId_8479_4    | MMP10    | 11 | 102641233 | 102651359 | 0.26282 | rs17293152  | -2.506 | rs17860955  | 0.035215 | -16.9  | 0.105   | 168 | 168 | enet | 0.13   | 2.00E-212 | 0.41026   | 6.82E-01 |
| SeqId_8778_3    | NOG      | 17 | 54671060  | 54672972  | 0.02426 | rs190238343 | -2.592 | rs227715    | 0.007837 | -8.78  | -0.2825 | 76  | 76  | enet | 0.016  | 4.90E-27  | 0.4086    | 0.68286  |
| SeqId_4911_49   | GSTP1    | 11 | 67351213  | 67354127  | 0.24537 | rs2514022   | 1.723  | rs1695      | 0.153121 | -33.25 | -0.344  | 48  | 48  | enet | 0.2    | 0         | -0.40844  | 6.83E-01 |
| SeqId_12714_38  | APIG2    | 14 | 24028774  | 24037279  | 0.07426 | rs74840007  | -3.024 | rs12886523  | 0.031243 | -15.15 | 0.421   | 94  | 94  | enet | 0.039  | 1.60E-64  | -0.4089   | 6.83E-01 |
| SeqId_5837_49   | LIFR     | 5  | 38474770  | 38608456  | 0.07727 | rs7733185   | 3.601  | rs3729741   | 2.76E-02 | 14.41  | -0.437  | 58  | 58  | enet | 0.065  | 6.50E-108 | -0.40384  | 0.68633  |
| SeqId_16919_1   | DBI      | 2  | 120124500 | 120130126 | 0.10727 | rs55636627  | 1.685  | rs6714264   | 0.08616  | -25.15 | 0.101   | 94  | 94  | enet | 0.13   | 2.90E-217 | 0.4035    | 6.87E-01 |
| SeqId_15635_4   | SMOC2    | 6  | 168841831 | 169073984 | 0.1638  | rs182866664 | -2.63  | rs56296467  | 0.08756  | -25.22 | 0.52    | 122 | 122 | enet | 0.16   | 1.00E-277 | -0.403    | 6.87E-01 |
| SeqId_16796_77  | CPM      | 12 | 69235977  | 69365350  | 0.04146 | rs559130166 | 1.976  | rs8181716   | 0.013814 | -10.21 | 0.808   | 25  | 25  | enet | 0.027  | 2.20E-45  | 0.40207   | 0.68763  |
| SeqId_18891_98  | GBP2     | 1  | 89571815  | 89616139  | 0.02062 | rs147641749 | -2.605 | rs10922556  | 7.59E-03 | 7.97   | -1.204  | 25  | 25  | enet | 0.011  | 3.00E-19  | -0.4021   | 0.687641 |
| SeqId_9482_110  | NUDT9    | 4  | 88343725  | 88380607  | 0.06864 | rs35679067  | 1.366  | rs28805573  | 0.047193 | -19.04 | 0.02    | 35  | 35  | enet | 0.067  | 1.40E-110 | 0.4       | 6.89E-01 |
| SeqId_18310_26  | SEPP1    | 19 | 48281842  | 48287943  | 0.05491 | rs191007172 | -2.135 | rs11671137  | 0.04195  | 18.53  | -0.0353 | 17  | 17  | enet | 0.064  | 2.60E-106 | 0.39957   | 0.689471 |
| SeqId_3040_59   | CCL3     | 17 | 34415602  | 34417515  | 0.134   | rs139881749 | -2.289 | rs2015086   | 0.088204 | 25.26  | -0.059  | 72  | 72  | enet | 0.11   | 8.90E-179 | -0.3991   | 0.68984  |
| SeqId_4124_24   | HSPA1A   | 6  | 31783320  | 31785723  | 0.01794 | rs9265870   | -3.46  | rs74434374  | 0.0058   | -7.14  | -0.072  | 56  | 56  | enet | 0.009  | 4.10E-16  | -0.395    | 6.93E-01 |
| SeqId_5628_21   | SEMA3G   | 3  | 52467051  | 52479119  | 0.05732 | rs111383873 | 2.72   | rs2016575   | 3.58E-02 | -16.16 | 0.409   | 53  | 53  | enet | 0.05   | 4.70E-82  | -0.38968  | 6.97E-01 |
| SeqId_2631_50   | IL10RB   | 21 | 34638672  | 34682492  | 0.04928 | rs11702633  | 1.08   | rs2515717   | 0.02472  | 13.95  | 0.572   | 21  | 21  | enet | 0.045  | 2.50E-74  | 0.3886    | 0.698    |
| SeqId_3481_87   | XPNPPE1  | 10 | 111624524 | 111683311 | 0.0337  | rs11683311  | -1.82  | rs3862006   | 0.033955 | 16.57  | -0.651  | 31  | 31  | enet | 0.044  | 3.40E-73  | -0.387914 | 0.6981   |
| SeqId_3206_4    | LYVE1    | 11 | 10578513  | 10633236  | 0.05668 | rs16907959  | 2.423  | rs114758648 | 0.018757 | 11.85  | -0.477  | 50  | 50  | enet | 0.039  | 8.80E-64  | -0.38451  | 7.01E-01 |
| SeqId_18241_18  | CPOX     | 3  | 98298290  | 98312492  | 0.06686 | rs191648239 | -2.68  | rs1675513   | 1.85E-02 | -11.67 | -0.941  | 44  | 44  | enet | 0.038  | 2.70E-62  | -0.38341  | 7.01E-01 |
| SeqId_9005_16   | PLXNA1   | 3  | 126701536 | 126756232 | 0.06548 | rs28488422  | 2.29   | rs9822602   | 8.07E-02 | -24.2  | -0.126  | 55  | 55  | enet | 0.092  | 2.00E-153 | 0.38438   | 7.01E-01 |
| SeqId_5459_33   | CSF1     | 20 | 23728199  | 23731905  | 0.124   | rs150615439 | 2.25   | rs4260306   | 0.102783 | -27.27 | -0.75   | 31  | 31  | enet | 0.12   | 2.10E-197 | 0.3837    | 7.0118   |
| SeqId_3593_72   | CASP3    | 4  | 185548850 | 185570663 | 0.08534 | rs13435690  | -2.075 | rs72689255  | 0.11319  | -28.79 | 1.056   | 49  | 49  | enet | 0.15   | 1.30E-262 | -0.3817   | 7.03E-01 |
| SeqId_7757_5    | HLA-DQA2 | 6  | 32709168  | 32714975  | 0.17668 | rs28746898  | -3.09  | rs9272014   | 0.14885  | -32.9  | -0.417  | 83  | 83  | enet | 0.24   | 0         | 0.381     | 7.03E-01 |
| SeqId_13416_8   | TMEM132D | 12 | 129556270 | 130388570 | 0.04722 | rs74322448  | 4.442  | rs9804953   | 0.009253 | -9.14  | 0.458   | 97  | 97  | enet | 0.031  | 1.30E-51  | -0.38016  | 0.70383  |
| SeqId_4159_130  | CFH      | 1  | 196621173 | 196716634 | 0.13146 | rs72732292  | -3.585 | rs1048663   | 9.89E-02 | -26.86 | 0.463   | 62  | 62  | enet | 0.14   | 1.10E-230 | 0.3783    | 0.705232 |
| SeqId_8243_55   | SPINK1   | 5  | 147204135 | 147211234 | 0.02574 | rs72827192  | 2.714  | rs6580502   | 1.23E-02 | -9.69  | -0.209  | 39  | 39  | enet | 0.016  | 4.80E-28  | -0.37725  | 0.70599  |
| SeqId_6408_2    | INHCB    | 12 | 57828567  | 57845845  | 0.00893 | rs3024981   | -0.857 | rs6581138   | 0.004272 | 5.69   | -0.377  | 17  | 1   | top1 | 0.0043 | 1.60E-08  | -0.377    | 0.70617  |
| SeqId_10558_26  | PCDH9    | 13 | 66876966  | 67804577  | 0.04198 | rs117905204 | -3.49  | rs4884685   | 0.00483  | -7.32  | -0.942  | 58  | 58  | enet | 0.019  | 2.50E-32  | -0.377    | 0.7062   |
| SeqId_7161_25   | H6PD     | 1  | 9294833   | 9331396   | 0.18639 | rs193065720 | 2.565  | rs34603401  | 1.33E-01 | 30.96  | -0.215  | 59  | 59  | enet | 0.22   | 0         | -0.3766   | 0.706434 |
| SeqId_17490_4   | SH3BGR13 | 1  | 26606577  | 26608013  | 0.09094 | rs4970503   | 2.528  | rs4659423   | 1.81E-01 | -36.3  | 1.473   | 61  | 61  | enet | 0.21   | 0         | -0.3763   | 0.706708 |
| SeqId_2754_50   | C3       | 19 | 6677715   | 6730573   | 0.0069  | rs34090333  | -1.518 | rs11569479  | 0.005016 | -6.79  | 0.135   | 7   | 7   | enet | 0.0054 | 2.40E-10  | -0.37574  | 0.707109 |
| SeqId_11428_31  | PDLIM1   | 10 | 96997329  | 97050769  | 0.13847 | rs7079728   | -2.25  | rs1328599   | 0.030062 | -14.79 | -1.106  | 52  | 52  | enet | 0.044  | 5.30E-72  | -0.374427 | 0.7081   |
| SeqId_10781_19  | CLEC4G   | 19 | 7793844   | 7798792   | 0.05853 | rs11260029  | -3.486 | rs1010046   | 0.0395   | 17.1   | -1.174  | 62  | 62  | enet | 0.04   | 3.50E-66  | -0.37374  | 0.708601 |
| SeqId_3293_2    | CD5L     | 1  | 157800701 | 157868046 | 0.12573 | rs9970909   | -2.718 | rs2765501   | 6.80E-02 | 22.19  | 0.448   | 42  | 42  | enet | 0.11   | 1.10E-186 | -0.3715   | 0.710233 |
| SeqId_11192_168 | TINAGL1  | 1  | 32042086  | 32053287  | 0.01705 | rs116787462 | -2.162 | rs9425884   | 2.29E-03 | -5.69  | 0.644   | 42  | 42  | enet | 0.0066 | 2.70E-12  | -0.3712   | 0.710525 |
| SeqId_14114_18  | PIANP    | 12 | 6802957   | 6809981   | 0.05121 | rs186487833 | -1.91  | rs7959658   | 0.018056 | 11.61  | -1.022  | 39  | 39  | enet | 0.026  | 3.70E-43  | -0.3705   | 0.71101  |
| SeqId_18220_141 | SRA1     | 5  | 139916925 | 139937262 | 0.13304 | rs73267612  | -3.094 | rs801460    | 1.06E-01 | 27.83  | 0.382   | 78  | 78  | enet | 0.13   | 1.70E-218 | 0.36945   | 0.71179  |
| SeqId_17755_5   | UGDH     | 4  | 39500375  | 39529931  | 0.10227 | rs115993543 | -1.187 | rs1138891   | 0.095598 | 26.39  | 0.384   | 34  | 34  | enet | 0.12   | 1.40E-199 | -0.3686   | 7.12E-01 |
| SeqId_15308_108 | VWC2     | 7  | 49813234  | 49961546  | 0.34007 | rs2366025   | 2.414  | rs73347621  | 0.100015 | -27.08 | -0.156  | 119 | 119 | enet | 0.21   | 0         | -0.3683   | 0.712642 |
| SeqId_16828_8   | COL6A1   | 21 | 47401684  | 47424964  | 0.42625 | rs55896864  | 2.02   | rs1053312   | 0.50453  | -60.33 | 0.349   | 53  | 53  | enet | 0.52   | 0         | -0.3683   | 0.713    |
| SeqId_8953_47   | HDGF     | 1  | 156711901 | 156736717 | 0.13553 | rs74119208  | 2.082  | rs4399146   | 1.78E-01 | -36.01 | 0.383   | 27  | 27  | enet | 0.18   | 4.6E-311  | -0.3669   | 0.713663 |
| SeqId_4187_49   | PGD      | 1  | 10458649  | 10480568  | 0.02891 | rs10864459  | 2.448  | rs111782199 | 3.37E-02 | -15.77 | -0.366  | 18  | 1   | top1 | 0.034  | 5.40E-56  | 0.366     | 0.714365 |

|                 |          |    |           |           |         |             |        |             |          |        |        |     |     |      |        |           |          |          |
|-----------------|----------|----|-----------|-----------|---------|-------------|--------|-------------|----------|--------|--------|-----|-----|------|--------|-----------|----------|----------|
| SeqId_3054_3    | HP       | 16 | 72088404  | 72094954  | 0.41047 | rs117784872 | 2.32   | rs77303550  | 0.1425   | 32.11  | -1.725 | 89  | 89  | enet | 0.37   | 0         | -0.3648  | 7.15E-01 |
| SeqId_18280_29  | DTD2     | 14 | 31915242  | 31926712  | 0.14497 | rs79740809  | -2.111 | rs17097898  | 0.046087 | -18.44 | -0.802 | 67  | 67  | enet | 0.084  | 8.30E-140 | 0.3632   | 7.16E-01 |
| SeqId_4127_75   | C6       | 5  | 41142218  | 41261540  | 0.29663 | rs114987985 | 2.023  | rs191791682 | 5.52E-02 | -20    | -0.288 | 130 | 130 | enet | 0.12   | 1.50E-201 | -0.36348 | 0.71625  |
| SeqId_19213_1   | SPINK4   | 9  | 33218363  | 33248565  | 0.10448 | rs139127480 | -1.845 | rs1630171   | 0.16432  | 34.46  | -0.7   | 57  | 57  | enet | 0.18   | 2.30E-306 | -0.3605  | 7.18E-01 |
| SeqId_12436_84  | GSTO1    | 10 | 105995114 | 106027217 | 0.27098 | rs117527269 | -2.67  | rs641071    | 0.404319 | -54.02 | -0.427 | 33  | 33  | enet | 0.44   | 0         | 0.359903 | 0.7189   |
| SeqId_6414_8    | OAF      | 11 | 120081740 | 120101043 | 0.20917 | rs141469382 | -3.851 | rs2508490   | 0.159983 | -34.02 | -0.916 | 79  | 79  | enet | 0.27   | 0         | 0.35875  | 7.20E-01 |
| SeqId_6385_63   | VWA1     | 1  | 1370241   | 1378262   | 0.06831 | rs111615792 | -1.487 | rs116279124 | 6.68E-02 | -22.28 | 0.564  | 24  | 24  | enet | 0.072  | 8.50E-120 | -0.3571  | 0.721018 |
| SeqId_2683_1    | C3       | 19 | 6677715   | 6730573   | 0.00759 | rs1975159   | -1.932 | rs11569479  | 0.003991 | -6.51  | 0.135  | 20  | 20  | enet | 0.0042 | 2.60E-08  | 0.35651  | 0.72146  |
| SeqId_9244_27   | PPT1     | 1  | 40538382  | 40562932  | 0.14171 | rs41268047  | -2.757 | rs7533094   | 1.14E-01 | -28.64 | -0.217 | 52  | 52  | enet | 0.15   | 3.50E-259 | 0.3545   | 0.722971 |
| SeqId_9231_23   | IMPAD1   | 8  | 57870490  | 57906426  | 0.19565 | rs10093153  | 1.781  | rs112433249 | 0.105474 | -27.67 | -0.742 | 72  | 72  | enet | 0.14   | 1.70E-233 | 0.3535   | 0.723697 |
| SeqId_10346_5   | STAT3    | 17 | 40465342  | 40540558  | 0.05612 | rs12949918  | -0.492 | rs4796791   | 0.082651 | 24.5   | -0.351 | 29  | 1   | top1 | 0.083  | 1.60E-137 | -0.351   | 0.72559  |
| SeqId_6392_7    | WISP2    | 20 | 43343485  | 43357150  | 0.15766 | rs6073532   | -2.41  | rs754077    | 0.057981 | 20.66  | 0.321  | 62  | 62  | enet | 0.12   | 1.60E-209 | -0.3493  | 0.72688  |
| SeqId_3213_65   | NID1     | 1  | 236139130 | 236228409 | 0.06636 | rs61833977  | 2.448  | rs2734807   | 2.45E-02 | 13.42  | -0.97  | 70  | 70  | enet | 0.028  | 8.20E-47  | -0.3493  | 0.726887 |
| SeqId_16015_19  | GPT      | 8  | 145728356 | 145732557 | 0.01142 | rs78425244  | -2.148 | rs4244610   | 0.007822 | -8.28  | 0.781  | 22  | 22  | enet | 0.0084 | 3.40E-15  | -0.347   | 0.728578 |
| SeqId_12573_80  | TRIM3    | 11 | 6469843   | 6495689   | 0.0108  | rs187933066 | -2.043 | rs2344827   | 0.005393 | -6.69  | -0.346 | 25  | 1   | top1 | 0.0054 | 2.60E-10  | 0.346    | 7.29E-01 |
| SeqId_15316_262 | TXNL4B   | 16 | 72078188  | 72128330  | 0.12961 | rs72793223  | -2.26  | rs116891509 | 0.04058  | 17.51  | -0.899 | 40  | 40  | enet | 0.053  | 3.20E-88  | -0.3464  | 7.29E-01 |
| SeqId_17843_30  | PPCS     | 1  | 42921788  | 42939056  | 0.03906 | rs1098789   | -2.12  | rs4660635   | 9.72E-02 | -26.53 | -0.052 | 12  | 12  | enet | 0.098  | 2.30E-164 | 0.3455   | 0.729751 |
| SeqId_9772_153  | NLGN2    | 17 | 7308193   | 7323179   | 0.05043 | rs4791806   | -3.46  | rs150452493 | 0.022901 | -13.37 | -0.61  | 16  | 16  | enet | 0.029  | 1.50E-48  | 0.3429   | 0.7317   |
| SeqId_9713_67   | PDGFRL   | 8  | 17433942  | 17501580  | 0.09564 | rs77363821  | 2.264  | rs78243536  | 0.044175 | -18.41 | -0.23  | 69  | 69  | enet | 0.074  | 4.30E-123 | -0.3419  | 0.732454 |
| SeqId_2982_82   | LGALS4   | 19 | 39292311  | 39303585  | 0.0655  | rs117087498 | -1.913 | rs9304578   | 0.037901 | -16.58 | 1.051  | 44  | 44  | enet | 0.064  | 1.60E-105 | -0.33848 | 0.734998 |
| SeqId_4440_15   | FCRL3    | 1  | 157644111 | 157670559 | 0.13787 | rs79756905  | 2.038  | rs3761959   | 2.49E-01 | 42.51  | -0.276 | 11  | 11  | enet | 0.26   | 0         | -0.338   | 0.735351 |
| SeqId_3216_2    | PIGR     | 1  | 207101867 | 207119811 | 0.02196 | rs2808467   | 1.801  | rs6540730   | 1.89E-02 | -12.26 | -1.162 | 39  | 39  | enet | 0.023  | 2.60E-39  | 0.3378   | 0.735531 |
| SeqId_3195_50   | GNLY     | 2  | 85912298  | 85925975  | 0.27148 | rs13419986  | -2.392 | rs12151742  | 0.20782  | 38.73  | -0.618 | 72  | 72  | enet | 0.24   | 0         | -0.3367  | 7.36E-01 |
| SeqId_14076_74  | CST4     | 20 | 23666277  | 23669675  | 0.05458 | rs4290725   | -1.59  | rs7263473   | 0.037751 | -16.7  | -0.319 | 23  | 23  | enet | 0.053  | 2.60E-88  | -0.3363  | 0.73668  |
| SeqId_10630_5   | HTATIP2  | 11 | 20385231  | 20405328  | 0.04717 | rs61100079  | -1.114 | rs10437608  | 0.043058 | 17.88  | 0.336  | 10  | 1   | top1 | 0.043  | 3.30E-71  | 0.336    | 7.37E-01 |
| SeqId_9931_20   | KRT1     | 12 | 53068520  | 53074191  | 0.01448 | rs650694    | 1.806  | rs117254202 | 0.005531 | 6.62   | -0.335 | 43  | 1   | top1 | 0.0055 | 1.50E-10  | -0.335   | 0.73763  |
| SeqId_9359_9    | DLK2     | 6  | 43418090  | 43424370  | 0.11208 | rs2277126   | 2.23   | rs2125739   | 0.06711  | -22.09 | 0.352  | 56  | 56  | enet | 0.081  | 2.20E-134 | -0.334   | 7.38E-01 |
| SeqId_3323_37   | LRP8     | 1  | 53708036  | 53794141  | 0.06527 | rs111536237 | -1.939 | rs7542607   | 3.00E-02 | 15.09  | 0.197  | 59  | 59  | enet | 0.05   | 1.10E-82  | 0.331    | 0.740646 |
| SeqId_6077_63   | CECR1    | 22 | 17659680  | 17739125  | 0.66613 | rs174345    | 2.4    | rs2231495   | 0.31846  | -47.95 | -0.377 | 55  | 55  | enet | 0.36   | 0         | 0.3295   | 0.74178  |
| SeqId_7957_2    | SCG3     | 15 | 51973689  | 52013223  | 0.20943 | rs150559389 | 2.784  | rs2607116   | 0.23798  | 41.46  | 0.365  | 89  | 89  | enet | 0.28   | 0         | 0.3283   | 0.7427   |
| SeqId_17682_1   | CD46     | 1  | 207925399 | 207968858 | 0.10368 | rs151105668 | -1.752 | rs2488252   | 1.72E-01 | -35.29 | -0.388 | 48  | 48  | enet | 0.21   | 0         | 0.3281   | 0.742862 |
| SeqId_7905_30   | HP       | 16 | 72088404  | 72094954  | 0.29605 | rs217181    | -1.73  | rs11648003  | 0.08588  | -26.07 | 0.056  | 49  | 49  | enet | 0.25   | 0         | -0.3269  | 7.44E-01 |
| SeqId_8099_42   | SPON2    | 4  | 1160720   | 1202750   | 0.12827 | rs112069922 | -1.782 | rs11247975  | 0.153872 | -33.39 | 0.463  | 53  | 53  | enet | 0.19   | 0         | -0.3268  | 7.44E-01 |
| SeqId_6247_9    | SIRPB1   | 20 | 1542031   | 1600707   | 0.4662  | rs181600116 | 3.53   | rs12480515  | 0.269027 | 44.06  | 0.986  | 192 | 192 | enet | 0.52   | 0         | 0.3239   | 0.74599  |
| SeqId_9316_67   | WFDC1    | 16 | 84328452  | 84363450  | 0.28646 | rs9928060   | -2.46  | rs400345    | 0.21547  | -39.44 | 0.15   | 135 | 135 | enet | 0.26   | 0         | 0.3223   | 7.47E-01 |
| SeqId_7871_16   | TMEM132A | 11 | 60691932  | 60704631  | 0.28003 | rs187722597 | 3.389  | rs555835    | 0.23082  | 40.81  | -1.314 | 53  | 53  | enet | 0.36   | 0         | -0.32169 | 7.48E-01 |
| SeqId_12677_164 | FLII     | 17 | 18148129  | 18162052  | 0.05435 | rs143583729 | 0.876  | rs145840264 | 0.018475 | 11.67  | 0.321  | 3   | 1   | top1 | 0.018  | 2.60E-31  | 0.321    | 0.74821  |
| SeqId_3329_14   | PGLYRP1  | 19 | 46522411  | 46526311  | 0.02131 | rs45587933  | 0.839  | rs2072563   | 0.019025 | -11.89 | 0.321  | 11  | 1   | top1 | 0.019  | 3.40E-32  | -0.321   | 0.74821  |
| SeqId_5736_1    | TREML2   | 6  | 41157487  | 41168887  | 0.18912 | rs9381022   | -3.03  | rs4714431   | 0.11822  | 29.23  | 0.948  | 64  | 64  | enet | 0.18   | 1.3e-314  | -0.319   | 7.49E-01 |
| SeqId_14156_33  | YWHAB    | 20 | 43514343  | 43537173  | 0.19778 | rs76480930  | 2.59   | rs6031847   | 0.322603 | -48.35 | 0.358  | 46  | 46  | enet | 0.33   | 0         | -0.3194  | 0.74944  |
| SeqId_13983_27  | CRYZ     | 1  | 75171166  | 75199092  | 0.18276 | rs138967176 | 2.105  | rs3819946   | 2.76E-01 | 44.63  | 0.289  | 52  | 52  | enet | 0.32   | 0         | -0.3184  | 0.75016  |
| SeqId_19334_62  | TXNDC12  | 1  | 52485803  | 52520863  | 0.10222 | rs548304890 | -1.57  | rs6686632   | 5.17E-02 | -19.94 | 0.068  | 47  | 47  | enet | 0.058  | 1.40E-96  | -0.3184  | 0.750175 |
| SeqId_5456_59   | CNDP1    | 18 | 72201735  | 72254448  | 0.11812 | rs11660249  | -3.23  | rs17817077  | 0.02834  | 14.38  | 1.058  | 57  | 57  | enet | 0.056  | 4.30E-92  | 0.317    | 0.7515   |
| SeqId_5728_60   | FCRL1    | 1  | 157764193 | 157789910 | 0.08298 | rs12118214  | -2.179 | rs4971154   | 8.29E-02 | -24.53 | 0.374  | 54  | 54  | enet | 0.09   | 8.60E-150 | -0.3151  | 0.752675 |
| SeqId_9995_6    | DUT      | 15 | 48623208  | 48635570  | 0.00471 | rs12594187  | 0.478  | rs8039702   | 0.00502  | -6.32  | 0.314  | 9   | 1   | top1 | 0.005  | 1.00E-09  | -0.314   | 0.7535   |
| SeqId_8894_80   | HNRNPAB  | 5  | 177631534 | 177638164 | 0.01276 | rs72648830  | 0.88   | rs72648830  | 4.40E-03 | 6.76   | 0.88   | 7   | 7   | enet | 0.01   | 1.00E-17  | 0.31347  | 0.75393  |
| SeqId_5631_83   | MLN      | 6  | 33762450  | 33771780  | 0.0743  | rs499384    | 2.69   | rs9394169   | 0.06443  | -23.05 | 0.299  | 51  | 51  | enet | 0.1    | 8.70E-168 | 0.312    | 7.55E-01 |
| SeqId_13719_19  | PAK4     | 19 | 39616410  | 39673456  | 0.01676 | rs11668803  | -1.771 | rs11667387  | 0.002555 | -6.49  | -0.671 | 17  | 17  | enet | 0.0057 | 8.10E-11  | -0.30971 | 0.756782 |
| SeqId_7852_9    | MTIF3    | 13 | 28009780  | 28024728  | 0.01487 | rs9512819   | 2.22   | rs1218802   | 0.00628  | -6.95  | -0.306 | 25  | 1   | top1 | 0.0063 | 9.60E-12  | 0.306    | 0.7596   |
| SeqId_3148_49   | CXCL2    | 4  | 74962757  | 74964913  | 0.00617 | rs3806792   | -0.733 | rs1893319   | 0.003955 | 6.54   | 0.441  | 6   | 6   | enet | 0.004  | 4.10E-08  | 0.304    | 7.61E-01 |
| SeqId_9256_78   | NPTX1    | 17 | 78440634  | 78451643  | 0.07675 | rs77877786  | -2.925 | rs62068268  | 0.06707  | 22.36  | 0.308  | 115 | 115 | enet | 0.092  | 3.20E-154 | -0.3036  | 0.76143  |
| SeqId_5092_51   | JAG1     | 20 | 10618332  | 10654647  | 0.01592 | rs6033029   | -2.97  | rs78896696  | 0.003641 | 5.97   | -0.242 | 39  | 39  | enet | 0.0077 | 4.20E-14  | -0.3002  | 0.76399  |
| SeqId_7922_5    | ADM      | 11 | 10326620  | 10328944  | 0.00613 | rs2403291   | -1.401 | rs2923098   | 0.000331 | 5.18   | 1.061  | 15  | 15  | enet | 0.0017 | 0.00024   | 0.29968  | 7.64E-01 |

|                 |           |    |           |           |         |             |        |             |           |        |         |     |     |      |        |           |           |          |
|-----------------|-----------|----|-----------|-----------|---------|-------------|--------|-------------|-----------|--------|---------|-----|-----|------|--------|-----------|-----------|----------|
| SeqId_14091_42  | CBR3      | 21 | 37507377  | 37518860  | 0.23081 | rs113382956 | -1.79  | rs60376898  | 0.32543   | -48.63 | 0.443   | 74  | 74  | enet | 0.35   | 0         | -0.3002   | 0.764    |
| SeqId_5644_60   | RNASE4    | 14 | 21152719  | 21169375  | 0.23615 | rs77871000  | -2.226 | rs1888560   | 0.112673  | -28.53 | 0.0418  | 95  | 95  | enet | 0.19   | 0         | -0.299    | 7.65E-01 |
| SeqId_3029_52   | CD209     | 19 | 7804879   | 7812450   | 0.11629 | rs594793    | -3.175 | rs2335525   | 0.058734  | -20.9  | -0.366  | 113 | 113 | enet | 0.1    | 7.30E-170 | 0.29644   | 0.766895 |
| SeqId_9793_145  | IGDCC4    | 15 | 65673822  | 65715285  | 0.24044 | rs72740703  | -3.107 | rs8036706   | 0.02824   | 15.37  | 0.983   | 93  | 93  | enet | 0.11   | 8.20E-185 | -0.2932   | 0.7693   |
| SeqId_13615_60  | NCK2      | 2  | 106361369 | 106510730 | 0.04001 | rs188514627 | 2.151  | rs933793    | 0.008     | -10.19 | -0.73   | 62  | 62  | enet | 0.033  | 5.80E-55  | -0.2925   | 7.70E-01 |
| SeqId_15596_7   | HEXIM1    | 17 | 43225842  | 43229466  | 0.02004 | rs2304987   | 1.765  | rs12051846  | 0.015567  | 11.01  | 0.739   | 29  | 29  | enet | 0.017  | 3.20E-29  | 0.2886    | 0.77285  |
| SeqId_8469_41   | IGFBP2    | 2  | 217497551 | 217529159 | 0.01589 | rs7573644   | -2.706 | rs4674091   | 0.00438   | -6.24  | -0.37   | 34  | 34  | enet | 0.011  | 3.80E-19  | -0.2865   | 7.74E-01 |
| SeqId_9545_156  | GZMK      | 5  | 54320084  | 54330398  | 0.03102 | rs77783349  | -2.103 | rs2407827   | 1.22E-02  | 10.03  | 0.378   | 21  | 21  | enet | 0.017  | 1.20E-29  | -0.28636  | 0.7746   |
| SeqId_10847_1   | SIGLEC15  | 18 | 43405640  | 43424059  | 0.01007 | rs12608098  | -1     | rs515373    | 0.00838   | 8.07   | 0.755   | 16  | 16  | enet | 0.009  | 3.80E-16  | 0.285     | 0.7754   |
| SeqId_2515_14   | GFRA2     | 8  | 21547910  | 21669869  | 0.15995 | rs1479057   | -2.081 | rs15881     | 0.062737  | 21.31  | -1.096  | 80  | 80  | enet | 0.16   | 2.90E-271 | -0.2846   | 0.775935 |
| SeqId_7198_197  | FAM20B    | 1  | 178994939 | 179045702 | 0.04117 | rs149522945 | -1.924 | rs12568291  | 1.17E-02  | 9.61   | 0.016   | 59  | 59  | enet | 0.018  | 1.10E-30  | 0.2838    | 0.776568 |
| SeqId_12459_13  | PLEKHA1   | 10 | 124134212 | 124202118 | 0.02026 | rs2672592   | 2.29   | rs10788274  | 0.025208  | -13.69 | -0.623  | 18  | 18  | enet | 0.028  | 4.60E-46  | 0.278092  | 0.7809   |
| SeqId_2579_17   | MMP9      | 20 | 44637547  | 44645200  | 0.04624 | rs73120401  | -1.59  | rs8113877   | 0.035061  | -16.28 | -0.538  | 20  | 20  | enet | 0.042  | 1.40E-69  | 0.2753    | 0.78307  |
| SeqId_5134_52   | HAVCR2    | 5  | 156512843 | 156569880 | 0.34797 | rs116708816 | 3.06   | rs1432872   | 2.74E-01  | -44.54 | -0.559  | 252 | 252 | enet | 0.29   | 0         | 0.27426   | 0.78388  |
| SeqId_18832_65  | SAA2      | 11 | 18260770  | 18270215  | 0.11297 | rs2158395   | 1.763  | rs11024589  | 0.063297  | -21.41 | -0.099  | 18  | 18  | enet | 0.085  | 9.80E-141 | -0.27389  | 7.84E-01 |
| SeqId_5337_64   | CD86      | 3  | 121774209 | 121839986 | 0.01529 | rs17742642  | 2.61   | rs77832668  | -3.80E-05 | 4.21   | -0.604  | 41  | 41  | enet | 0.002  | 1.00E-04  | -0.27466  | 7.84E-01 |
| SeqId_12727_7   | PTGFRN    | 1  | 117452538 | 117532975 | 0.38031 | rs34403643  | -1.914 | rs4233450   | 2.99E-01  | 46.48  | 0.299   | 71  | 71  | enet | 0.39   | 0         | 0.274     | 0.784077 |
| SeqId_10714_7   | ACE       | 17 | 61554422  | 61575741  | 0.30581 | rs76793890  | 1.932  | rs4353      | 0.281192  | -45.05 | -0.442  | 41  | 41  | enet | 0.32   | 0         | 0.2734    | 0.78454  |
| SeqId_3280_49   | ACAN      | 15 | 89346667  | 89418584  | 0.03556 | rs12913320  | 1.795  | rs34949187  | 0.00803   | -10.06 | -0.217  | 59  | 59  | enet | 0.025  | 5.40E-42  | 0.2731    | 0.7848   |
| SeqId_5900_11   | HINT1     | 5  | 130491076 | 130560161 | 0.01974 | rs113642581 | -0.873 | rs12332117  | 3.63E-02  | 16.31  | -0.252  | 29  | 29  | enet | 0.036  | 2.20E-60  | -0.27278  | 0.78503  |
| SeqId_2474_54   | APCS      | 1  | 159557616 | 159558655 | 0.06347 | rs114735981 | -2.463 | rs77672383  | 3.75E-02  | -16.88 | 1.514   | 57  | 57  | enet | 0.065  | 6.70E-107 | -0.2725   | 0.785246 |
| SeqId_3077_66   | F10       | 13 | 113777113 | 113803843 | 0.12796 | rs9577464   | 2.57   | rs3211757   | 0.03647   | 16.42  | -0.139  | 58  | 58  | enet | 0.069  | 4.90E-114 | 0.272     | 0.786    |
| SeqId_12956_40  | KIAA1279  | 10 | 70748559  | 70803300  | 0.00946 | rs75583483  | -10.59 | rs17471869  | 0.000542  | 5.68   | 0.877   | 16  | 16  | enet | 0.0023 | 3.00E-05  | 0.27128   | 0.7862   |
| SeqId_3302_58   | CS17      | 20 | 24929905  | 24940564  | 0.27104 | rs11907788  | 2.63   | rs4462848   | 0.109636  | 28.33  | 0.50508 | 176 | 176 | enet | 0.18   | 5.1E-312  | -0.2709   | 0.78647  |
| SeqId_16818_200 | CDCP1     | 3  | 45123769  | 45187914  | 0.12491 | rs138293488 | 2.07   | rs62244469  | 3.89E-02  | -17.06 | -0.56   | 73  | 73  | enet | 0.09   | 1.20E-149 | -0.26986  | 7.87E-01 |
| SeqId_3296_92   | CNTN2     | 1  | 205012065 | 205047417 | 0.34906 | rs58145004  | 1.74   | rs3753847   | 1.88E-01  | -36.86 | 0.617   | 115 | 115 | enet | 0.37   | 0         | -0.27     | 0.787181 |
| SeqId_19273_3   | GSR       | 8  | 30535583  | 30585363  | 0.06774 | rs17651216  | 3.24   | rs2551710   | 0.012201  | -9.99  | -0.3032 | 43  | 43  | enet | 0.028  | 1.70E-46  | -0.2675   | 0.789081 |
| SeqId_6060_2    | PIP       | 7  | 142829170 | 142836832 | 0.23817 | rs75940454  | -3.382 | rs4726600   | 0.03131   | 16.09  | 0.0126  | 203 | 203 | enet | 0.089  | 3.10E-148 | 0.2673    | 0.789247 |
| SeqId_9348_1    | C1RL      | 12 | 7242183   | 7261834   | 0.28526 | rs150452082 | -1.908 | rs146111161 | 0.044313  | -3.8   | 0.126   | 18  | 18  | enet | 0.17   | 2.90E-285 | -0.26697  | 0.78949  |
| SeqId_15394_79  | UNC5B     | 10 | 72972327  | 73062621  | 0.13879 | rs1417913   | 2.41   | rs7907590   | 0.011618  | -11.11 | 0.83    | 118 | 118 | enet | 0.081  | 2.90E-135 | -0.265863 | 0.7903   |
| SeqId_4249_64   | NME2      | 17 | 49242796  | 49249105  | 0.247   | rs190391283 | -1.616 | rs115848216 | 0.147635  | -32.74 | 0.232   | 61  | 61  | enet | 0.23   | 0         | 0.2655    | 0.7906   |
| SeqId_4811_33   | ITIH4     | 3  | 52846978  | 52864704  | 0.03165 | rs3617      | 3.31   | rs3617      | 1.07E-02  | 9.69   | -0.906  | 37  | 37  | enet | 0.017  | 6.30E-29  | -0.26442  | 7.91E-01 |
| SeqId_2816_50   | BCAM      | 19 | 45312328  | 45324678  | 0.10822 | rs10412857  | -3.853 | rs563366239 | 0.038406  | 16.73  | -0.521  | 87  | 87  | enet | 0.053  | 6.80E-87  | 0.2643    | 0.791551 |
| SeqId_11145_72  | KIAA1549L | 11 | 33397654  | 33695648  | 0.19393 | rs3847595   | 2.488  | rs2753408   | 0.147915  | -32.68 | -0.265  | 30  | 30  | enet | 0.18   | 9.6E-319  | 0.26436   | 7.92E-01 |
| SeqId_3403_1    | TPSB2     | 16 | 1277272   | 1280185   | 0.42011 | rs188109028 | -2.85  | rs3874639   | 0.31838   | -47.93 | -0.538  | 153 | 153 | enet | 0.39   | 0         | 0.2615    | 7.94E-01 |
| SeqId_15462_28  | CD8A      | 2  | 87011733  | 87035519  | 0.11561 | rs77940787  | 1.772  | rs3020726   | 0.07079   | 22.64  | 0.089   | 53  | 53  | enet | 0.087  | 1.50E-145 | 0.2604    | 7.95E-01 |
| SeqId_4276_10   | PEBP1     | 12 | 118573929 | 118583389 | 0.14872 | rs4766885   | 2.393  | rs1050625   | 0.086526  | -25    | 0.951   | 54  | 54  | enet | 0.13   | 6.40E-213 | 0.25766   | 0.79667  |
| SeqId_5682_13   | VASN      | 16 | 4421849   | 4433539   | 0.02132 | rs6500586   | 1.66   | rs757593    | 0.00655   | 7.12   | 0.237   | 20  | 20  | enet | 0.01   | 4.40E-18  | 0.2555    | 7.98E-01 |
| SeqId_9077_10   | MAN1A2    | 1  | 117910071 | 118071494 | 0.11284 | rs6666558   | -1.152 | rs4659047   | 6.31E-02  | -21.84 | -0.471  | 60  | 60  | enet | 0.14   | 3.10E-237 | 0.2559    | 0.798023 |
| SeqId_2743_5    | SHH       | 7  | 155592674 | 155605157 | 0.02419 | rs116893723 | -2.719 | rs872723    | 0.009403  | -8.47  | -0.5787 | 41  | 41  | enet | 0.012  | 3.90E-21  | 0.2553    | 0.798463 |
| SeqId_19622_7   | INHBA     | 7  | 41706766  | 41745432  | 0.00859 | rs273118    | 2.458  | rs1122291   | 0.004008  | -5.79  | -0.253  | 18  | 1   | top1 | 0.004  | 4.40E-08  | 0.253     | 0.800268 |
| SeqId_8043_153  | COMP      | 19 | 18893583  | 18902114  | 0.06506 | rs11672508  | 3.003  | rs12974746  | 0.024051  | -13.25 | -0.276  | 78  | 78  | enet | 0.034  | 8.20E-56  | 0.25276   | 0.800456 |
| SeqId_15466_30  | COL9A1    | 6  | 70925743  | 71012787  | 0.02442 | rs76893750  | 2.28   | rs13199337  | 0.00261   | 6.54   | -0.7718 | 51  | 51  | enet | 0.014  | 2.40E-24  | -0.253    | 8.01E-01 |
| SeqId_15587_20  | FOLR2     | 11 | 71927645  | 71932994  | 0.02521 | rs365274    | 0.85   | rs74603010  | 0.00685   | 7.41   | 0.156   | 28  | 28  | enet | 0.0086 | 2.00E-15  | 0.25029   | 8.02E-01 |
| SeqId_3046_31   | RETN      | 19 | 7733935   | 7735341   | 0.15585 | rs10407033  | 2.753  | rs34124816  | 0.030508  | -14.93 | 0.735   | 112 | 112 | enet | 0.053  | 3.20E-88  | -0.24998  | 8.026    |
| SeqId_3169_70   | IDUA      | 4  | 980785    | 998352    | 0.44614 | rs34311866  | -2.743 | rs3796622   | 0.177052  | 35.77  | -0.115  | 219 | 219 | enet | 0.34   | 0         | -0.2491   | 8.03E-01 |
| SeqId_8233_2    | ITIH5     | 10 | 7601232   | 7708961   | 0.28404 | rs60815829  | 2.74   | rs6602258   | 0.069294  | 22.46  | 0.0281  | 135 | 135 | enet | 0.21   | 0         | -0.248809 | 0.8035   |
| SeqId_10851_77  | EBI3      | 19 | 4229520   | 4237525   | 0.21208 | rs58237134  | 1.263  | rs4905      | 0.44013   | -56.36 | 0.338   | 21  | 21  | enet | 0.44   | 0         | -0.24785  | 0.804251 |
| SeqId_3291_30   | FCER2     | 19 | 7753644   | 7767032   | 0.10375 | rs1155715   | -2.419 | rs62110713  | 0.046932  | -18.52 | 0.164   | 48  | 48  | enet | 0.088  | 1.10E-146 | -0.24646  | 0.80533  |
| SeqId_12411_60  | MAX       | 14 | 65472892  | 65569413  | 0.04357 | rs149737749 | -1.783 | rs762810    | 0.069752  | -22.63 | 0.307   | 19  | 19  | enet | 0.071  | 1.80E-118 | -0.2449   | 8.07E-01 |
| SeqId_17380_2   | UBE2K     | 4  | 39699729  | 39784412  | 0.02218 | rs183630707 | 1.989  | rs58339883  | 0.014745  | 10.77  | -0.152  | 28  | 28  | enet | 0.019  | 2.10E-32  | -0.2439   | 8.07E-01 |
| SeqId_15368_3   | BMPER     | 7  | 33943920  | 34196039  | 0.0966  | rs10240704  | -1.903 | rs16879245  | 0.016771  | -12.73 | -1.199  | 72  | 72  | enet | 0.072  | 1.20E-118 | 0.2438    | 0.807412 |
| SeqId_3221_54   | SFRP1     | 8  | 41119481  | 41166992  | 0.08218 | rs79902170  | -3.13  | rs72643820  | 0.020698  | -12.33 | -0.685  | 101 | 101 | enet | 0.048  | 4.00E-79  | -0.2427   | 0.8082   |



|                 |          |    |           |           |         |             |        |             |          |        |         |     |     |      |        |           |          |          |
|-----------------|----------|----|-----------|-----------|---------|-------------|--------|-------------|----------|--------|---------|-----|-----|------|--------|-----------|----------|----------|
| SeqId_4541_49   | CDON     | 11 | 125825691 | 125933230 | 0.18078 | rs11220352  | -2.689 | rs112978541 | 0.171934 | -35.27 | 0.021   | 112 | 112 | enet | 0.2    | 0         | 0.24222  | 8.09E-01 |
| SeqId_5698_60   | TNXB     | 6  | 32008930  | 32083111  | 0.39131 | rs2857709   | -3.98  | rs116298992 | 0.12549  | -30.11 | -1.233  | 100 | 100 | enet | 0.25   | 0         | 0.242    | 8.09E-01 |
| SeqId_6451_64   | ASPN     | 9  | 95218487  | 95244788  | 0.20939 | rs2761681   | -1.954 | rs2761681   | 0.116    | -28.97 | -0.184  | 66  | 66  | enet | 0.18   | 1.40E-307 | 0.2413   | 8.09E-01 |
| SeqId_17765_3   | SNUPN    | 15 | 75890424  | 75918810  | 0.06007 | rs72732875  | -2.836 | rs7170787   | 0.04807  | 18.69  | 1.581   | 87  | 87  | enet | 0.064  | 1.00E-105 | 0.2415   | 0.8092   |
| SeqId_3449_58   | SERPINA4 | 14 | 95027779  | 95036250  | 0.3268  | rs2236240   | -3.034 | rs10139745  | 0.203395 | 38.37  | -1.059  | 141 | 141 | enet | 0.3    | 0         | -0.2406  | 8.10E-01 |
| SeqId_2687_2    | MIA      | 19 | 41277553  | 41283395  | 0.14926 | rs2290693   | 2.629  | rs2607421   | 0.244003 | 42.12  | 0.16    | 72  | 72  | enet | 0.28   | 0         | -0.24038 | 0.810036 |
| SeqId_6367_66   | FMOD     | 1  | 203309756 | 203320886 | 0.07298 | rs1361598   | 3.695  | rs10920616  | 4.07E-02 | -17.54 | -0.254  | 36  | 36  | enet | 0.056  | 1.00E-92  | 0.24     | 0.810296 |
| SeqId_3059_50   | TNFSF13B | 13 | 108903588 | 108960832 | 0.01004 | rs117306149 | 2.3    | rs150861794 | 0.00305  | 6.06   | -0.678  | 22  | 22  | enet | 0.0074 | 1.60E-13  | -0.236   | 0.8131   |
| SeqId_18186_15  | TARS     | 5  | 33440802  | 33468196  | 0.03555 | rs187381727 | -1.444 | rs3777083   | 1.42E-02 | -10.3  | 0.324   | 51  | 51  | enet | 0.022  | 1.60E-37  | -0.23586 | 0.81354  |
| SeqId_6382_17   | MANBA    | 4  | 103551927 | 103682151 | 0.11053 | rs75077651  | 1.417  | rs223490    | 0.212453 | 39.97  | 0.475   | 45  | 45  | enet | 0.25   | 0         | 0.2351   | 8.14E-01 |
| SeqId_6626_81   | CHST12   | 7  | 2443223   | 2488119   | 0.06356 | rs10229817  | 2.713  | rs884566    | 0.041019 | 17.38  | -1.319  | 47  | 47  | enet | 0.052  | 1.10E-85  | -0.2348  | 0.814329 |
| SeqId_3796_79   | ANGPTL4  | 19 | 8428173   | 8439254   | 0.00643 | rs77941029  | 1.305  | rs116843064 | 0.014613 | -10.33 | -0.429  | 9   | 9   | enet | 0.018  | 3.10E-30  | 0.23216  | 0.816412 |
| SeqId_10442_1   | TMEM190  | 19 | 55888194  | 55889614  | 0.28244 | rs62124644  | 2.036  | rs4806666   | 0.342338 | -49.7  | 0.276   | 46  | 46  | enet | 0.35   | 0         | -0.22847 | 0.819282 |
| SeqId_5731_1    | SPINK6   | 5  | 147582357 | 147594700 | 0.08603 | rs75816854  | 1.938  | rs11741093  | 1.40E-01 | 31.82  | -0.568  | 60  | 60  | enet | 0.18   | 1.3e-312  | 0.22791  | 0.81972  |
| SeqId_4924_32   | MMP1     | 11 | 102660132 | 102668891 | 0.21868 | rs143456145 | 2.569  | rs1144396   | 0.047168 | 18.6   | -1.263  | 126 | 126 | enet | 0.13   | 9.50E-215 | -0.22816 | 8.20E-01 |
| SeqId_7551_33   | LRRC32   | 11 | 76368568  | 76381791  | 0.01272 | rs149028714 | 2.888  | rs12275758  | 0.00241  | -5.48  | 0.114   | 39  | 39  | enet | 0.0073 | 2.00E-13  | 0.22801  | 8.20E-01 |
| SeqId_15641_20  | TMEFF1   | 9  | 103235431 | 103339918 | 0.03143 | rs118169670 | 1.725  | rs10989102  | 0.01112  | -9.47  | 0.136   | 27  | 27  | enet | 0.012  | 1.30E-20  | -0.2282  | 8.20E-01 |
| SeqId_17819_30  | FAHD1    | 16 | 1876942   | 1890208   | 0.01395 | rs3874648   | 1.27   | rs3743853   | 0.02801  | -14.41 | -0.225  | 15  | 1   | top1 | 0.028  | 1.10E-46  | 0.225    | 8.22E-01 |
| SeqId_15387_44  | NRP2     | 2  | 206546714 | 206662857 | 0.15705 | rs2336600   | 2.982  | rs62172729  | 0.0164   | -11.88 | -0.376  | 152 | 152 | enet | 0.066  | 9.80E-110 | -0.225   | 8.22E-01 |
| SeqId_5598_3    | GREM2    | 1  | 240652873 | 240775455 | 0.0076  | rs12410581  | -1.178 | rs116135446 | 3.70E-03 | 5.48   | -0.223  | 14  | 1   | top1 | 0.0037 | 1.40E-07  | -0.223   | 0.823536 |
| SeqId_4771_10   | SMPDL3A  | 6  | 123110194 | 123130865 | 0.10625 | rs11751996  | -1.31  | rs28385609  | 0.05807  | -20.54 | -0.07   | 11  | 11  | enet | 0.063  | 2.00E-104 | -0.222   | 8.24E-01 |
| SeqId_11659_31  | CLINT1   | 5  | 157212751 | 157286153 | 0.02295 | rs17598343  | 2.775  | rs12284     | 1.39E-02 | -10.26 | -0.231  | 21  | 21  | enet | 0.015  | 4.70E-26  | -0.22215 | 0.8242   |
| SeqId_8766_29   | LILRA5   | 19 | 54818353  | 54824436  | 0.09089 | rs8106120   | 2.482  | rs397600    | 0.033508 | 15.69  | -0.0943 | 58  | 58  | enet | 0.056  | 1.70E-92  | 0.21955  | 0.826223 |
| SeqId_5618_50   | FAM3B    | 21 | 42676139  | 42729654  | 0.08533 | rs66817580  | 2.29   | rs57529409  | 0.044    | -17.87 | 0.066   | 22  | 22  | enet | 0.074  | 1.30E-122 | 0.2182   | 0.827    |
| SeqId_5584_21   | TCN2     | 22 | 31002990  | 31023258  | 0.34096 | rs1807515   | 4.03   | rs12169610  | 0.13815  | -32.35 | -0.394  | 104 | 104 | enet | 0.34   | 0         | 0.2178   | 0.82759  |
| SeqId_6366_38   | TXNDC15  | 5  | 134210061 | 134237325 | 0.05044 | rs319597    | 1.81   | rs3733897   | 5.20E-02 | 19.41  | 0.057   | 20  | 20  | enet | 0.056  | 1.60E-92  | 0.21718  | 0.82807  |
| SeqId_9211_19   | SERPINF1 | 17 | 1665323   | 1680859   | 0.20169 | rs55815331  | 3.368  | rs62088172  | 0.144288 | -32.4  | -1.107  | 170 | 170 | enet | 0.18   | 1e-312    | 0.2159   | 0.82908  |
| SeqId_11441_11  | PYGL     | 14 | 51324609  | 51411201  | 0.1414  | rs7158729   | -4.162 | rs12717412  | 0.041825 | -17.56 | 0.212   | 58  | 58  | enet | 0.063  | 3.10E-104 | -0.2152  | 8.30E-01 |
| SeqId_4324_33   | CST2     | 20 | 23804406  | 23807366  | 0.13742 | rs150615439 | 2.25   | rs4260306   | 0.100253 | -27.59 | -0.75   | 26  | 26  | enet | 0.14   | 2.60E-240 | 0.2147   | 0.83002  |
| SeqId_2705_5    | CCL25    | 19 | 8117202   | 8127544   | 0.20655 | rs36248     | -3.185 | rs74959615  | 0.195089 | -37.54 | 0.064   | 40  | 40  | enet | 0.25   | 0         | -0.21465 | 0.830043 |
| SeqId_9384_17   | CAMP     | 3  | 48264837  | 48266981  | 0.00526 | rs149065620 | 1.84   | rs11716848  | 2.26E-03 | 4.32   | 0.292   | 35  | 35  | enet | 0.0065 | 5.00E-12  | 0.21355  | 8.31E-01 |
| SeqId_10916_44  | PLA2R1   | 2  | 160788517 | 160919126 | 0.38893 | rs183026621 | 3.26   | rs3749117   | 0.27831  | -44.82 | 0.725   | 189 | 189 | enet | 0.37   | 0         | -0.2105  | 8.33E-01 |
| SeqId_18871_24  | AIF1L    | 9  | 133971863 | 133998539 | 0.11723 | rs72770746  | 1.906  | rs11244284  | 0.11974  | -29.44 | 0.316   | 44  | 44  | enet | 0.17   | 2.80E-286 | -0.2113  | 8.33E-01 |
| SeqId_8039_41   | FAM177A1 | 14 | 35514113  | 35582336  | 0.21296 | rs55791227  | -2.898 | rs799473    | 0.209536 | -38.91 | -0.634  | 77  | 77  | enet | 0.23   | 0         | 0.2097   | 8.34E-01 |
| SeqId_8697_38   | GPC1     | 2  | 241375080 | 241407493 | 0.11564 | rs10933615  | -1.69  | rs1126920   | 0.12516  | 30.09  | 0.39    | 54  | 54  | enet | 0.13   | 2.10E-222 | 0.2093   | 8.34E-01 |
| SeqId_16916_19  | SLITRK6  | 13 | 86366925  | 86380818  | 0.07463 | rs146207806 | -2.67  | rs9547187   | 0.04169  | -17.51 | -0.212  | 88  | 88  | enet | 0.056  | 2.00E-92  | 0.208    | 0.8355   |
| SeqId_3232_28   | ACP5     | 19 | 11685475  | 11689823  | 0.10227 | rs17242899  | 1.671  | rs2305799   | 0.042065 | -17.6  | 0.637   | 43  | 43  | enet | 0.082  | 2.60E-136 | -0.20697 | 0.836034 |
| SeqId_2774_10   | IL16     | 15 | 81451916  | 81606399  | 0.27742 | rs59216753  | 3.078  | rs4778639   | 0.28643  | -45.64 | -0.557  | 56  | 56  | enet | 0.3    | 0         | 0.2069   | 0.8361   |
| SeqId_4568_17   | SLITRK5  | 13 | 88323626  | 88348527  | 0.07672 | rs185684080 | 3.82   | rs12856670  | 0.0209   | -12.32 | 0.248   | 109 | 109 | enet | 0.046  | 4.90E-76  | 0.207    | 0.8362   |
| SeqId_7849_3    | QPCT     | 2  | 37569970  | 37600465  | 0.07833 | rs17462364  | -2.141 | rs75573663  | 0.02689  | -15.1  | -0.576  | 57  | 57  | enet | 0.063  | 2.40E-104 | -0.2054  | 8.37E-01 |
| SeqId_4968_50   | CAPG     | 2  | 85621876  | 85645555  | 0.18254 | rs12463933  | -1.509 | rs62623452  | 0.07879  | -24.16 | -0.404  | 55  | 55  | enet | 0.16   | 4.90E-268 | 0.2047   | 8.38E-01 |
| SeqId_4496_60   | MMP12    | 11 | 102733467 | 102745712 | 0.13413 | rs72975680  | -1.225 | rs2276109   | 0.124634 | -30.27 | -0.039  | 66  | 66  | enet | 0.15   | 1.80E-253 | -0.20292 | 8.39E-01 |
| SeqId_9877_28   | CRKL     | 22 | 21271695  | 21308035  | 0.05601 | rs491264    | 2.04   | rs117858197 | 0.01144  | -9.34  | -0.645  | 31  | 31  | enet | 0.019  | 1.30E-31  | -0.2017  | 0.84017  |
| SeqId_10977_55  | UCMA     | 10 | 13263766  | 13276374  | 0.16173 | rs148371284 | -2.24  | rs1537771   | 0.047975 | -18.67 | -0.4261 | 96  | 96  | enet | 0.1    | 8.60E-173 | 0.20069  | 0.8414   |
| SeqId_4342_10   | ICAM1    | 19 | 10381769  | 10397291  | 0.39829 | rs11670097  | -3.641 | rs5498      | 0.515609 | -60.99 | -0.623  | 85  | 85  | enet | 0.53   | 0         | 0.19926  | 0.842061 |
| SeqId_9884_8    | PPIL1    | 6  | 36822603  | 36842579  | 0.23835 | rs76207768  | -2.45  | rs10440825  | 0.10258  | -27.21 | 0.045   | 17  | 17  | enet | 0.1    | 2.00E-172 | 0.198    | 8.43E-01 |
| SeqId_15299_102 | MESDC2   | 15 | 81238630  | 81282169  | 0.02212 | rs11633987  | 2.28   | rs73489798  | 0.01552  | -11.25 | -0.41   | 43  | 43  | enet | 0.019  | 9.30E-33  | -0.197   | 0.8438   |
| SeqId_3415_61   | IBSP     | 4  | 88720706  | 88733587  | 0.01374 | rs112229979 | 2.005  | rs2616262   | 0.006083 | -7.02  | -0.414  | 31  | 31  | enet | 0.0075 | 1.20E-13  | 0.1968   | 8.44E-01 |
| SeqId_15573_110 | NCAN     | 19 | 19322767  | 19363042  | 0.03004 | rs75072017  | -2.358 | rs2228603   | 0.030074 | -14.79 | -0.196  | 24  | 1   | top1 | 0.03   | 5.00E-50  | 0.196    | 0.84461  |
| SeqId_7761_125  | CHKB     | 22 | 51017388  | 51039884  | 0.04118 | rs73187217  | -1.84  | rs5770922   | 0.02275  | -12.97 | -0.242  | 34  | 34  | enet | 0.03   | 1.90E-49  | 0.1956   | 0.84494  |
| SeqId_7227_75   | COCH     | 14 | 31343720  | 31364271  | 0.29442 | rs10483371  | -3.09  | rs28400019  | 0.107776 | 27.91  | -2.1625 | 115 | 115 | enet | 0.19   | 0         | 0.1954   | 8.45E-01 |
| SeqId_3343_1    | ACY1     | 3  | 52017356  | 52023213  | 0.03411 | rs184102325 | 1.35   | rs148804382 | 1.06E-02 | -9.14  | 0.196   | 18  | 1   | top1 | 0.011  | 1.10E-18  | -0.196   | 8.45E-01 |
| SeqId_6986_17   | HSST3B1  | 17 | 14204398  | 14252721  | 0.02113 | rs72815717  | -2.705 | rs62056073  | 0.00678  | -8.17  | 0.267   | 27  | 27  | enet | 0.015  | 1.10E-25  | -0.1952  | 0.84525  |

|                 |          |    |           |           |         |             |        |             |          |        |         |     |     |      |        |           |           |          |
|-----------------|----------|----|-----------|-----------|---------|-------------|--------|-------------|----------|--------|---------|-----|-----|------|--------|-----------|-----------|----------|
| SeqId_14747_9   | CRLF1    | 19 | 18683030  | 18718551  | 0.03827 | rs2161106   | -1.752 | rs141412226 | 0.036998 | 16.4   | -0.0153 | 29  | 29  | enet | 0.037  | 8.30E-62  | 0.1949    | 0.845472 |
| SeqId_6342_10   | NPNT     | 4  | 106815932 | 106925184 | 0.13865 | rs72669966  | 2.513  | rs34712979  | 0.055173 | -20.06 | -0.412  | 57  | 57  | enet | 0.059  | 8.70E-97  | 0.1938    | 8.46E-01 |
| SeqId_16606_85  | AKR1B1   | 7  | 134127108 | 134144036 | 0.08976 | rs782534    | 2.197  | rs782546    | 0.023028 | 13.31  | 1.838   | 37  | 37  | enet | 0.044  | 4.70E-73  | -0.1931   | 0.846914 |
| SeqId_5740_17   | ROBO1    | 3  | 78646389  | 79817148  | 0.09102 | rs10049012  | 1.82   | rs3773232   | 3.55E-02 | 16.2   | -0.435  | 53  | 53  | enet | 0.054  | 1.50E-88  | -0.19133  | 8.48E-01 |
| SeqId_3175_51   | ADAMTS13 | 9  | 136279478 | 136324524 | 0.12662 | rs7864157   | 13.232 | rs35516997  | 0.13264  | -31.06 | -2.395  | 37  | 37  | enet | 0.19   | 0         | -0.1897   | 8.50E-01 |
| SeqId_11382_5   | BLVRA    | 7  | 43798279  | 43846941  | 0.1181  | rs145849190 | -1.84  | rs1050916   | 0.020426 | -14.32 | 0.282   | 51  | 51  | enet | 0.067  | 3.00E-111 | -0.1891   | 0.850007 |
| SeqId_2913_1    | CCL23    | 17 | 34340096  | 34345009  | 0.43285 | rs113688187 | 2.983  | rs712048    | 0.071247 | -22.79 | 1.026   | 126 | 126 | enet | 0.26   | 0         | 0.1889    | 0.85014  |
| SeqId_3858_5    | ACP1     | 2  | 264140    | 278283    | 0.29912 | rs143938482 | 3.039  | rs79716074  | 0.48529  | 59.17  | -0.179  | 102 | 102 | enet | 0.49   | 0         | -0.1878   | 8.51E-01 |
| SeqId_6081_52   | PCOLCE2  | 3  | 142534764 | 142608048 | 0.32173 | rs9860003   | 2.76   | rs11716897  | 1.09E-01 | 28.12  | -0.302  | 96  | 96  | enet | 0.23   | 0         | 0.18672   | 8.52E-01 |
| SeqId_3322_52   | LRIG3    | 12 | 59265931  | 59314285  | 0.13873 | rs147407935 | -2.49  | rs11172791  | 0.055191 | -21.04 | 0.197   | 88  | 88  | enet | 0.18   | 5.8e-319  | -0.18493  | 0.85328  |
| SeqId_5621_64   | THSD1    | 13 | 52951302  | 52990508  | 0.28705 | rs3154      | 2.53   | rs41292808  | 0.11142  | 28.4   | 0.349   | 60  | 60  | enet | 0.12   | 4.50E-208 | 0.184     | 0.8537   |
| SeqId_6930_95   | ST8SIA6  | 10 | 17357420  | 17496594  | 0.02534 | rs7096979   | 3.13   | rs11595070  | 0.006679 | -8.29  | 0.7052  | 44  | 44  | enet | 0.024  | 1.10E-40  | -0.182289 | 0.8554   |
| SeqId_5810_25   | TDGF1    | 3  | 46616024  | 46623947  | 0.42487 | rs11709020  | 1.51   | rs3806702   | 4.81E-01 | 58.94  | 0.049   | 27  | 27  | enet | 0.49   | 0         | -0.18095  | 8.56E-01 |
| SeqId_17453_34  | CP       | 3  | 148880197 | 148939616 | 0.02258 | rs13089226  | -2     | rs13089226  | 5.98E-03 | 6.68   | -1.999  | 45  | 45  | enet | 0.0092 | 1.80E-16  | -0.17779  | 8.59E-01 |
| SeqId_19113_66  | SH3BGR2  | 6  | 80341046  | 80413372  | 0.10395 | rs116843610 | 1.61   | rs2245410   | 0.08898  | 25.43  | -0.214  | 44  | 44  | enet | 0.1    | 4.20E-169 | -0.177    | 8.60E-01 |
| SeqId_15487_164 | CES1     | 16 | 55836763  | 55867249  | 0.05679 | rs143216460 | -2.42  | rs76336259  | 0.01814  | -11.64 | 0.931   | 66  | 66  | enet | 0.027  | 1.30E-45  | 0.1747    | 8.61E-01 |
| SeqId_3461_58   | BCAN     | 1  | 156611182 | 156629324 | 0.14819 | rs115620618 | 1.957  | rs2365715   | 4.59E-02 | -18.31 | 0.775   | 28  | 28  | enet | 0.063  | 4.70E-105 | -0.175    | 0.861042 |
| SeqId_11646_4   | CHST9    | 18 | 24486445  | 24765272  | 0.04417 | rs675150    | 2.21   | rs11660451  | 0.03907  | 17     | -1.102  | 41  | 41  | enet | 0.062  | 1.10E-102 | 0.175     | 0.8611   |
| SeqId_9191_8    | TFE2     | 21 | 43766466  | 43771106  | 0.00774 | rs58569031  | -1.5   | rs58206891  | 0.00226  | -5.83  | 0.619   | 32  | 32  | enet | 0.0067 | 2.00E-12  | -0.1727   | 0.863    |
| SeqId_3457_57   | POSTN    | 13 | 38136720  | 38172981  | 0.08906 | rs9576354   | 3.23   | rs7329947   | 0.02727  | 14.08  | -1.169  | 100 | 100 | enet | 0.058  | 2.20E-95  | -0.168    | 0.8667   |
| SeqId_16060_99  | NID2     | 14 | 52471521  | 52535946  | 0.10243 | rs144186852 | 2.221  | rs941622    | 0.125698 | 30.22  | -0.088  | 74  | 74  | enet | 0.16   | 7.10E-277 | -0.1671   | 8.67E-01 |
| SeqId_3043_49   | SPARC    | 5  | 151040657 | 151066536 | 0.03817 | rs6894313   | -2.156 | rs59311424  | 8.56E-03 | -8.05  | -0.296  | 32  | 32  | enet | 0.02   | 4.70E-34  | -0.16587  | 0.86826  |
| SeqId_2602_2    | ANGPT2   | 8  | 6357153   | 6420930   | 0.04789 | rs1014199   | 1.892  | rs1968586   | 0.021563 | -12.56 | 0.3013  | 70  | 70  | enet | 0.027  | 4.40E-45  | -0.165    | 0.868965 |
| SeqId_5607_16   | NCAM2    | 21 | 22370727  | 22915650  | 0.13831 | rs75296494  | 2.34   | rs2826851   | 0.12302  | 29.83  | -1.122  | 102 | 102 | enet | 0.23   | 0         | 0.1632    | 0.87     |
| SeqId_5660_51   | SOD3     | 4  | 24791534  | 24802464  | 0.18885 | rs113089419 | 2.647  | rs2536512   | 0.047282 | 18.6   | -0.11   | 213 | 213 | enet | 0.12   | 3.40E-199 | -0.1633   | 8.70E-01 |
| SeqId_10037_98  | SIGLEC12 | 19 | 51994481  | 52005054  | 0.21827 | rs2168643   | -1.614 | rs3826667   | 0.311978 | -47.46 | -0.1648 | 16  | 16  | enet | 0.32   | 0         | 0.16304   | 0.87049  |
| SeqId_19207_119 | ADK      | 10 | 75910960  | 76469721  | 0.01075 | rs2227579   | 2.06   | rs7099085   | 0.001771 | 5.95   | 0.82    | 41  | 41  | enet | 0.0054 | 3.00E-10  | 0.162408  | 0.871    |
| SeqId_6470_19   | FBLN1    | 22 | 45898118  | 45997015  | 0.07769 | rs13053621  | 2.16   | rs11090631  | 0.03579  | -16.25 | 0.57    | 87  | 87  | enet | 0.058  | 4.90E-96  | 0.1579    | 0.87454  |
| SeqId_16558_2   | MYOC     | 1  | 171604557 | 171621828 | 0.2632  | rs78578111  | -2.589 | rs235879    | 9.18E-02 | 25.76  | -0.636  | 131 | 131 | enet | 0.2    | 0         | 0.1555    | 0.876408 |
| SeqId_9076_25   | PENK     | 8  | 57349233  | 57359230  | 0.10137 | rs16920917  | 2.753  | rs2576581   | 0.14522  | -32.4  | -0.13   | 82  | 82  | enet | 0.2    | 0         | 0.1537    | 0.877851 |
| SeqId_17686_27  | TBCB     | 19 | 36605191  | 36616849  | 0.096   | rs113300978 | 1.975  | rs2231569   | 0.053681 | 19.73  | -0.521  | 39  | 39  | enet | 0.065  | 6.00E-107 | -0.15312  | 0.878304 |
| SeqId_4498_62   | NCAM1    | 11 | 112831969 | 113149158 | 0.19808 | rs74800050  | 2.249  | rs2288158   | 0.048359 | 18.72  | -0.52   | 115 | 115 | enet | 0.13   | 5.50E-225 | 0.15143   | 8.80E-01 |
| SeqId_8297_8    | DNAJC10  | 2  | 183580982 | 183659191 | 0.04477 | rs74375064  | 2.162  | rs288334    | 0.01949  | 12.23  | 0.303   | 43  | 43  | enet | 0.033  | 2.30E-55  | -0.1471   | 8.83E-01 |
| SeqId_3196_6    | HAPLN1   | 5  | 82933624  | 83016674  | 0.03075 | rs17206048  | -2.666 | rs6886442   | 6.33E-03 | 8.96   | 0.207   | 47  | 47  | enet | 0.016  | 2.20E-27  | -0.145    | 0.88471  |
| SeqId_3855_56   | PRDX1    | 1  | 45976586  | 46008404  | 0.08447 | rs11211120  | 2.074  | rs11211133  | 4.43E-02 | 17.95  | -0.982  | 40  | 40  | enet | 0.075  | 5.50E-124 | 0.1429    | 0.886378 |
| SeqId_8014_359  | MANEA    | 6  | 96025361  | 96057346  | 0.33329 | rs140487152 | 2.63   | rs13205436  | 0.32064  | -48.12 | 0.286   | 92  | 92  | enet | 0.42   | 0         | -0.141    | 8.88E-01 |
| SeqId_11308_8   | CREB3L4  | 1  | 153940010 | 153946837 | 0.02709 | rs111689685 | -1.116 | rs4845586   | 4.09E-02 | 17.3   | 0.119   | 16  | 16  | enet | 0.042  | 3.70E-70  | -0.1386   | 0.889801 |
| SeqId_14203_3   | ANXA7    | 10 | 75134859  | 75173834  | 0.15699 | rs7898735   | 2.69   | rs76150063  | 0.00791  | -7.73  | 0.881   | 28  | 28  | enet | 0.017  | 2.10E-29  | -0.137815 | 0.8904   |
| SeqId_4834_61   | EPHA2    | 1  | 16450832  | 16482564  | 0.14755 | rs115041526 | 2.082  | rs6690317   | 6.44E-02 | -22.11 | 0.545   | 49  | 49  | enet | 0.094  | 1.80E-157 | 0.1378    | 0.890402 |
| SeqId_10088_37  | APRT     | 16 | 88875747  | 88878345  | 0.01993 | rs8060375   | -2.39  | rs535070    | 0.00051  | -6.28  | 0.47    | 45  | 45  | enet | 0.012  | 3.40E-21  | 0.137     | 8.91E-01 |
| SeqId_17680_12  | EPHB1    | 3  | 134514102 | 134979309 | 0.0805  | rs142888914 | -2.31  | rs10935143  | 7.39E-02 | 23.74  | -0.404  | 67  | 67  | enet | 0.12   | 2.70E-201 | -0.13682  | 8.91E-01 |
| SeqId_3298_52   | CNTN4    | 3  | 2140497   | 3099643   | 0.16705 | rs72997999  | -2.24  | rs13071423  | 3.54E-02 | 17.3   | 0.469   | 160 | 160 | enet | 0.11   | 3.00E-183 | -0.13738  | 8.91E-01 |
| SeqId_19262_219 | ACADVL   | 17 | 7120444   | 7128585   | 0.0055  | rs111901268 | -0.383 | rs4466994   | 0.002298 | -5.73  | 0.137   | 11  | 1   | top1 | 0.0023 | 2.70E-05  | -0.137    | 0.89103  |
| SeqId_13733_5   | IL12B    | 5  | 158741788 | 158757495 | 0.16095 | rs80205166  | 1.7    | rs4244437   | 1.47E-01 | 32.65  | 0.347   | 30  | 30  | enet | 0.19   | 0         | 0.13584   | 0.89195  |
| SeqId_4292_5    | NAPA     | 19 | 47990894  | 48018348  | 0.04094 | rs296371    | 1.369  | rs71363738  | 0.022055 | 12.71  | -0.076  | 26  | 26  | enet | 0.03   | 3.50E-49  | -0.13442  | 0.893072 |
| SeqId_18216_22  | IL11RA   | 9  | 34650699  | 34661899  | 0.08134 | rs142369632 | -2.424 | rs11575578  | 0.10712  | 27.91  | 0.3     | 39  | 39  | enet | 0.11   | 6.10E-187 | 0.132     | 8.95E-01 |
| SeqId_17383_4   | STARD5   | 15 | 81601394  | 81616524  | 0.10016 | rs111430118 | 2.358  | rs28555408  | 0.03409  | -15.77 | 0.933   | 71  | 71  | enet | 0.083  | 1.80E-137 | 0.129     | 0.8974   |
| SeqId_13488_3   | ARFIP1   | 4  | 153701089 | 153839615 | 0.04967 | rs6535908   | 1.866  | rs4619875   | 0.08699  | 25.07  | -0.126  | 28  | 1   | top1 | 0.087  | 6.00E-145 | -0.126    | 9.00E-01 |
| SeqId_4129_72   | CFB      | 6  | 31913427  | 31919861  | 0.23237 | rs9267480   | -3.71  | rs541862    | 0.11286  | 28.59  | -0.577  | 80  | 80  | enet | 0.21   | 0         | 0.126     | 9.00E-01 |
| SeqId_18403_25  | AMPD2    | 1  | 110158726 | 110174673 | 0.01093 | rs17024258  | 3.457  | rs523786    | 2.54E-03 | -5.42  | -0.124  | 48  | 1   | top1 | 0.0025 | 1.10E-05  | 0.124     | 0.901315 |
| SeqId_2652_15   | PLAUR    | 19 | 44150247  | 44174699  | 0.15225 | rs373560341 | 2.954  | rs2302524   | 0.04725  | -18.67 | 0.752   | 85  | 85  | enet | 0.081  | 3.60E-134 | 0.12277   | 0.902289 |
| SeqId_4413_3    | SLPI     | 20 | 43880880  | 43883205  | 0.05447 | rs34643859  | 2.58   | rs2143943   | 0.02467  | 13.43  | 0.758   | 59  | 59  | enet | 0.04   | 3.90E-66  | 0.1225    | 0.90253  |
| SeqId_5066_134  | CD300C   | 17 | 72537212  | 72542254  | 0.08432 | rs62063445  | 2.19   | rs62087200  | 0.054569 | -19.91 | 0.189   | 37  | 37  | enet | 0.068  | 5.30E-112 | -0.1219   | 0.90298  |

|                 |         |    |           |           |         |              |        |             |          |        |          |     |     |      |        |           |          |          |
|-----------------|---------|----|-----------|-----------|---------|--------------|--------|-------------|----------|--------|----------|-----|-----|------|--------|-----------|----------|----------|
| SeqId_2567_5    | CFI     | 4  | 110661850 | 110723155 | 0.12491 | rs17041514   | -3.033 | rs7439493   | 0.066968 | 22.03  | -0.11    | 124 | 124 | enet | 0.091  | 1.30E-151 | 0.1217   | 9.03E-01 |
| SeqId_5463_22   | GAS1    | 9  | 89559277  | 89562421  | 0.05558 | rs76595492   | -2.817 | rs4878043   | 0.00856  | 9.32   | 0.196    | 58  | 58  | enet | 0.041  | 3.20E-67  | -0.1214  | 9.03E-01 |
| SeqId_14636_25  | HRSPI2  | 8  | 99114572  | 99129399  | 0.07899 | rs113019046  | -1.042 | rs10955148  | 0.071971 | -22.86 | 0.326    | 11  | 11  | enet | 0.078  | 2.70E-130 | -0.1209  | 0.903735 |
| SeqId_18236_3   | HSPC159 | 2  | 64681103  | 64688515  | 0.04789 | rs12713506   | -2.786 | rs76392037  | 0.03336  | 15.56  | -0.282   | 42  | 42  | enet | 0.038  | 2.80E-63  | 0.1208   | 9.04E-01 |
| SeqId_16913_8   | RNASET2 | 6  | 167335601 | 167370679 | 0.1956  | rs9295358    | -3.13  | rs9457245   | 0.09817  | -26.7  | -0.646   | 66  | 66  | enet | 0.16   | 2.00E-270 | 0.121    | 9.04E-01 |
| SeqId_7628_40   | CRELD1  | 3  | 9975477   | 9987097   | 0.22371 | rs17032711   | -2.7   | rs6762702   | 3.42E-01 | -49.7  | -0.243   | 72  | 72  | enet | 0.4    | 0         | 0.11974  | 9.05E-01 |
| SeqId_19365_11  | BCAT2   | 19 | 49298319  | 49314286  | 0.1074  | rs2638282    | 3.722  | rs62125920  | 0.108027 | -27.97 | 0.27     | 69  | 69  | enet | 0.12   | 4.50E-194 | -0.11917 | 0.905144 |
| SeqId_16621_77  | APOA1BP | 1  | 156561548 | 156579299 | 0.09228 | rs2365715    | -2.337 | rs41267389  | 1.19E-01 | -29.5  | 0.522    | 87  | 87  | enet | 0.14   | 3.80E-241 | -0.1192  | 0.905147 |
| SeqId_3508_78   | CCL22   | 16 | 57392695  | 57400101  | 0.06803 | rs192297333  | 2.46   | rs170364    | 0.01632  | 11.77  | 0.893    | 114 | 114 | enet | 0.046  | 2.50E-76  | -0.118   | 9.06E-01 |
| SeqId_13552_7   | SWAP70  | 11 | 9685624   | 9774540   | 0.20568 | rs405449     | 2.326  | rs10770059  | 0.171952 | -35.27 | -0.555   | 58  | 58  | enet | 0.2    | 0         | 0.11573  | 9.08E-01 |
| SeqId_18340_2   | PSMB4   | 1  | 151372036 | 151374413 | 0.07949 | rs114873697  | -3.035 | rs4603      | 1.52E-01 | -33.23 | 0.113    | 52  | 1   | top1 | 0.15   | 1.40E-260 | -0.113   | 0.910031 |
| SeqId_15515_2   | SAA1    | 11 | 18287807  | 18291524  | 0.21937 | rs7946133    | 1.652  | rs11024589  | 0.12056  | -29.54 | -0.099   | 45  | 45  | enet | 0.15   | 2.00E-264 | -0.11097 | 9.12E-01 |
| SeqId_2998_53   | JAM3    | 11 | 133938966 | 134021896 | 0.02191 | rs1259022    | 1.652  | rs655627    | 0.022363 | 12.82  | 0.635    | 12  | 12  | enet | 0.024  | 1.70E-39  | 0.10837  | 9.14E-01 |
| SeqId_5275_28   | VAV1    | 19 | 6772719   | 6857377   | 0.04554 | rs112152495  | -1.606 | rs36097961  | 0.048077 | -18.69 | 0.22     | 34  | 34  | enet | 0.05   | 5.20E-82  | -0.10761 | 0.914306 |
| SeqId_8221_19   | MIF     | 22 | 24236570  | 24237414  | 0.03659 | rs5759855    | 1.56   | rs5751764   | 0.03418  | -15.92 | 0.09     | 39  | 39  | enet | 0.039  | 3.70E-64  | 0.1068   | 0.91493  |
| SeqId_17675_17  | ACOT13  | 6  | 24667263  | 24705293  | 0.0863  | rs1144272893 | 1.94   | rs4544900   | 0.0259   | 14.4   | -0.047   | 33  | 33  | enet | 0.054  | 1.10E-88  | -0.107   | 0.915    |
| SeqId_15414_316 | LDHA    | 11 | 18416107  | 18429972  | 0.01466 | rs35946818   | 1.696  | rs7112492   | 0.009599 | -8.73  | 0.261    | 25  | 25  | enet | 0.01   | 9.80E-18  | 0.10586  | 9.16E-01 |
| SeqId_18878_15  | GREM1   | 15 | 33010205  | 33037307  | 0.22825 | rs10519739   | 1.63   | rs2293582   | 0.24448  | 42.06  | 0.01     | 35  | 35  | enet | 0.26   | 0         | -0.1004  | 0.92     |
| SeqId_15375_49  | CPB1    | 3  | 148508889 | 148577974 | 0.13106 | rs12489871   | -2.02  | rs13318853  | 5.91E-02 | 20.72  | 0.15     | 44  | 44  | enet | 0.089  | 4.70E-148 | -0.09933 | 9.21E-01 |
| SeqId_15626_223 | HSPG2   | 1  | 22148737  | 22263803  | 0.0756  | rs7529220    | 2.143  | rs12742444  | 5.73E-02 | 20.58  | 0.067    | 64  | 64  | enet | 0.063  | 3.20E-104 | -0.099   | 9.12E-01 |
| SeqId_11476_43  | VPS4A   | 16 | 69345253  | 69360842  | 0.00536 | rs72801310   | -1.33  | rs9924894   | 0.00509  | 6.98   | 0.098    | 15  | 1   | top1 | 0.0051 | 7.90E-10  | 0.098    | 9.22E-01 |
| SeqId_19614_8   | TCN1    | 11 | 59620273  | 59633962  | 0.27295 | rs2165832    | 3.057  | rs34324219  | 0.054065 | -21.11 | -1.007   | 42  | 42  | enet | 0.13   | 1.40E-213 | 0.09675  | 9.23E-01 |
| SeqId_16858_384 | RCN3    | 19 | 50031260  | 50050219  | 0.00707 | rs11554772   | 2.79   | rs73582441  | 0.001103 | 4.32   | 0.096    | 52  | 1   | top1 | 0.0011 | 0.0028    | 0.096    | 0.923521 |
| SeqId_12831_21  | TESC    | 12 | 117476728 | 117537284 | 0.05071 | rs7297446    | 1.324  | rs10850746  | 0.055747 | -20.23 | 0.028    | 33  | 33  | enet | 0.063  | 6.70E-105 | 0.09484  | 0.92444  |
| SeqId_6998_106  | ASPH    | 8  | 62413115  | 62627199  | 0.05766 | rs17208884   | 2.895  | rs11775077  | 0.025757 | -15.08 | 0.764    | 79  | 79  | enet | 0.047  | 1.40E-77  | 0.0939   | 0.925217 |
| SeqId_8992_1    | TMEM2   | 9  | 74298282  | 74431606  | 0.03624 | rs17057093   | -1.782 | rs1410988   | 0.02284  | 13.09  | 0.093    | 9   | 1   | top1 | 0.023  | 2.50E-38  | 0.093    | 9.26E-01 |
| SeqId_3378_49   | KLK7    | 19 | 51479724  | 51487355  | 0.09106 | rs1654531    | -2.581 | rs1654523   | 0.05244  | 19.66  | 1.212    | 83  | 83  | enet | 0.07   | 3.50E-116 | 0.0926   | 0.92622  |
| SeqId_6491_59   | KLK15   | 19 | 51328545  | 51340469  | 0.02132 | rs95900606   | -2.344 | rs73048483  | 0.01775  | 11.5   | 1.216    | 27  | 27  | enet | 0.018  | 5.20E-31  | 0.09231  | 0.926451 |
| SeqId_12643_4   | ARRB1   | 11 | 74971166  | 75062749  | 0.13292 | rs139001251  | 2.935  | rs504683    | 0.1173   | 29.15  | -0.214   | 56  | 56  | enet | 0.13   | 9.10E-229 | -0.09178 | 9.27E-01 |
| SeqId_15589_1   | GC      | 4  | 72607413  | 72669758  | 0.03051 | rs4588       | -1.937 | rs7697091   | 0.008557 | -9.31  | -1.659   | 49  | 49  | enet | 0.018  | 2.90E-31  | 0.0898   | 9.28E-01 |
| SeqId_19173_5   | ZFAND1  | 8  | 82613569  | 82645138  | 0.15425 | rs144200366  | 3.023  | rs2912805   | 0.133522 | 31.12  | 0.866    | 78  | 78  | enet | 0.24   | 0         | 0.0898   | 0.92843  |
| SeqId_3212_30   | ASAH2   | 10 | 51942538  | 52039480  | 0.3705  | rs3011759    | 2.59   | rs2842126   | 0.134254 | 31.21  | 0.05     | 108 | 108 | enet | 0.26   | 0         | -0.0894  | 0.9288   |
| SeqId_8229_1    | GXYLT1  | 12 | 42475647  | 42538676  | 0.22484 | rs151161288  | -2.045 | rs139695917 | 0.076779 | 23.59  | 0.638    | 52  | 52  | enet | 0.14   | 1.30E-230 | 0.08933  | 0.92882  |
| SeqId_14079_14  | IL18R1  | 2  | 102927989 | 103015237 | 0.16442 | rs12618571   | 2.622  | rs2001461   | 0.27917  | -44.98 | -0.595   | 90  | 90  | enet | 0.32   | 0         | 0.0894   | 9.29E-01 |
| SeqId_13986_6   | LANCL1  | 2  | 211295973 | 211342376 | 0.01485 | rs116012745  | 1.261  | rs17552879  | 0.00888  | 8.13   | -0.119   | 21  | 21  | enet | 0.012  | 1.30E-20  | 0.0874   | 9.30E-01 |
| SeqId_5737_61   | SEMA4D  | 9  | 91975702  | 92113045  | 0.24102 | rs75249546   | 1.944  | rs45464494  | 0.28016  | -45    | 0.072    | 53  | 53  | enet | 0.31   | 0         | -0.0881  | 9.30E-01 |
| SeqId_6527_1    | TRIL    | 7  | 28992974  | 28997946  | 0.03246 | rs10264676   | -1.567 | rs740250    | 0.018422 | -12    | -0.044   | 30  | 30  | enet | 0.02   | 2.60E-34  | 0.0875   | 0.930298 |
| SeqId_8225_86   | EPHB2   | 1  | 23037332  | 23247993  | 0.15603 | rs10799764   | -2.406 | rs2043970   | 1.00E-01 | -27.07 | 0.14     | 54  | 54  | enet | 0.11   | 1.30E-193 | -0.087   | 0.930705 |
| SeqId_13621_31  | AP2A2   | 11 | 924894    | 1012245   | 0.02303 | rs72850167   | 2.435  | rs4963151   | 0.012521 | -10.08 | -0.411   | 41  | 41  | enet | 0.019  | 1.10E-32  | -0.08686 | 9.31E-01 |
| SeqId_18813_15  | DDX19A  | 16 | 70380764  | 70407286  | 0.0591  | rs71401807   | -2.8   | rs138325325 | 0.02909  | -14.75 | -0.786   | 24  | 24  | enet | 0.031  | 4.00E-52  | -0.0869  | 9.31E-01 |
| SeqId_18338_26  | IDH1    | 2  | 209100953 | 209130798 | 0.23911 | rs115733739  | 3.068  | rs3928183   | 0.06312  | 23.35  | -0.716   | 47  | 47  | enet | 0.15   | 3.20E-257 | -0.086   | 9.31E-01 |
| SeqId_15524_30  | PGAM2   | 7  | 44102326  | 44105166  | 0.00649 | rs62459096   | -1.413 | rs6956492   | 0.003559 | -6.6   | 0.331    | 17  | 17  | enet | 0.0051 | 6.40E-10  | 0.086    | 0.931505 |
| SeqId_19615_213 | NT5C3A  | 7  | 33053742  | 33102408  | 0.03032 | rs4316067    | -1.687 | rs12155117  | 0.013747 | -10.32 | 0.07     | 37  | 37  | enet | 0.02   | 2.10E-33  | -0.0856  | 0.931779 |
| SeqId_15476_6   | REG3G   | 2  | 79252812  | 79255631  | 0.12057 | rs7595032    | 2.426  | rs430298    | 0.11659  | 29.07  | 0.566    | 89  | 89  | enet | 0.19   | 0         | -0.0853  | 9.32E-01 |
| SeqId_4209_60   | VTA1    | 6  | 142468299 | 142545822 | 0.04631 | rs117148924  | -2.32  | rs225628    | 0.03434  | -15.87 | -0.525   | 43  | 43  | enet | 0.061  | 2.10E-101 | -0.084   | 9.33E-01 |
| SeqId_3459_49   | PDGFRB  | 5  | 149493402 | 149535435 | 0.51855 | rs111964094  | -1.971 | rs3816018   | 5.35E-01 | 62.13  | -0.034   | 83  | 83  | enet | 0.55   | 0         | 0.08228  | 0.93442  |
| SeqId_3607_71   | DKK3    | 11 | 11977754  | 12031316  | 0.24785 | rs72860953   | -2.404 | rs11022214  | 0.097969 | 26.61  | 0.471    | 89  | 89  | enet | 0.14   | 5.70E-232 | 0.07964  | 9.37E-01 |
| SeqId_2609_59   | CST3    | 20 | 23607343  | 23619110  | 0.11393 | rs71338673   | 1.59   | rs2405367   | 0.117335 | -29.54 | -0.00493 | 61  | 61  | enet | 0.15   | 8.50E-262 | 0.0778   | 0.93798  |
| SeqId_2992_59   | IL17RA  | 22 | 17565844  | 17596584  | 0.70416 | rs147797180  | -3.6   | rs4819959   | 0.31633  | 47.81  | -0.586   | 342 | 342 | enet | 0.49   | 0         | -0.0766  | 0.93893  |
| SeqId_18215_5   | THG1L   | 5  | 157158428 | 157168457 | 0.42884 | rs11134934   | -1.235 | rs2270812   | 3.22E-01 | 48.21  | -0.178   | 42  | 42  | enet | 0.35   | 0         | -0.07441 | 0.94069  |
| SeqId_3181_50   | CTSS    | 1  | 150702555 | 150738433 | 0.2077  | rs6694485    | -1.965 | rs41271951  | 1.68E-01 | -34.81 | 0.679    | 45  | 45  | enet | 0.21   | 0         | -0.0701  | 0.944101 |
| SeqId_9599_6    | PIANP   | 12 | 6802957   | 6809981   | 0.06538 | rs870849     | 1.818  | rs11064306  | 0.028713 | 14.59  | -1.242   | 34  | 34  | enet | 0.044  | 6.30E-73  | 0.06944  | 0.94464  |
| SeqId_8289_8    | GPNMB   | 7  | 23275586  | 23314727  | 0.15426 | rs191221122  | 2.527  | rs28458177  | 0.042565 | -17.6  | -0.14    | 92  | 92  | enet | 0.09   | 3.30E-150 | 0.0674   | 0.946249 |

|                 |          |    |           |           |         |             |        |             |           |        |        |     |     |      |          |           |          |          |
|-----------------|----------|----|-----------|-----------|---------|-------------|--------|-------------|-----------|--------|--------|-----|-----|------|----------|-----------|----------|----------|
| SeqId_15475_4   | PLTP     | 20 | 44527260  | 44540794  | 0.18125 | rs6124739   | 2.64   | rs111602331 | 0.161079  | -34.32 | -0.296 | 56  | 56  | enet | 0.2      | 0         | -0.0674  | 0.94629  |
| SeqId_6252_62   | SCGB3A1  | 5  | 180017105 | 180018499 | 0.01746 | rs139067380 | 2.538  | rs307802    | 5.49E-03  | 6.87   | -0.461 | 24  | 24  | enet | 0.0088   | 8.00E-16  | -0.06519 | 0.94802  |
| SeqId_6245_4    | PVRL2    | 19 | 45349432  | 45392480  | 0.02087 | rs123187    | 2.158  | rs440277    | 0.00768   | -7.93  | 0.794  | 61  | 61  | enet | 0.0087   | 1.10E-15  | -0.06372 | 0.949193 |
| SeqId_3453_87   | LYN      | 8  | 56792394  | 56926728  | 0.0124  | rs61753686  | 2.193  | rs1050855   | 0.005572  | -8.21  | -0.02  | 16  | 16  | enet | 0.0095   | 5.70E-17  | -0.063   | 0.949801 |
| SeqId_18244_1   | ANXA7    | 10 | 75134859  | 75173834  | 0.15979 | rs3829126   | 2.62   | rs76150063  | 0.005603  | -7.29  | 0.881  | 38  | 38  | enet | 0.016    | 5.00E-27  | 0.061669 | 0.9508   |
| SeqId_9360_33   | EDIL3    | 5  | 83236373  | 83680698  | 0.01274 | rs17206390  | 1.764  | rs10073371  | 3.52E-03  | -5.87  | 0.063  | 32  | 32  | enet | 0.0094   | 1.10E-16  | 0.05718  | 0.9544   |
| SeqId_15323_112 | AGO3     | 1  | 36396319  | 36538101  | 0.00425 | rs6682536   | 2.376  | rs139140696 | -2.03E-05 | -3.39  | 1.107  | 8   | 8   | enet | 1.90E-05 | 0.29      | -0.0561  | 0.955234 |
| SeqId_8963_8    | VTI1B    | 14 | 68113802  | 68141537  | 0.01705 | rs17184650  | 2.391  | rs10483801  | 0.008382  | 7.9    | 0.743  | 33  | 33  | enet | 0.013    | 3.20E-22  | 0.0535   | 9.57E-01 |
| SeqId_5061_27   | ICOSLG   | 21 | 45636897  | 45660849  | 0.0605  | rs148056932 | 2.36   | rs2838537   | 0.00958   | -9.14  | -0.049 | 58  | 58  | enet | 0.025    | 4.80E-42  | 0.0533   | 0.957    |
| SeqId_3363_31   | CSK      | 15 | 75074421  | 75095538  | 0.0857  | rs57437866  | 1.295  | rs34933034  | 0.06048   | 21.89  | -0.062 | 24  | 24  | enet | 0.076    | 3.50E-126 | 0.0537   | 0.9572   |
| SeqId_16324_38  | TLR1     | 4  | 38792298  | 38858438  | 0.03415 | rs114456163 | 1.38   | rs5743618   | 0.033485  | 15.64  | 0.376  | 22  | 22  | enet | 0.044    | 6.20E-72  | -0.053   | 9.58E-01 |
| SeqId_15576_158 | RNASE3   | 14 | 21359544  | 21360507  | 0.19237 | rs4981353   | -2.071 | rs147307766 | 0.077446  | 24.79  | -0.007 | 181 | 181 | enet | 0.17     | 1.30E-298 | 0.0499   | 9.60E-01 |
| SeqId_7787_25   | LILRA5   | 19 | 54818353  | 54824436  | 0.06746 | rs62133394  | -1.604 | rs397600    | 0.025155  | 13.63  | 0.2265 | 37  | 37  | enet | 0.042    | 8.60E-70  | 0.0477   | 0.961959 |
| SeqId_10974_20  | SPINK7   | 5  | 147691982 | 147695485 | 0.13945 | rs79778755  | -1.909 | rs9784645   | 3.31E-02  | 15.62  | -0.014 | 65  | 65  | enet | 0.054    | 7.50E-89  | 0.04676  | 0.9627   |
| SeqId_5088_175  | IL23R    | 1  | 67604590  | 67725662  | 0.01538 | rs112937404 | 1.115  | rs12569203  | 2.40E-03  | -6.15  | 0.481  | 29  | 29  | enet | 0.0071   | 4.20E-13  | -0.0465  | 0.962927 |
| SeqId_3325_2    | MATN2    | 8  | 98881068  | 99048952  | 0.14341 | rs112052141 | -2.567 | rs17831160  | 0.018852  | 12.54  | 1.355  | 100 | 100 | enet | 0.077    | 4.10E-128 | 0.0455   | 0.963738 |
| SeqId_15452_5   | NT5E     | 6  | 86159302  | 86205509  | 0.13098 | rs78724322  | 1.99   | rs6903114   | 0.09176   | -25.82 | -0.318 | 51  | 51  | enet | 0.15     | 2.40E-259 | 0.044    | 9.65E-01 |
| SeqId_8397_147  | QSOX2    | 9  | 139098179 | 139137658 | 0.16031 | rs55846135  | -3.215 | rs10858248  | 0.10195   | -27.18 | 0.406  | 31  | 31  | enet | 0.14     | 1.40E-239 | -0.0434  | 9.65E-01 |
| SeqId_3805_16   | ESM1     | 5  | 54273695  | 54318499  | 0.05286 | rs114063279 | 2.571  | rs4242051   | 1.20E-02  | 9.41   | -0.126 | 74  | 74  | enet | 0.026    | 1.30E-42  | -0.04286 | 0.96582  |
| SeqId_9172_69   | MMP8     | 11 | 102582527 | 102597781 | 0.05173 | rs35231465  | -2.143 | rs11225395  | 0.024796  | -13.92 | 0.73   | 53  | 53  | enet | 0.034    | 2.30E-56  | -0.03975 | 9.68E-01 |
| SeqId_17796_15  | IMPA1    | 8  | 82569149  | 82598566  | 0.01428 | rs10958048  | -1.556 | rs2142316   | 0.007294  | -8.23  | 0.352  | 23  | 23  | enet | 0.014    | 7.50E-25  | 0.04     | 0.968093 |
| SeqId_8923_94   | GALNT16  | 14 | 69725994  | 69823750  | 0.1643  | rs77546080  | 4.327  | rs12100668  | 0.046997  | 18.51  | 0.251  | 85  | 85  | enet | 0.14     | 8.70E-232 | 0.0391   | 9.69E-01 |
| SeqId_12016_60  | CBL      | 11 | 119077008 | 119184636 | 0.08607 | rs58412813  | 2.76   | rs76683040  | 0.062861  | -21.75 | -0.263 | 89  | 89  | enet | 0.096    | 3.70E-161 | 0.03771  | 9.70E-01 |
| SeqId_17331_138 | KREMEN1  | 22 | 29469023  | 29564321  | 0.23183 | rs141192812 | 3.17   | rs2205771   | 0.04595   | 18.26  | -0.144 | 149 | 149 | enet | 0.086    | 1.30E-142 | 0.0371   | 9.7041   |
| SeqId_16825_20  | ATXN3    | 14 | 92510840  | 92572965  | 0.12546 | rs1241688   | -2.487 | rs1051340   | 0.155344  | -33.53 | 0.371  | 82  | 82  | enet | 0.25     | 0         | -0.0366  | 9.71E-01 |
| SeqId_16620_26  | LY75     | 2  | 160659866 | 160761267 | 0.49106 | rs77592069  | -2.627 | rs56186131  | 0.36712   | 51.38  | 0.772  | 230 | 230 | enet | 0.49     | 0         | 0.0368   | 9.71E-01 |
| SeqId_15470_11  | HEXB     | 5  | 73935848  | 74018472  | 0.17768 | rs12189470  | 3.356  | rs13164140  | 7.92E-02  | 23.94  | 0.362  | 52  | 52  | enet | 0.15     | 1.50E-259 | 0.03566  | 0.97156  |
| SeqId_15594_47  | HTRA1    | 10 | 124218067 | 124274423 | 0.05346 | rs80214377  | -3.14  | rs7074542   | 0.014598  | -10.57 | 0.191  | 58  | 58  | enet | 0.038    | 2.90E-63  | 0.034549 | 0.9724   |
| SeqId_19392_6   | DDAH1    | 1  | 85784164  | 86044046  | 0.01065 | rs34028770  | -2.069 | rs233071    | 6.87E-03  | -7.16  | -0.033 | 45  | 1   | top1 | 0.0069   | 1.10E-12  | 0.033    | 0.973675 |
| SeqId_4564_2    | PLXNC1   | 12 | 94542353  | 94701451  | 0.50853 | rs7136023   | 2.778  | rs7971713   | 0.143891  | -32.23 | -0.633 | 85  | 85  | enet | 0.34     | 0         | -0.03183 | 0.97461  |
| SeqId_9960_2    | TBC1D5   | 3  | 17198654  | 18486309  | 0.00519 | rs17043133  | 2      | rs11128865  | -1.97E-05 | -3.79  | -1.723 | 14  | 14  | enet | 0.0012   | 0.0016    | 0.0312   | 9.75E-01 |
| SeqId_11266_8   | SELPLG   | 12 | 109015671 | 109027670 | 0.06039 | rs11740551  | -1.993 | rs73191242  | 0.038126  | -16.62 | 0.696  | 41  | 41  | enet | 0.054    | 9.30E-89  | -0.03013 | 0.97596  |
| SeqId_9223_11   | MANF     | 3  | 51422722  | 51426828  | 0.04422 | rs74776103  | -1.68  | rs4611808   | 2.95E-02  | -14.73 | 0.036  | 24  | 24  | enet | 0.037    | 5.00E-61  | 0.03015  | 9.76E-01 |
| SeqId_17224_12  | OGN      | 9  | 95145550  | 95166978  | 0.06675 | rs144889947 | 1.157  | rs10992291  | 0.15145   | 33.09  | 0.119  | 45  | 45  | enet | 0.16     | 6.00E-271 | 0.0307   | 9.76E-01 |
| SeqId_9595_11   | B4GALT2  | 1  | 44444615  | 44456842  | 0.11764 | rs530373    | -1.65  | rs2231280   | 9.07E-02  | -25.77 | -0.173 | 57  | 57  | enet | 0.11     | 1.30E-185 | 0.0291   | 0.976768 |
| SeqId_11347_9   | TALDO1   | 11 | 747415    | 765012    | 0.00828 | rs28679631  | -2.122 | rs10902210  | 0.003125  | 5.64   | -0.029 | 20  | 1   | top1 | 0.0031   | 1.20E-06  | -0.029   | 9.77E-01 |
| SeqId_10565_19  | SLITRK3  | 3  | 164904508 | 164914897 | 0.15358 | rs62293358  | -2.4   | rs62282371  | 6.96E-02  | -22.66 | 0.367  | 115 | 115 | enet | 0.092    | 1.30E-153 | -0.02925 | 9.77E-01 |
| SeqId_8814_33   | PSAPL1   | 4  | 7432012   | 7436657   | 0.16502 | rs139793474 | -2.697 | rs35791045  | 0.095429  | 26.28  | -0.572 | 48  | 48  | enet | 0.15     | 6.20E-248 | 0.0284   | 9.77E-01 |
| SeqId_16613_3   | CDH17    | 8  | 95139390  | 95229531  | 0.12122 | rs74567034  | 2.531  | rs12056840  | 0.057239  | -20.42 | 0.5741 | 54  | 54  | enet | 0.13     | 4.20E-212 | 0.028    | 0.977647 |
| SeqId_13519_112 | ARHGEF25 | 12 | 58003963  | 58011028  | 0.04585 | rs117405300 | 3.022  | rs10437954  | 0.016808  | -11.19 | 1.383  | 34  | 34  | enet | 0.021    | 2.70E-35  | 0.02783  | 0.97779  |
| SeqId_5000_52   | LGALS3BP | 17 | 76967320  | 76976029  | 0.03306 | rs181483393 | -1.853 | rs3826311   | 0.010426  | 10.05  | 0.0031 | 71  | 71  | enet | 0.03     | 3.40E-49  | -0.0268  | 0.97864  |
| SeqId_3038_9    | CXCL11   | 4  | 76954835  | 76962568  | 0.02849 | rs13111888  | -1.655 | rs6827617   | 0.015654  | -11.29 | -0.038 | 33  | 33  | enet | 0.026    | 7.50E-43  | 0.0228   | 9.82E-01 |
| SeqId_6478_2    | IGLON5   | 19 | 51814898  | 51834145  | 0.05843 | rs79814518  | 1.995  | rs7246422   | 0.012259  | 10.35  | 0.495  | 59  | 59  | enet | 0.038    | 1.50E-62  | -0.02244 | 0.982099 |
| SeqId_9177_6    | FAM3B    | 21 | 42676139  | 42729654  | 0.28621 | rs4818230   | 2.68   | rs57529409  | 0.1191    | -29.39 | 0.066  | 85  | 85  | enet | 0.27     | 0         | 0.0202   | 0.984    |
| SeqId_7128_9    | VWA2     | 10 | 115999013 | 116054248 | 0.15702 | rs61869891  | 2.43   | rs35060624  | 0.029364  | 15.29  | 1.55   | 84  | 84  | enet | 0.11     | 3.50E-179 | 0.019292 | 0.9846   |
| SeqId_19188_21  | NAP1L4   | 11 | 2965661   | 3013607   | 0.13572 | rs118092312 | -1.732 | rs4758622   | 0.238863  | 41.53  | -0.042 | 38  | 38  | enet | 0.24     | 0         | 0.01833  | 9.85E-01 |
| SeqId_7921_65   | FJX1     | 11 | 35640008  | 35642413  | 0.07853 | rs4265577   | 1.821  | rs10768174  | 0.036659  | -16.41 | 0.118  | 31  | 31  | enet | 0.053    | 8.30E-87  | -0.01865 | 9.85E-01 |
| SeqId_4160_49   | MMP2     | 16 | 55423612  | 55540603  | 0.01655 | rs12598247  | -2.59  | rs171497    | 0.00595   | -6.83  | 0.017  | 75  | 1   | top1 | 0.006    | 3.20E-11  | -0.017   | 9.86E-01 |
| SeqId_5078_82   | EPHB6    | 7  | 142552823 | 142568847 | 0.20075 | rs117831221 | 2.129  | rs7789303   | 0.140539  | 31.88  | 0.3455 | 47  | 47  | enet | 0.16     | 7.50E-285 | 0.0161   | 0.987176 |
| SeqId_14675_20  | EIF4B    | 12 | 53400066  | 53435999  | 0.00841 | rs117769421 | 2.912  | rs115019703 | 0.002832  | -4.7   | -0.016 | 23  | 1   | top1 | 0.0028   | 3.60E-06  | 0.016    | 0.98723  |
| SeqId_8007_19   | CTSB     | 8  | 11700033  | 11727042  | 0.26132 | rs62489352  | 4.186  | rs1736081   | 0.205617  | 38.57  | -0.798 | 150 | 150 | enet | 0.25     | 0         | 0.0159   | 0.987328 |
| SeqId_13748_4   | CCL8     | 17 | 32646454  | 32648421  | 0.29104 | rs78651143  | -2.855 | rs3138037   | 0.344393  | -49.88 | 0.109  | 50  | 50  | enet | 0.38     | 0         | 0.0153   | 0.98783  |
| SeqId_13700_10  | ANXA2    | 15 | 60639333  | 60695082  | 0.10752 | rs9920812   | -2.074 | rs12907068  | 0.06653   | 22.92  | 0.038  | 67  | 67  | enet | 0.11     | 1.70E-193 | -0.0133  | 0.9894   |

|                 |          |    |           |           |         |             |        |            |          |        |        |     |     |      |         |           |           |          |
|-----------------|----------|----|-----------|-----------|---------|-------------|--------|------------|----------|--------|--------|-----|-----|------|---------|-----------|-----------|----------|
| SeqId_18875_125 | COL2A1   | 12 | 48366750  | 48398337  | 0.07915 | rs35299693  | 1.52   | rs719008   | 0.093752 | -26.12 | -0.277 | 30  | 30  | enet | 0.11    | 1.20E-182 | 0.01172   | 0.99065  |
| SeqId_17151_84  | IRF3     | 19 | 50162826  | 50169132  | 0.17296 | rs148314679 | 3.104  | rs10415576 | 0.096355 | -26.39 | 0.057  | 62  | 62  | enet | 0.13    | 6.80E-228 | -0.01126  | 0.991016 |
| SeqId_19617_5   | PTGR1    | 9  | 114312002 | 114362173 | 0.28758 | rs140363385 | 2.799  | rs7036102  | 0.09922  | 28.27  | -0.101 | 119 | 119 | enet | 0.27    | 0         | -0.0094   | 9.93E-01 |
| SeqId_8773_172  | EMILIN3  | 20 | 39988602  | 39995458  | 0.20007 | rs76710286  | 3.23   | rs4810316  | 0.062248 | 21.3   | -0.059 | 88  | 88  | enet | 0.13    | 3.90E-224 | 0.006     | 0.99522  |
| SeqId_7806_33   | B4GALT7  | 5  | 177027133 | 177037331 | 0.02674 | rs115220376 | 1.856  | rs59621415 | 1.65E-02 | 11.35  | -0.259 | 35  | 35  | enet | 0.026   | 8.90E-43  | 0.00594   | 0.99526  |
| SeqId_8360_169  | NCR1     | 19 | 55417506  | 55427508  | 0.06361 | rs73053177  | 2.895  | rs2915993  | 0.011829 | -10.48 | 0.058  | 60  | 60  | enet | 0.037   | 2.80E-61  | -0.00557  | 0.995557 |
| SeqId_14134_49  | AMIGO2   | 12 | 47469490  | 47473742  | 0.03169 | rs73098714  | 3.037  | rs1101751  | 0.008281 | -8.21  | 0.4    | 54  | 54  | enet | 0.017   | 1.90E-28  | 0.00446   | 0.99644  |
| SeqId_9313_27   | CBLN1    | 16 | 49311828  | 49315749  | 0.34996 | rs117761915 | -2.79  | rs12596832 | 0.26051  | -43.5  | -0.274 | 226 | 226 | enet | 0.31    | 0         | 0.0037    | 9.97E-01 |
| SeqId_2635_61   | LAYN     | 11 | 111411005 | 111432470 | 0.03435 | rs28690953  | -0.566 | rs4938792  | 0.028963 | -14.78 | -0.219 | 13  | 13  | enet | 0.03    | 1.60E-50  | 0.00249   | 9.98E-01 |
| SeqId_17350_13  | CHMP2B   | 3  | 87276421  | 87304706  | 0.07533 | rs139351833 | 2.21   | rs300978   | 1.45E-01 | 32.35  | -0.149 | 50  | 50  | enet | 0.16    | 4.60E-269 | 0.0024    | 9.98E-01 |
| SeqId_8398_277  | RARRES1  | 3  | 158414681 | 158450278 | 0.39465 | rs77413822  | -1.96  | rs4680458  | 1.77E-01 | 35.82  | -0.796 | 62  | 62  | enet | 0.31    | 0         | -0.00266  | 9.98E-01 |
| SeqId_14054_17  | IL15RA   | 10 | 5985602   | 6020150   | 0.38044 | rs72781949  | -2.38  | rs8177643  | 0.187488 | 36.81  | -0.233 | 96  | 96  | enet | 0.35    | 0         | -0.000281 | 0.9998   |
| SeqId_11302_237 | TNR      | 1  | 175284330 | 175712752 | 0.03254 | NA          | NA     | NA         | NA       | NA     | NA     | 17  | 0   | top1 | 0.023   | 9.30E-39  | NA        | NA       |
| SeqId_13942_140 | SPSB1    | 1  | 9352953   | 9429591   | 0.00872 | NA          | NA     | NA         | NA       | NA     | NA     | 42  | 0   | enet | 0.00041 | 0.048     | NA        | NA       |
| SeqId_15521_4   | CLSTN1   | 1  | 9788984   | 9884042   | 0.21041 | NA          | NA     | NA         | NA       | NA     | NA     | 29  | 0   | enet | 0.12    | 4.20E-199 | NA        | NA       |
| SeqId_3152_57   | TNFRSF1B | 1  | 12227048  | 12269285  | 0.06344 | NA          | NA     | NA         | NA       | NA     | NA     | 50  | 0   | enet | 0.049   | 9.50E-82  | NA        | NA       |
| SeqId_7192_37   | IFNLR1   | 1  | 24480658  | 24514449  | 0.06664 | NA          | NA     | NA         | NA       | NA     | NA     | 58  | 0   | enet | 0.028   | 5.40E-47  | NA        | NA       |
| SeqId_17210_2   | TCL1A    | 14 | 96176284  | 96180533  | 0.0318  | NA          | NA     | NA         | NA       | NA     | NA     | 21  | 0   | enet | 0.025   | 8.90E-42  | NA        | NA       |
| SeqId_7211_2    | RNASE1   | 14 | 21269387  | 21271014  | 0.20067 | NA          | NA     | NA         | NA       | NA     | NA     | 45  | 0   | enet | 0.14    | 3.00E-247 | NA        | NA       |
| SeqId_8394_56   | RNASE2   | 14 | 21423646  | 21424595  | 0.04224 | NA          | NA     | NA         | NA       | NA     | NA     | 34  | 0   | top1 | 0.046   | 1.50E-76  | NA        | NA       |
| SeqId_15535_3   | PRSS27   | 16 | 2762420   | 2770552   | 0.00679 | NA          | NA     | NA         | NA       | NA     | NA     | 7   | 0   | top1 | 0.005   | 9.80E-10  | NA        | NA       |
| SeqId_18893_26  | GPR56    | 16 | 57644564  | 57699492  | 0.01706 | NA          | NA     | NA         | NA       | NA     | NA     | 46  | 0   | enet | 0.014   | 7.40E-24  | NA        | NA       |
| SeqId_19129_15  | MTHFSD   | 16 | 86563784  | 86588841  | 0.06384 | NA          | NA     | NA         | NA       | NA     | NA     | 19  | 0   | enet | 0.099   | 1.90E-165 | NA        | NA       |
| SeqId_2827_23   | CX3CL1   | 16 | 57406389  | 57418956  | 0.02161 | NA          | NA     | NA         | NA       | NA     | NA     | 18  | 0   | enet | 0.03    | 4.00E-49  | NA        | NA       |
| SeqId_5691_2    | CRISPLD2 | 16 | 84853591  | 84954374  | 0.02526 | NA          | NA     | NA         | NA       | NA     | NA     | 31  | 0   | enet | 0.015   | 5.50E-26  | NA        | NA       |
| SeqId_11152_46  | KLK13    | 19 | 51558883  | 51568371  | 0.12041 | NA          | NA     | NA         | NA       | NA     | NA     | 71  | 0   | enet | 0.095   | 9.70E-159 | NA        | NA       |
| SeqId_15631_18  | PSG1     | 19 | 43370616  | 43383974  | 0.01395 | NA          | NA     | NA         | NA       | NA     | NA     | 29  | 0   | enet | 0.0076  | 7.10E-14  | NA        | NA       |
| SeqId_2831_29   | KLK11    | 19 | 51525472  | 51531295  | 0.26011 | NA          | NA     | NA         | NA       | NA     | NA     | 35  | 0   | enet | 0.18    | 6.90E-308 | NA        | NA       |
| SeqId_2966_65   | CLEC11A  | 19 | 51226621  | 51228975  | 0.10631 | NA          | NA     | NA         | NA       | NA     | NA     | 43  | 0   | enet | 0.086   | 5.00E-143 | NA        | NA       |
| SeqId_4500_50   | CLEC11A  | 19 | 51226621  | 51228975  | 0.11178 | NA          | NA     | NA         | NA       | NA     | NA     | 36  | 0   | enet | 0.09    | 8.00E-151 | NA        | NA       |
| SeqId_5649_83   | PSG4     | 19 | 43696854  | 43711451  | 0.24123 | NA          | NA     | NA         | NA       | NA     | NA     | 127 | 0   | enet | 0.27    | 0         | NA        | NA       |
| SeqId_5651_50   | PSG7     | 19 | 43428284  | 43441359  | 0.01621 | NA          | NA     | NA         | NA       | NA     | NA     | 9   | 0   | enet | 0.014   | 7.60E-24  | NA        | NA       |
| SeqId_5963_9    | DMKN     | 19 | 35988122  | 36004560  | 0.01341 | NA          | NA     | NA         | NA       | NA     | NA     | 12  | 0   | enet | 0.011   | 6.30E-19  | NA        | NA       |
| SeqId_6049_64   | PTPRS    | 19 | 5158506   | 5340814   | 0.01132 | NA          | NA     | NA         | NA       | NA     | NA     | 44  | 0   | enet | 0.003   | 2.10E-06  | NA        | NA       |
| SeqId_6398_12   | LONP1    | 19 | 5691845   | 5720583   | 0.00608 | NA          | NA     | NA         | NA       | NA     | NA     | 17  | 0   | top1 | 0.00011 | 0.18      | NA        | NA       |
| SeqId_6444_15   | PSG3     | 19 | 43225790  | 43244633  | 0.26457 | NA          | NA     | NA         | NA       | NA     | NA     | 108 | 0   | enet | 0.33    | 0         | NA        | NA       |
| SeqId_9314_9    | PSG5     | 19 | 43670408  | 43690688  | 0.17114 | NA          | NA     | NA         | NA       | NA     | NA     | 115 | 0   | enet | 0.28    | 0         | NA        | NA       |
| SeqId_9335_28   | PSG9     | 19 | 43715943  | 43773682  | 0.11247 | NA          | NA     | NA         | NA       | NA     | NA     | 87  | 0   | enet | 0.086   | 3.20E-143 | NA        | NA       |
| SeqId_9794_17   | ADCK4    | 19 | 41197419  | 41231689  | 0.0043  | NA          | NA     | NA         | NA       | NA     | NA     | 7   | 0   | enet | 0.00083 | 0.0081    | NA        | NA       |
| SeqId_13116_25  | CD177    | 19 | 43857838  | 43867324  | 0.66904 | NA          | NA     | NA         | NA       | NA     | NA     | 267 | 0   | enet | 0.38    | 0         | NA        | NA       |
| SeqId_5095_21   | KIR2DL4  | 19 | 55314990  | 55325972  | 0.27266 | NA          | NA     | NA         | NA       | NA     | NA     | 7   | 0   | enet | 0.29    | 0         | NA        | NA       |
| SeqId_10908_2   | GALNT13  | 2  | 154728435 | 155310491 | 0.01176 | NA          | NA     | NA         | NA       | NA     | NA     | 7   | 0   | top1 | 0.0042  | 2.00E-08  | NA        | NA       |
| SeqId_13686_2   | IL5RA    | 3  | 3108008   | 3168297   | 0.33274 | NA          | NA     | NA         | NA       | NA     | NA     | 85  | 0   | enet | 0.2     | 0         | NA        | NA       |
| SeqId_10833_64  | HHP1     | 4  | 145567308 | 145666423 | 0.0287  | NA          | NA     | NA         | NA       | NA     | NA     | 21  | 0   | enet | 0.016   | 1.00E-26  | NA        | NA       |
| SeqId_13959_7   | LAP3     | 4  | 17578821  | 17609595  | 0.01379 | NA          | NA     | NA         | NA       | NA     | NA     | 18  | 0   | enet | 0.013   | 4.30E-23  | NA        | NA       |
| SeqId_4867_15   | VEGFA    | 6  | 43737921  | 43754224  | 0.01823 | NA          | NA     | NA         | NA       | NA     | NA     | 13  | 0   | top1 | 0.014   | 6.20E-24  | NA        | NA       |
| SeqId_3049_61   | PRSS1    | 7  | 142457319 | 142460927 | 0.01511 | NA          | NA     | NA         | NA       | NA     | NA     | 13  | 0   | top1 | 0.0082  | 7.00E-15  | NA        | NA       |
| SeqId_10339_48  | ENO2     | 12 | 7022909   | 7032861   | 0.02024 | NA          | NA     | NA         | NA       | NA     | NA     | 11  | 0   | enet | 0.015   | 9.40E-26  | NA        | NA       |
| SeqId_15482_12  | A2ML1    | 12 | 8975217   | 9039597   | 0.04291 | NA          | NA     | NA         | NA       | NA     | NA     | NA  | 0   | enet | 0.028   | 2.50E-46  | NA        | NA       |
| SeqId_19241_31  | RBP5     | 12 | 7268332   | 7281485   | 0.10834 | NA          | NA     | NA         | NA       | NA     | NA     | 3   | 0   | enet | 0.09    | 8.10E-150 | NA        | NA       |
| SeqId_3204_2    | LTA4H    | 12 | 96394531  | 96437298  | 0.01992 | NA          | NA     | NA         | NA       | NA     | NA     | 45  | 0   | enet | 0.013   | 2.50E-22  | NA        | NA       |
| SeqId_6580_29   | PZP      | 12 | 9301436   | 9360991   | 0.20676 | NA          | NA     | NA         | NA       | NA     | NA     | NA  | 0   | enet | 0.19    | 0         | NA        | NA       |
| SeqId_7173_141  | TMEM132C | 12 | 128751715 | 129192456 | 0.06958 | NA          | NA     | NA         | NA       | NA     | NA     | 77  | 0   | enet | 0.071   | 5.10E-118 | NA        | NA       |

|                 |          |    |           |           |         |    |    |    |    |    |    |     |   |      |          |           |    |    |
|-----------------|----------|----|-----------|-----------|---------|----|----|----|----|----|----|-----|---|------|----------|-----------|----|----|
| SeqId_9094_5    | CLEC4C   | 12 | 7881979   | 7904201   | 0.10691 | NA | NA | NA | NA | NA | NA | NA  | 0 | enet | 0.18     | 1.1e-317  | NA | NA |
| SeqId_12990_39  | MAP3K3   | 17 | 61699775  | 61773665  | 0.00302 | NA | NA | NA | NA | NA | NA | 4   | 0 | top1 | 0.00062  | 0.019     | NA | NA |
| SeqId_4278_14   | P4HB     | 17 | 79801035  | 79818732  | 0.02845 | NA | NA | NA | NA | NA | NA | 6   | 0 | top1 | 0.019    | 2.10E-32  | NA | NA |
| SeqId_4990_87   | GP1BA    | 17 | 4835572   | 4838318   | 0.02626 | NA | NA | NA | NA | NA | NA | 22  | 0 | enet | 0.022    | 3.40E-37  | NA | NA |
| SeqId_7947_19   | ENTHD2   | 17 | 79202077  | 79212891  | 0.0054  | NA | NA | NA | NA | NA | NA | 23  | 0 | enet | 0.0014   | 0.00079   | NA | NA |
| SeqId_8252_2    | NOTUM    | 17 | 79910383  | 79919716  | 0.01281 | NA | NA | NA | NA | NA | NA | 18  | 0 | enet | 0.0089   | 6.10E-16  | NA | NA |
| SeqId_8268_98   | HS3ST3A1 | 17 | 13397349  | 13505246  | 0.01016 | NA | NA | NA | NA | NA | NA | 41  | 0 | enet | 0.0067   | 1.80E-12  | NA | NA |
| SeqId_9876_20   | ALDOC    | 17 | 26900133  | 26903966  | 0.02635 | NA | NA | NA | NA | NA | NA | 23  | 0 | top1 | 0.014    | 2.00E-23  | NA | NA |
| SeqId_8356_88   | OXT      | 20 | 3052266   | 3053163   | 0.33125 | NA | NA | NA | NA | NA | NA | 65  | 0 | enet | 0.15     | 1.50E-250 | NA | NA |
| SeqId_7935_26   | LARGE    | 22 | 33558212  | 34318829  | 0.00527 | NA | NA | NA | NA | NA | NA | 10  | 0 | top1 | 2.00E-04 | 0.12      | NA | NA |
| SeqId_9343_16   | IL2RB    | 22 | 37521883  | 37571094  | 0.01255 | NA | NA | NA | NA | NA | NA | 20  | 0 | top1 | 0.011    | 4.40E-20  | NA | NA |
| SeqId_13947_371 | NUDT12   | 5  | 102884556 | 102898491 | 0.03735 | NA | NA | NA | NA | NA | NA | 26  | 0 | top1 | 0.026    | 2.30E-43  | NA | NA |
| SeqId_19518_12  | HK3      | 5  | 176307870 | 176326347 | 0.01356 | NA | NA | NA | NA | NA | NA | 19  | 0 | enet | 0.013    | 5.20E-23  | NA | NA |
| SeqId_7251_64   | C1QTNF3  | 5  | 34017963  | 34043318  | 0.03208 | NA | NA | NA | NA | NA | NA | 63  | 0 | enet | 0.017    | 3.50E-28  | NA | NA |
| SeqId_10620_21  | MSMB     | 10 | 51562515  | 51547642  | 0.61829 | NA | NA | NA | NA | NA | NA | 196 | 0 | enet | 0.31     | 0         | NA | NA |
| SeqId_2637_77   | MRC1     | 10 | 17851347  | 18200093  | 0.20436 | NA | NA | NA | NA | NA | NA | 44  | 0 | enet | 0.23     | 0         | NA | NA |
| SeqId_2828_82   | SPINT1   | 15 | 41136216  | 41150405  | 0.05838 | NA | NA | NA | NA | NA | NA | 20  | 0 | enet | 0.028    | 8.80E-47  | NA | NA |
| SeqId_4232_19   | IGF1R    | 15 | 99191768  | 99507759  | 0.06153 | NA | NA | NA | NA | NA | NA | 58  | 0 | enet | 0.028    | 8.40E-47  | NA | NA |
| SeqId_15298_199 | NETO1    | 18 | 70409549  | 70535381  | 0.00596 | NA | NA | NA | NA | NA | NA | 4   | 0 | enet | 0.0014   | 8.00E-04  | NA | NA |
| SeqId_5457_5    | COLEC12  | 18 | 316737    | 500722    | 0.08884 | NA | NA | NA | NA | NA | NA | 115 | 0 | enet | 0.046    | 1.10E-76  | NA | NA |
| SeqId_4157_2    | F2       | 11 | 46740746  | 46761056  | 0.01965 | NA | NA | NA | NA | NA | NA | NA  | 0 | top1 | 0.0086   | 1.60E-15  | NA | NA |
| SeqId_19631_13  | KNG1     | 3  | 186435137 | 186462199 | 0.02637 | NA | NA | NA | NA | NA | NA | NA  | 0 | enet | 0.025    | 4.60E-41  | NA | NA |

Supplementary Table 2 MR results of plasma pQTL and VTE GWAS.

| Protein   | IVs     |          |        | MR-IVW  |        |                     |                     |        |                     |                     |          | MR-Egger |        |                     |                     |        |                     |                     |          | MR-Egger-intercept |        |                     |                     |        |                     |                     |          |
|-----------|---------|----------|--------|---------|--------|---------------------|---------------------|--------|---------------------|---------------------|----------|----------|--------|---------------------|---------------------|--------|---------------------|---------------------|----------|--------------------|--------|---------------------|---------------------|--------|---------------------|---------------------|----------|
| protein   | num_SNP | F        | PVE    | beta    | se     | CI <sub>Lower</sub> | CI <sub>Upper</sub> | OR     | OR <sub>Lower</sub> | OR <sub>Upper</sub> | pval     | beta     | se     | CI <sub>Lower</sub> | CI <sub>Upper</sub> | OR     | OR <sub>Lower</sub> | OR <sub>Upper</sub> | pval     | beta               | se     | CI <sub>Lower</sub> | CI <sub>Upper</sub> | OR     | OR <sub>Lower</sub> | OR <sub>Upper</sub> | pval     |
| F2        | 6       | 47.4738  | 0.0380 | 0.5108  | 0.0439 | 0.4248              | 0.5968              | 1.6666 | 1.5292              | 1.8162              | 2.54E-31 | 0.5713   | 0.0934 | 0.3882              | 0.7543              | 1.7705 | 1.4743              | 2.1262              | 9.59E-10 | -0.0139            | 0.0187 | -0.0505             | 0.0227              | 0.9862 | 0.9507              | 1.0230              | 4.57E-01 |
| F11       | 21      | 108.8984 | 0.2413 | 0.3566  | 0.0303 | 0.2972              | 0.4159              | 1.4284 | 1.3461              | 1.5158              | 5.42E-32 | 0.3856   | 0.0561 | 0.2756              | 0.4955              | 1.4704 | 1.3173              | 1.6414              | 6.31E-12 | -0.0081            | 0.0131 | -0.0337             | 0.0175              | 0.9920 | 0.9669              | 1.0177              | 5.37E-01 |
| ABO       | 32      | 302.8645 | 0.5744 | 0.2482  | 0.0362 | 0.1773              | 0.3190              | 1.2817 | 1.1940              | 1.3758              | 6.83E-12 | 0.2519   | 0.0647 | 0.1250              | 0.3788              | 1.2865 | 1.1332              | 1.4606              | 9.97E-05 | -0.0013            | 0.0185 | -0.0376             | 0.0350              | 0.9987 | 0.9631              | 1.0356              | 9.44E-01 |
| PLCG2     | 13      | 50.3990  | 0.0834 | 0.1992  | 0.0341 | 0.1323              | 0.2661              | 1.2205 | 1.1415              | 1.3049              | 5.31E-09 | 0.1623   | 0.0828 | 0.0000              | 0.3247              | 1.1763 | 1.0000              | 1.3836              | 5.00E-02 | 0.0064             | 0.0131 | -0.0192             | 0.0320              | 1.0065 | 0.9810              | 1.0326              | 6.22E-01 |
| LRP4      | 15      | 121.8032 | 0.2025 | 0.1520  | 0.0278 | 0.0975              | 0.2065              | 1.1642 | 1.1024              | 1.2294              | 4.56E-08 | 0.2292   | 0.0931 | 0.0466              | 0.4117              | 1.2576 | 1.0477              | 1.5094              | 1.39E-02 | -0.0273            | 0.0314 | -0.0887             | 0.0342              | 0.9731 | 0.9151              | 1.0348              | 3.85E-01 |
| PLEK      | 23      | 92.9259  | 0.2292 | -0.1258 | 0.0180 | -0.1610             | -0.0906             | 0.8818 | 0.8513              | 0.9134              | 2.61E-12 | -0.1420  | 0.0361 | -0.2127             | -0.0712             | 0.8677 | 0.8084              | 0.9313              | 8.36E-05 | 0.0043             | 0.0083 | -0.0120             | 0.0205              | 1.0043 | 0.9881              | 1.0207              | 6.06E-01 |
| KLKB1     | 19      | 76.8540  | 0.1687 | 0.1432  | 0.0731 | -0.0002             | 0.2865              | 1.1539 | 0.9998              | 1.3318              | 5.03E-02 | 0.2061   | 0.1332 | -0.0551             | 0.4672              | 1.2289 | 0.9464              | 1.5956              | 1.22E-01 | -0.0157            | 0.0276 | -0.0697             | 0.0383              | 0.9844 | 0.9327              | 1.0391              | 5.69E-01 |
| PROC      | 9       | 42.1744  | 0.0501 | -0.2112 | 0.0568 | -0.3225             | -0.0999             | 0.8096 | 0.7244              | 0.9049              | 2.00E-04 | -0.3330  | 0.1293 | -0.5865             | -0.0795             | 0.7167 | 0.5562              | 0.9235              | 1.00E-02 | 0.0196             | 0.0187 | -0.0171             | 0.0564              | 1.0198 | 0.9830              | 1.0580              | 2.95E-01 |
| KNG1      | 13      | 91.8159  | 0.1422 | 0.1139  | 0.0223 | 0.0701              | 0.1577              | 1.1207 | 1.0726              | 1.1709              | 3.44E-07 | 0.0886   | 0.0456 | -0.0007             | 0.1780              | 1.0927 | 0.9993              | 1.1948              | 5.19E-02 | 0.0074             | 0.0116 | -0.0153             | 0.0301              | 1.0074 | 0.9848              | 1.0306              | 5.24E-01 |
| THBS2     | 30      | 172.6856 | 0.4191 | -0.0981 | 0.0137 | -0.1249             | -0.0714             | 0.9065 | 0.8826              | 0.9311              | 6.56E-13 | -0.0653  | 0.0220 | -0.1085             | -0.0221             | 0.9368 | 0.8972              | 0.9782              | 3.06E-03 | -0.0098            | 0.0052 | -0.0201             | 0.0004              | 0.9902 | 0.9801              | 1.0004              | 6.04E-02 |
| SERPINA1  | 38      | 272.5745 | 0.5908 | -0.0666 | 0.0123 | -0.0907             | -0.0424             | 0.9356 | 0.9133              | 0.9585              | 6.60E-08 | -0.0806  | 0.0197 | -0.1192             | -0.0420             | 0.9226 | 0.8876              | 0.9589              | 4.32E-05 | 0.0049             | 0.0054 | -0.0056             | 0.0155              | 1.0050 | 0.9944              | 1.0157              | 3.60E-01 |
| RARRES2   | 9       | 137.1850 | 0.1463 | -0.0695 | 0.0290 | -0.1264             | -0.0127             | 0.9328 | 0.8813              | 0.9874              | 1.65E-02 | -0.0970  | 0.0495 | -0.1940             | 0.0001              | 0.9076 | 0.8236              | 1.0001              | 5.02E-02 | 0.0089             | 0.0127 | -0.0161             | 0.0338              | 1.0089 | 0.9841              | 1.0344              | 4.86E-01 |
| CEL       | 11      | 35.0914  | 0.0509 | -0.2532 | 0.1471 | -0.5414             | 0.0350              | 0.7763 | 0.5819              | 1.0357              | 8.51E-02 | 0.2330   | 0.2086 | -0.1759             | 0.6418              | 1.2623 | 0.8387              | 1.9000              | 2.64E-01 | -0.0830            | 0.0299 | -0.1415             | -0.0245             | 0.9204 | 0.8680              | 0.9758              | 5.44E-03 |
| GP6       | 13      | 85.6452  | 0.1339 | 0.0528  | 0.0255 | 0.0028              | 0.1029              | 1.0543 | 1.0028              | 1.1084              | 3.86E-02 | 0.0412   | 0.0512 | -0.0592             | 0.1415              | 1.0420 | 0.9425              | 1.1520              | 4.21E-01 | 0.0036             | 0.0136 | -0.0230             | 0.0303              | 1.0036 | 0.9773              | 1.0307              | 7.89E-01 |
| SERPINE2  | 44      | 420.9165 | 0.7210 | -0.0461 | 0.0101 | -0.0659             | -0.0262             | 0.9550 | 0.9362              | 0.9741              | 5.24E-06 | -0.0607  | 0.0162 | -0.0925             | -0.0288             | 0.9412 | 0.9117              | 0.9716              | 1.87E-04 | 0.0065             | 0.0057 | -0.0046             | 0.0176              | 1.0065 | 0.9954              | 1.0178              | 2.51E-01 |
| SERPINA10 | 31      | 163.4682 | 0.4137 | -0.0579 | 0.0176 | -0.0924             | -0.0234             | 0.9437 | 0.9118              | 0.9768              | 9.92E-04 | -0.0546  | 0.0257 | -0.1050             | -0.0041             | 0.9469 | 0.9003              | 0.9959              | 3.40E-02 | -0.0013            | 0.0070 | -0.0149             | 0.0124              | 0.9987 | 0.9852              | 1.0125              | 8.57E-01 |
| OBP2B     | 7       | 93.0718  | 0.0829 | -0.1566 | 0.1019 | -0.3564             | 0.0432              | 0.8550 | 0.7002              | 1.0441              | 1.24E-01 | 0.2047   | 0.1079 | -0.0068             | 0.4161              | 1.2271 | 0.9932              | 1.5161              | 5.78E-02 | -0.1006            | 0.0258 | -0.1511             | -0.0501             | 0.9043 | 0.8598              | 0.9511              | 9.44E-05 |
| EFEMP1    | 22      | 75.1299  | 0.1869 | -0.1089 | 0.0199 | -0.1479             | -0.0700             | 0.8968 | 0.8625              | 0.9324              | 4.27E-08 | -0.0893  | 0.0430 | -0.1735             | -0.0050             | 0.9146 | 0.8407              | 0.9950              | 3.78E-02 | -0.0051            | 0.0098 | -0.0244             | 0.0142              | 0.9949 | 0.9759              | 1.0143              | 6.06E-01 |
| F5        | 11      | 47.5579  | 0.0677 | 0.1440  | 0.2328 | -0.3123             | 0.6003              | 1.1549 | 0.7318              | 1.8227              | 5.36E-01 | -0.1992  | 0.4175 | -1.0176             | 0.6191              | 0.8194 | 0.3615              | 1.8573              | 6.33E-01 | 0.0733             | 0.0740 | -0.0717             | 0.2183              | 1.0760 | 0.9308              | 1.2439              | 3.22E-01 |
| MSR1      | 10      | 114.3170 | 0.1370 | -0.0689 | 0.0241 | -0.1162             | -0.0216             | 0.9334 | 0.8903              | 0.9786              | 4.29E-03 | -0.1094  | 0.0331 | -0.1742             | -0.0446             | 0.8964 | 0.8401              | 0.9564              | 9.39E-04 | 0.0144             | 0.0086 | -0.0025             | 0.0313              | 1.0145 | 0.9975              | 1.0317              | 9.45E-02 |

**Supplementary Table 3 Instrumental variables for 20 VTE significant proteins and annotations.**

| exposure | Outcome | SNP         | CHR | BP        | N    | MAF      | A1.exp | A2.out | BETA.exp | SE.exp | P.exp     | BETA.out | SE.out | P.out    |
|----------|---------|-------------|-----|-----------|------|----------|--------|--------|----------|--------|-----------|----------|--------|----------|
| F2       | VTE     | rs113954134 | 11  | 47181131  | 7213 | 0.035214 | A      | G      | 0.2758   | 0.0448 | 7.56E-10  | 0.1035   | 0.0336 | 0.002031 |
| F2       | VTE     | rs12796154  | 11  | 46810006  | 7213 | 0.063704 | G      | C      | -0.1691  | 0.0342 | 7.73E-07  | -0.0428  | 0.0266 | 0.10715  |
| F2       | VTE     | rs183452254 | 11  | 46596504  | 7213 | 0.037571 | T      | C      | 0.1935   | 0.0432 | 7.73E-06  | 0.0860   | 0.0307 | 0.005109 |
| F2       | VTE     | rs3136516   | 11  | 46739206  | 7213 | 0.467628 | G      | A      | 0.1525   | 0.0168 | 1.19E-19  | 0.0810   | 0.0122 | 2.78E-11 |
| F2       | VTE     | rs78744550  | 11  | 46928050  | 7213 | 0.139609 | C      | T      | 0.0946   | 0.0239 | 7.43E-05  | 0.0486   | 0.0169 | 0.004043 |
| F2       | VTE     | rs78807356  | 11  | 46575120  | 7213 | 0.026133 | T      | G      | 0.5055   | 0.0520 | 3.16E-22  | 0.2968   | 0.0321 | 2.24E-20 |
| F11      | VTE     | rs114871367 | 4   | 186160567 | 7213 | 0.043047 | C      | A      | 0.1682   | 0.0411 | 4.26E-05  | -0.0234  | 0.0338 | 0.489866 |
| F11      | VTE     | rs115607076 | 4   | 186261041 | 7213 | 0.009982 | A      | G      | 0.3301   | 0.0835 | 7.74E-05  | 0.0382   | 0.0598 | 0.523137 |
| F11      | VTE     | rs12331264  | 4   | 186312684 | 7213 | 0.322265 | C      | T      | -0.0967  | 0.0178 | 5.22E-08  | -0.0260  | 0.0129 | 0.044146 |
| F11      | VTE     | rs181701858 | 4   | 186302485 | 7213 | 0.011091 | C      | T      | -0.3202  | 0.0788 | 4.92E-05  | 0.0002   | 0.0625 | 0.997701 |
| F11      | VTE     | rs2289252   | 4   | 186286227 | 7213 | 0.410786 | T      | C      | 0.4186   | 0.0163 | 1.66E-139 | 0.1551   | 0.0122 | 4.94E-37 |
| F11      | VTE     | rs28697915  | 4   | 186259279 | 7213 | 0.339457 | G      | T      | 0.1092   | 0.0177 | 6.83E-10  | 0.0231   | 0.0471 | 0.624283 |
| F11      | VTE     | rs35834666  | 4   | 186217021 | 7213 | 0.116526 | C      | T      | -0.1417  | 0.0256 | 3.08E-08  | -0.0475  | 0.0190 | 0.012217 |
| F11      | VTE     | rs4253276   | 4   | 186242705 | 7213 | 0.04686  | C      | G      | -0.3243  | 0.0394 | 2.10E-16  | -0.0370  | 0.0277 | 0.181292 |
| F11      | VTE     | rs4253406   | 4   | 186270238 | 7213 | 0.081104 | T      | G      | 0.2549   | 0.0303 | 4.53E-17  | 0.0615   | 0.0219 | 0.005053 |
| F11      | VTE     | rs4253414   | 4   | 186275699 | 7213 | 0.027589 | C      | T      | 0.3067   | 0.0506 | 1.44E-09  | 0.1115   | 0.0334 | 0.000827 |
| F11      | VTE     | rs4253421   | 4   | 186283783 | 7213 | 0.118467 | A      | G      | -0.5102  | 0.0249 | 6.96E-91  | -0.2103  | 0.0202 | 2.28E-25 |
| F11      | VTE     | rs4456995   | 4   | 186349812 | 7213 | 0.170317 | G      | T      | -0.1247  | 0.0220 | 1.56E-08  | -0.0535  | 0.0164 | 0.001117 |
| F11      | VTE     | rs6817039   | 4   | 186392223 | 7213 | 0.488146 | A      | G      | 0.0699   | 0.0167 | 3.01E-05  | -0.0024  | 0.0121 | 0.842782 |
| F11      | VTE     | rs6832067   | 4   | 186402766 | 7213 | 0.403716 | C      | T      | -0.1402  | 0.0170 | 1.76E-16  | -0.0329  | 0.0124 | 0.007877 |
| F11      | VTE     | rs72646294  | 4   | 186209466 | 7213 | 0.018162 | A      | G      | 0.2722   | 0.0623 | 1.29E-05  | 0.1847   | 0.0434 | 2.08E-05 |
| F11      | VTE     | rs72710593  | 4   | 186281549 | 7213 | 0.028213 | C      | T      | 0.2082   | 0.0503 | 3.53E-05  | 0.0705   | 0.0361 | 0.050856 |
| F11      | VTE     | rs7667777   | 4   | 186204923 | 7213 | 0.417163 | G      | C      | 0.1457   | 0.0167 | 2.86E-18  | 0.0964   | 0.0122 | 3.09E-15 |
| F11      | VTE     | rs7688348   | 4   | 186326085 | 7213 | 0.041592 | G      | A      | -0.4098  | 0.0417 | 1.32E-22  | -0.1775  | 0.0346 | 2.85E-07 |
| F11      | VTE     | rs78134251  | 4   | 186342765 | 7213 | 0.03771  | T      | G      | -0.2412  | 0.0434 | 2.78E-08  | -0.0562  | 0.0321 | 0.080176 |
| F11      | VTE     | rs80183441  | 4   | 186307395 | 7213 | 0.164356 | C      | A      | -0.1040  | 0.0224 | 3.34E-06  | -0.0694  | 0.0163 | 2.10E-05 |
| F11      | VTE     | rs80229218  | 4   | 186104402 | 7213 | 0.111049 | C      | G      | -0.1663  | 0.0265 | 3.87E-10  | -0.0249  | 0.0194 | 0.200029 |
| ABO      | VTE     | rs11244024  | 9   | 133183544 | 7213 | 0.015736 | C      | T      | 0.4371   | 0.0669 | 6.97E-11  | 0.0821   | 0.0483 | 0.089024 |
| ABO      | VTE     | rs11244030  | 9   | 133200162 | 7213 | 0.254194 | T      | C      | -0.1440  | 0.0189 | 2.654E-14 | -0.0635  | 0.0141 | 6.77E-06 |
| ABO      | VTE     | rs11523306  | 9   | 133511369 | 7213 | 0.168238 | A      | G      | 0.1133   | 0.0222 | 3.352E-07 | 0.0679   | 0.0159 | 1.86E-05 |



|       |     |             |    |           |      |          |   |   |         |        |           |         |        |          |
|-------|-----|-------------|----|-----------|------|----------|---|---|---------|--------|-----------|---------|--------|----------|
| ABO   | VTE | rs116842520 | 9  | 133078678 | 7213 | 0.033481 | A | G | -0.2274 | 0.0461 | 8.295E-07 | -0.0657 | 0.0349 | 0.059694 |
| ABO   | VTE | rs117119759 | 9  | 133345313 | 7213 | 0.020311 | A | G | 1.0161  | 0.0578 | 7.994E-68 | 0.2137  | 0.0348 | 8.12E-10 |
| ABO   | VTE | rs117405640 | 9  | 133015880 | 7213 | 0.026688 | G | A | 0.7591  | 0.0507 | 7.538E-50 | 0.0746  | 0.0512 | 0.145081 |
| ABO   | VTE | rs118070731 | 9  | 133109293 | 7213 | 0.020449 | A | G | 0.3947  | 0.0584 | 1.545E-11 | -0.0334 | 0.0455 | 0.463013 |
| ABO   | VTE | rs140026638 | 9  | 133695394 | 7213 | 0.013517 | A | G | 0.3004  | 0.0717 | 2.85E-05  | 0.0218  | 0.0601 | 0.716379 |
| ABO   | VTE | rs147375567 | 9  | 133279293 | 7213 | 0.021974 | G | A | -0.2982 | 0.0568 | 1.539E-07 | -0.0828 | 0.0383 | 0.030528 |
| ABO   | VTE | rs2073926   | 9  | 133156163 | 7213 | 0.056357 | T | A | 0.1711  | 0.0358 | 1.847E-06 | 0.0903  | 0.0254 | 0.000383 |
| ABO   | VTE | rs2519150   | 9  | 133626050 | 7213 | 0.49494  | C | T | 0.0710  | 0.0166 | 1.828E-05 | 0.0387  | 0.0121 | 0.001394 |
| ABO   | VTE | rs3118667   | 9  | 133425943 | 7213 | 0.478788 | C | T | 0.1636  | 0.0166 | 9.378E-23 | -0.0219 | 0.0121 | 0.07022  |
| ABO   | VTE | rs35410697  | 9  | 133424303 | 7213 | 0.075489 | T | C | -0.1556 | 0.0316 | 8.785E-07 | -0.0612 | 0.0245 | 0.012482 |
| ABO   | VTE | rs36221464  | 9  | 133443612 | 7213 | 0.021142 | A | G | -0.2456 | 0.0576 | 2.054E-05 | -0.1152 | 0.0434 | 0.007924 |
| ABO   | VTE | rs41297217  | 9  | 133473458 | 7213 | 0.106405 | A | G | -0.1940 | 0.0269 | 5.59E-13  | -0.0606 | 0.0206 | 0.003237 |
| ABO   | VTE | rs4962215   | 9  | 132780859 | 7213 | 0.355192 | T | C | -0.0770 | 0.0173 | 9.072E-06 | 0.0104  | 0.0127 | 0.413224 |
| ABO   | VTE | rs549542    | 9  | 133126222 | 7213 | 0.206502 | G | A | 0.1933  | 0.0207 | 1.08E-20  | 0.0224  | 0.0151 | 0.136774 |
| ABO   | VTE | rs565126    | 9  | 133285059 | 7213 | 0.269375 | A | G | -0.1923 | 0.0186 | 8.957E-25 | -0.0074 | 0.0138 | 0.591567 |
| ABO   | VTE | rs586882    | 9  | 132981096 | 7213 | 0.089491 | G | A | -0.1119 | 0.0287 | 9.985E-05 | 0.0085  | 0.0205 | 0.678729 |
| ABO   | VTE | rs598123    | 9  | 133137405 | 7213 | 0.060862 | T | C | -0.1550 | 0.0346 | 7.547E-06 | -0.0150 | 0.0256 | 0.558504 |
| ABO   | VTE | rs62575398  | 9  | 133603744 | 7213 | 0.045959 | A | C | 0.2509  | 0.0399 | 3.455E-10 | 0.0111  | 0.0309 | 0.7202   |
| ABO   | VTE | rs62576045  | 9  | 133522244 | 7213 | 0.232636 | A | G | 0.1122  | 0.0195 | 9.73E-09  | -0.0573 | 0.0145 | 7.47E-05 |
| ABO   | VTE | rs630014    | 9  | 133274306 | 7213 | 0.46846  | A | G | -0.4267 | 0.0160 | 2.54E-150 | -0.1770 | 0.0122 | 1.17E-47 |
| ABO   | VTE | rs633862    | 9  | 133279871 | 7213 | 0.450853 | C | T | -0.4178 | 0.0160 | 5.83E-143 | -0.1718 | 0.0123 | 2.89E-44 |
| ABO   | VTE | rs671537    | 9  | 133337474 | 7213 | 0.046652 | A | G | 0.8434  | 0.0388 | 1.05E-101 | -0.0597 | 0.0304 | 0.049571 |
| ABO   | VTE | rs68032997  | 9  | 133286683 | 7213 | 0.044295 | C | T | -0.2992 | 0.0405 | 1.697E-13 | -0.0698 | 0.0311 | 0.024863 |
| ABO   | VTE | rs685523    | 9  | 133445787 | 7213 | 0.109178 | T | C | -0.2195 | 0.0268 | 2.758E-16 | -0.0710 | 0.0200 | 0.000393 |
| ABO   | VTE | rs7022543   | 9  | 133167984 | 7213 | 0.345071 | T | C | -0.1769 | 0.0175 | 6.02E-24  | -0.0462 | 0.0127 | 0.000282 |
| ABO   | VTE | rs7023066   | 9  | 133215442 | 7213 | 0.188548 | G | A | 0.2630  | 0.0210 | 9.515E-36 | 0.0725  | 0.0157 | 4.05E-06 |
| ABO   | VTE | rs78711238  | 9  | 133341592 | 7213 | 0.015458 | T | C | 0.8278  | 0.0661 | 1.212E-35 | -0.0570 | 0.0517 | 0.270145 |
| ABO   | VTE | rs8176690   | 9  | 133262914 | 7213 | 0.416401 | G | A | -0.4005 | 0.0163 | 3.98E-128 | -0.1554 | 0.0123 | 1.93E-36 |
| ABO   | VTE | rs8176739   | 9  | 133256136 | 7213 | 0.023083 | A | G | -0.2306 | 0.0557 | 3.497E-05 | -0.1156 | 0.0428 | 0.006897 |
| PLCG2 | VTE | rs1071644   | 16 | 81937798  | 7213 | 0.472411 | T | C | -0.1654 | 0.0166 | 3.807E-23 | -0.0468 | 0.0121 | 0.000113 |
| PLCG2 | VTE | rs117206377 | 16 | 81936864  | 7213 | 0.014211 | C | G | -0.3707 | 0.0697 | 1.058E-07 | -0.0802 | 0.0565 | 0.156138 |
| PLCG2 | VTE | rs11860765  | 16 | 81868266  | 7213 | 0.25357  | G | A | -0.0947 | 0.0190 | 5.901E-07 | -0.0397 | 0.0143 | 0.005539 |

|       |     |             |    |          |      |          |   |   |         |        |           |         |        |          |
|-------|-----|-------------|----|----------|------|----------|---|---|---------|--------|-----------|---------|--------|----------|
| PLCG2 | VTE | rs11863412  | 16 | 81934048 | 7213 | 0.108069 | A | C | -0.1088 | 0.0268 | 4.952E-05 | 0.0113  | 0.0198 | 0.569529 |
| PLCG2 | VTE | rs12928126  | 16 | 81949692 | 7213 | 0.043533 | G | C | -0.1958 | 0.0406 | 1.425E-06 | -0.0374 | 0.0297 | 0.207795 |
| PLCG2 | VTE | rs4133124   | 16 | 81885924 | 7213 | 0.457438 | G | T | 0.0914  | 0.0166 | 3.842E-08 | 0.0129  | 0.0122 | 0.289424 |
| PLCG2 | VTE | rs4254322   | 16 | 81779948 | 7213 | 0.237557 | G | A | -0.1660 | 0.0194 | 1.532E-17 | -0.0318 | 0.0144 | 0.027619 |
| PLCG2 | VTE | rs61749044  | 16 | 81786071 | 7213 | 0.014072 | T | A | -0.2897 | 0.0700 | 3.576E-05 | 0.0279  | 0.0441 | 0.527273 |
| PLCG2 | VTE | rs62045706  | 16 | 81851810 | 7213 | 0.204353 | A | G | 0.2800  | 0.0202 | 5.913E-43 | 0.0582  | 0.0147 | 7.21E-05 |
| PLCG2 | VTE | rs7199605   | 16 | 81777873 | 7213 | 0.473659 | C | T | -0.0693 | 0.0167 | 3.166E-05 | -0.0085 | 0.0122 | 0.484905 |
| PLCG2 | VTE | rs79465773  | 16 | 81839989 | 7213 | 0.020103 | T | C | -0.2566 | 0.0594 | 1.598E-05 | 0.0013  | 0.0555 | 0.981473 |
| PLCG2 | VTE | rs9926920   | 16 | 81825447 | 7213 | 0.300707 | G | C | -0.1349 | 0.0181 | 1.103E-13 | -0.0449 | 0.0134 | 0.000776 |
| PLCG2 | VTE | rs9933207   | 16 | 81997672 | 7213 | 0.015181 | A | G | -0.2865 | 0.0676 | 2.269E-05 | 0.0262  | 0.0505 | 0.604314 |
| LRP4  | VTE | rs111426027 | 11 | 46868056 | 7213 | 0.01428  | T | C | 0.2712  | 0.0692 | 9.037E-05 | 0.0077  | 0.0534 | 0.884527 |
| LRP4  | VTE | rs113954134 | 11 | 47181131 | 7213 | 0.035214 | A | G | 0.3424  | 0.0447 | 2.088E-14 | 0.1035  | 0.0336 | 0.002031 |
| LRP4  | VTE | rs117426515 | 11 | 46685487 | 7213 | 0.03362  | G | A | -0.2741 | 0.0461 | 2.835E-09 | -0.1049 | 0.0391 | 0.007282 |
| LRP4  | VTE | rs12796154  | 11 | 46810006 | 7213 | 0.063704 | G | C | -0.2088 | 0.0342 | 1.042E-09 | -0.0428 | 0.0266 | 0.10715  |
| LRP4  | VTE | rs139226547 | 11 | 47028108 | 7213 | 0.063566 | G | A | 0.3766  | 0.0339 | 1.765E-28 | 0.0630  | 0.0244 | 0.009907 |
| LRP4  | VTE | rs141348433 | 11 | 46755515 | 7213 | 0.010814 | C | A | 0.3730  | 0.0808 | 3.971E-06 | -0.0915 | 0.0596 | 0.124857 |
| LRP4  | VTE | rs146218162 | 11 | 46764143 | 7213 | 0.020727 | G | A | -0.3867 | 0.0577 | 2.175E-11 | -0.0713 | 0.0485 | 0.141215 |
| LRP4  | VTE | rs17790204  | 11 | 46947730 | 7213 | 0.13954  | G | C | 0.2443  | 0.0237 | 1.04E-24  | 0.0485  | 0.0169 | 0.004067 |
| LRP4  | VTE | rs182261904 | 11 | 46493016 | 7213 | 0.024331 | C | T | 0.2738  | 0.0535 | 3.176E-07 | 0.0566  | 0.0382 | 0.138438 |
| LRP4  | VTE | rs2306029   | 11 | 46871557 | 7213 | 0.450229 | T | C | 0.4596  | 0.0161 | 9.97E-171 | 0.0721  | 0.0122 | 3.1E-09  |
| LRP4  | VTE | rs55971594  | 11 | 46453413 | 7213 | 0.053099 | A | G | -0.1961 | 0.0371 | 1.31E-07  | -0.0283 | 0.0279 | 0.309841 |
| LRP4  | VTE | rs61897843  | 11 | 47165998 | 7213 | 0.088382 | A | G | 0.2902  | 0.0289 | 1.587E-23 | 0.0389  | 0.0217 | 0.072539 |
| LRP4  | VTE | rs72899681  | 11 | 47049494 | 7213 | 0.036601 | G | T | 0.2977  | 0.0441 | 1.552E-11 | 0.0870  | 0.0324 | 0.007191 |
| LRP4  | VTE | rs78612907  | 11 | 46410153 | 7213 | 0.090947 | C | G | -0.1854 | 0.0285 | 8.308E-11 | 0.0453  | 0.0203 | 0.025921 |
| LRP4  | VTE | rs79187134  | 11 | 47324914 | 7213 | 0.023846 | T | C | -0.3136 | 0.0543 | 7.975E-09 | 0.0125  | 0.0398 | 0.753976 |
| PLEK  | VTE | rs10172004  | 2  | 68724345 | 7213 | 0.181755 | T | C | 0.0839  | 0.0214 | 9.07E-05  | -0.0202 | 0.0157 | 0.198703 |
| PLEK  | VTE | rs10496166  | 2  | 68836777 | 7213 | 0.152433 | A | G | -0.1103 | 0.0231 | 1.76E-06  | 0.0033  | 0.0167 | 0.843208 |
| PLEK  | VTE | rs112848132 | 2  | 68389536 | 7213 | 0.011438 | T | G | -0.3502 | 0.0786 | 8.55E-06  | -0.0321 | 0.0695 | 0.644145 |
| PLEK  | VTE | rs113437182 | 2  | 68290417 | 7213 | 0.033759 | C | T | 0.1796  | 0.0458 | 8.81E-05  | 0.0033  | 0.0362 | 0.927172 |
| PLEK  | VTE | rs113919063 | 2  | 68646975 | 7213 | 0.026272 | A | G | -0.3285 | 0.0522 | 3.24E-10  | 0.0343  | 0.0412 | 0.404334 |
| PLEK  | VTE | rs114095419 | 2  | 68223835 | 7213 | 0.016151 | C | G | -0.2591 | 0.0662 | 9.19E-05  | 0.0524  | 0.0577 | 0.363959 |
| PLEK  | VTE | rs114352691 | 2  | 68541745 | 7213 | 0.021489 | A | T | 0.2821  | 0.0574 | 8.95E-07  | -0.0039 | 0.0418 | 0.925874 |

|       |     |             |   |           |      |          |   |   |         |        |           |         |        |          |
|-------|-----|-------------|---|-----------|------|----------|---|---|---------|--------|-----------|---------|--------|----------|
| PLEK  | VTE | rs11675599  | 2 | 68480147  | 7213 | 0.12221  | G | A | 0.2119  | 0.0255 | 1.24E-16  | -0.0150 | 0.0182 | 0.408445 |
| PLEK  | VTE | rs13013374  | 2 | 68555250  | 7213 | 0.34729  | G | A | -0.1456 | 0.0174 | 7.87E-17  | -0.0016 | 0.0127 | 0.899303 |
| PLEK  | VTE | rs138474395 | 2 | 68347900  | 7213 | 0.022806 | A | G | 0.3191  | 0.0556 | 9.85E-09  | -0.0621 | 0.0426 | 0.14506  |
| PLEK  | VTE | rs139725172 | 2 | 68056046  | 7213 | 0.013171 | C | T | -0.3335 | 0.0734 | 5.63E-06  | 0.0294  | 0.0607 | 0.628229 |
| PLEK  | VTE | rs1443653   | 2 | 68364308  | 7213 | 0.030431 | C | G | -0.3768 | 0.0483 | 7.31E-15  | 0.0096  | 0.0348 | 0.782348 |
| PLEK  | VTE | rs149240121 | 2 | 68343627  | 7213 | 0.017261 | G | A | 0.2860  | 0.0628 | 5.40E-06  | -0.0113 | 0.0602 | 0.851161 |
| PLEK  | VTE | rs17035364  | 2 | 68365364  | 7213 | 0.026965 | T | C | -0.4313 | 0.0510 | 3.45E-17  | 0.0751  | 0.0360 | 0.036834 |
| PLEK  | VTE | rs1867312   | 2 | 68392849  | 7213 | 0.432414 | C | A | -0.4435 | 0.0161 | 3.92E-159 | 0.0684  | 0.0122 | 1.89E-08 |
| PLEK  | VTE | rs34370937  | 2 | 68392731  | 7213 | 0.032372 | G | A | -0.2615 | 0.0471 | 2.90E-08  | 0.0793  | 0.0339 | 0.019247 |
| PLEK  | VTE | rs35052538  | 2 | 68383980  | 7213 | 0.061209 | G | A | 0.1446  | 0.0345 | 2.79E-05  | -0.0531 | 0.0255 | 0.037557 |
| PLEK  | VTE | rs60878442  | 2 | 68354983  | 7213 | 0.467836 | G | A | 0.1624  | 0.0164 | 5.88E-23  | -0.0334 | 0.0122 | 0.006323 |
| PLEK  | VTE | rs62143885  | 2 | 68332470  | 7213 | 0.028005 | C | G | 0.2569  | 0.0498 | 2.58E-07  | -0.0470 | 0.0371 | 0.205515 |
| PLEK  | VTE | rs6727322   | 2 | 68802638  | 7213 | 0.356093 | T | C | 0.0721  | 0.0174 | 3.33E-05  | -0.0068 | 0.0127 | 0.590247 |
| PLEK  | VTE | rs72835038  | 2 | 68523546  | 7213 | 0.029599 | A | G | 0.2644  | 0.0487 | 5.85E-08  | 0.0097  | 0.0329 | 0.767367 |
| PLEK  | VTE | rs744636    | 2 | 68115898  | 7213 | 0.383821 | C | A | 0.1301  | 0.0170 | 2.44E-14  | -0.0201 | 0.0125 | 0.108562 |
| PLEK  | VTE | rs7579928   | 2 | 68375843  | 7213 | 0.394843 | C | G | 0.2336  | 0.0170 | 2.90E-42  | -0.0162 | 0.0124 | 0.191926 |
| KLKB1 | VTE | rs10866290  | 4 | 186193325 | 7213 | 0.328573 | C | T | 0.0931  | 0.0178 | 1.63E-07  | 0.0370  | 0.0127 | 0.003465 |
| KLKB1 | VTE | rs141373173 | 4 | 186106897 | 7213 | 0.037432 | T | C | -0.2354 | 0.0437 | 7.33E-08  | -0.0001 | 0.0337 | 0.997042 |
| KLKB1 | VTE | rs148208197 | 4 | 186418597 | 7213 | 0.019479 | A | G | 0.2423  | 0.0603 | 5.95E-05  | 0.0298  | 0.0425 | 0.482718 |
| KLKB1 | VTE | rs180978231 | 4 | 186319217 | 7213 | 0.013101 | C | T | -0.3105 | 0.0736 | 2.48E-05  | 0.1382  | 0.0593 | 0.019848 |
| KLKB1 | VTE | rs2241818   | 4 | 186164791 | 7213 | 0.179953 | G | C | 0.1382  | 0.0218 | 2.23E-10  | 0.0348  | 0.0154 | 0.023903 |
| KLKB1 | VTE | rs34745240  | 4 | 186201178 | 7213 | 0.031402 | A | G | 0.3001  | 0.0477 | 3.40E-10  | 0.0422  | 0.0350 | 0.226915 |
| KLKB1 | VTE | rs34852777  | 4 | 186217908 | 7213 | 0.117011 | C | T | -0.1864 | 0.0255 | 3.05E-13  | -0.0473 | 0.0190 | 0.012781 |
| KLKB1 | VTE | rs4253304   | 4 | 186252417 | 7213 | 0.420006 | C | G | 0.3605  | 0.0163 | 3.53E-105 | 0.1200  | 0.0122 | 6.46E-23 |
| KLKB1 | VTE | rs4253331   | 4 | 186257981 | 7213 | 0.08249  | C | T | -0.4820 | 0.0296 | 1.57E-58  | 0.0506  | 0.0219 | 0.020566 |
| KLKB1 | VTE | rs4253419   | 4 | 186278734 | 7213 | 0.17011  | G | A | -0.1884 | 0.0222 | 2.58E-17  | -0.0851 | 0.0159 | 8.67E-08 |
| KLKB1 | VTE | rs4862665   | 4 | 186214988 | 7213 | 0.115417 | A | G | 0.1178  | 0.0262 | 6.81E-06  | -0.1823 | 0.0202 | 1.57E-19 |
| KLKB1 | VTE | rs55857110  | 4 | 186152916 | 7213 | 0.284764 | C | G | -0.0769 | 0.0184 | 3.00E-05  | -0.0033 | 0.0133 | 0.804822 |
| KLKB1 | VTE | rs5743305   | 4 | 186068179 | 7213 | 0.371829 | A | T | -0.0883 | 0.0172 | 2.80E-07  | 0.0052  | 0.0125 | 0.676752 |
| KLKB1 | VTE | rs6849187   | 4 | 186125608 | 7213 | 0.489117 | T | C | -0.0700 | 0.0166 | 2.68E-05  | 0.0089  | 0.0121 | 0.460131 |
| KLKB1 | VTE | rs72646269  | 4 | 186199265 | 7213 | 0.022945 | A | G | 0.3737  | 0.0556 | 1.87E-11  | 0.1360  | 0.0349 | 9.98E-05 |
| KLKB1 | VTE | rs72710569  | 4 | 186254192 | 7213 | 0.019964 | G | T | -0.2969 | 0.0596 | 6.46E-07  | 0.1680  | 0.0443 | 0.000149 |

|       |     |             |   |           |      |          |   |   |         |        |           |         |        |          |
|-------|-----|-------------|---|-----------|------|----------|---|---|---------|--------|-----------|---------|--------|----------|
| KLKB1 | VTE | rs74541206  | 4 | 186072411 | 7213 | 0.025718 | T | C | -0.2381 | 0.0522 | 5.14E-06  | -0.0473 | 0.0393 | 0.228823 |
| KLKB1 | VTE | rs75470212  | 4 | 186130668 | 7213 | 0.071052 | A | T | 0.1620  | 0.0325 | 6.30E-07  | -0.0105 | 0.0259 | 0.684035 |
| KLKB1 | VTE | rs8192550   | 4 | 186533818 | 7213 | 0.042839 | C | T | -0.1580 | 0.0405 | 9.80E-05  | 0.0068  | 0.0293 | 0.816668 |
| PROC  | VTE | rs13385611  | 2 | 127247114 | 7213 | 0.075627 | C | T | -0.1289 | 0.0315 | 4.47E-05  | 0.0113  | 0.0224 | 0.614465 |
| PROC  | VTE | rs1799809   | 2 | 127418299 | 7213 | 0.430473 | G | A | -0.2312 | 0.0167 | 5.25E-43  | 0.0536  | 0.0122 | 1.13E-05 |
| PROC  | VTE | rs1820970   | 2 | 127615448 | 7213 | 0.161791 | A | G | -0.1145 | 0.0224 | 3.24E-07  | 0.0498  | 0.0164 | 0.002362 |
| PROC  | VTE | rs2069921   | 2 | 127422262 | 7213 | 0.259115 | G | A | 0.1062  | 0.0190 | 2.20E-08  | -0.0301 | 0.0139 | 0.029885 |
| PROC  | VTE | rs6722345   | 2 | 127150899 | 7213 | 0.385415 | A | G | -0.0675 | 0.0172 | 8.56E-05  | 0.0010  | 0.0124 | 0.933164 |
| PROC  | VTE | rs72845944  | 2 | 127265947 | 7213 | 0.062249 | T | C | -0.1821 | 0.0345 | 1.34E-07  | 0.0815  | 0.0240 | 0.000682 |
| PROC  | VTE | rs72848646  | 2 | 127407859 | 7213 | 0.049494 | C | T | -0.1616 | 0.0384 | 2.56E-05  | -0.0073 | 0.0288 | 0.80056  |
| PROC  | VTE | rs74392719  | 2 | 127418647 | 7213 | 0.010329 | C | G | -0.3851 | 0.0826 | 3.22E-06  | 0.0267  | 0.0752 | 0.722535 |
| PROC  | VTE | rs7584040   | 2 | 127105648 | 7213 | 0.222515 | T | C | 0.0784  | 0.0201 | 9.41E-05  | 0.0215  | 0.0144 | 0.133437 |
| KNG1  | VTE | rs111711525 | 3 | 186706201 | 7213 | 0.05809  | T | C | 0.1803  | 0.0357 | 4.573E-07 | 0.0007  | 0.0268 | 0.977701 |
| KNG1  | VTE | rs115357776 | 3 | 186710844 | 7213 | 0.024054 | C | T | -0.3526 | 0.0545 | 1.066E-10 | -0.0874 | 0.0427 | 0.040602 |
| KNG1  | VTE | rs148892840 | 3 | 186736520 | 7213 | 0.025579 | G | A | -0.2653 | 0.0523 | 4.012E-07 | -0.0683 | 0.0417 | 0.101349 |
| KNG1  | VTE | rs17299991  | 3 | 186788141 | 7213 | 0.039997 | T | C | -0.2444 | 0.0424 | 8.691E-09 | -0.0141 | 0.0284 | 0.619173 |
| KNG1  | VTE | rs266735    | 3 | 186814716 | 7213 | 0.500901 | A | C | -0.1277 | 0.0165 | 1.323E-14 | -0.0236 | 0.0121 | 0.050718 |
| KNG1  | VTE | rs5029980   | 3 | 186720155 | 7213 | 0.114446 | C | T | 0.1452  | 0.0262 | 2.959E-08 | 0.0266  | 0.0188 | 0.156749 |
| KNG1  | VTE | rs5030062   | 3 | 186736391 | 7213 | 0.37682  | C | A | 0.3134  | 0.0166 | 2.418E-77 | 0.0431  | 0.0124 | 0.00053  |
| KNG1  | VTE | rs5030083   | 3 | 186741394 | 7213 | 0.032095 | T | C | -0.2258 | 0.0473 | 1.852E-06 | 0.0077  | 0.0347 | 0.824482 |
| KNG1  | VTE | rs58005713  | 3 | 186748163 | 7213 | 0.094898 | C | G | -0.3400 | 0.0279 | 9.421E-34 | -0.0264 | 0.0213 | 0.216458 |
| KNG1  | VTE | rs71322413  | 3 | 186784065 | 7213 | 0.074865 | T | C | 0.1500  | 0.0319 | 2.528E-06 | 0.0115  | 0.0219 | 0.601038 |
| KNG1  | VTE | rs76438938  | 3 | 186743735 | 7213 | 0.027312 | T | C | 0.7631  | 0.0501 | 1.142E-51 | 0.0698  | 0.0339 | 0.039195 |
| KNG1  | VTE | rs76664993  | 3 | 186756895 | 7213 | 0.022321 | G | C | 0.2715  | 0.0558 | 1.18E-06  | -0.0155 | 0.0428 | 0.716736 |
| KNG1  | VTE | rs76675228  | 3 | 186705548 | 7213 | 0.220851 | A | G | -0.1306 | 0.0201 | 7.826E-11 | -0.0193 | 0.0148 | 0.194156 |
| THBS2 | VTE | rs10945328  | 6 | 168903499 | 7213 | 0.325731 | C | G | -0.0902 | 0.0177 | 3.686E-07 | 0.0173  | 0.0128 | 0.177939 |
| THBS2 | VTE | rs10945406  | 6 | 169238696 | 7213 | 0.053029 | C | A | -0.2002 | 0.0367 | 4.978E-08 | 0.0455  | 0.0264 | 0.084769 |
| THBS2 | VTE | rs11759438  | 6 | 169233240 | 7213 | 0.491058 | C | T | -0.2382 | 0.0166 | 4.546E-46 | 0.0546  | 0.0122 | 7.1E-06  |
| THBS2 | VTE | rs117698690 | 6 | 169044901 | 7213 | 0.014488 | T | C | 0.3916  | 0.0697 | 1.985E-08 | -0.0343 | 0.0561 | 0.540531 |
| THBS2 | VTE | rs12174547  | 6 | 169224627 | 7213 | 0.197768 | T | C | -0.3676 | 0.0202 | 2.146E-72 | 0.0165  | 0.0150 | 0.272434 |
| THBS2 | VTE | rs12180739  | 6 | 169214618 | 7213 | 0.434216 | C | G | -0.1780 | 0.0166 | 1.676E-26 | 0.0198  | 0.0122 | 0.105469 |
| THBS2 | VTE | rs141319253 | 6 | 169659562 | 7213 | 0.020588 | A | G | -0.2273 | 0.0578 | 8.438E-05 | 0.1019  | 0.0438 | 0.019907 |

|          |     |             |    |           |      |          |   |   |         |        |           |         |        |          |
|----------|-----|-------------|----|-----------|------|----------|---|---|---------|--------|-----------|---------|--------|----------|
| THBS2    | VTE | rs144629105 | 6  | 169163606 | 7213 | 0.017815 | A | G | -0.2591 | 0.0627 | 3.619E-05 | 0.0029  | 0.0446 | 0.948987 |
| THBS2    | VTE | rs183293345 | 6  | 169184552 | 7213 | 0.011784 | T | A | -0.4005 | 0.0761 | 1.451E-07 | -0.0338 | 0.0572 | 0.55454  |
| THBS2    | VTE | rs2181284   | 6  | 169158857 | 7213 | 0.035699 | T | C | -0.3977 | 0.0450 | 1.21E-18  | 0.0617  | 0.0335 | 0.065757 |
| THBS2    | VTE | rs28735654  | 6  | 169265609 | 7213 | 0.166089 | C | T | -0.1253 | 0.0221 | 1.496E-08 | 0.0127  | 0.0162 | 0.431632 |
| THBS2    | VTE | rs35239983  | 6  | 168901700 | 7213 | 0.15479  | A | G | 0.1412  | 0.0231 | 1.022E-09 | 0.0003  | 0.0167 | 0.987606 |
| THBS2    | VTE | rs4346834   | 6  | 169130820 | 7213 | 0.15278  | G | C | 0.2770  | 0.0230 | 3.991E-33 | -0.0251 | 0.0165 | 0.12786  |
| THBS2    | VTE | rs55995725  | 6  | 169256176 | 7213 | 0.082143 | A | G | -0.1412 | 0.0302 | 2.933E-06 | 0.0113  | 0.0213 | 0.597191 |
| THBS2    | VTE | rs56003273  | 6  | 169250135 | 7213 | 0.425551 | T | C | 0.1984  | 0.0167 | 4.153E-32 | -0.0193 | 0.0123 | 0.115325 |
| THBS2    | VTE | rs6900380   | 6  | 168837844 | 7213 | 0.338625 | A | C | 0.0780  | 0.0176 | 9.475E-06 | -0.0105 | 0.0129 | 0.415498 |
| THBS2    | VTE | rs6914478   | 6  | 169227088 | 7213 | 0.408221 | C | G | -0.1871 | 0.0167 | 6.13E-29  | 0.0048  | 0.0123 | 0.695282 |
| THBS2    | VTE | rs6921774   | 6  | 169255984 | 7213 | 0.422778 | C | G | -0.1389 | 0.0166 | 6.606E-17 | 0.0125  | 0.0122 | 0.304598 |
| THBS2    | VTE | rs73038016  | 6  | 169144721 | 7213 | 0.018855 | A | G | -0.3427 | 0.0612 | 2.216E-08 | 0.0750  | 0.0483 | 0.12086  |
| THBS2    | VTE | rs73043894  | 6  | 169240832 | 7213 | 0.062595 | T | C | -0.1742 | 0.0342 | 3.604E-07 | 0.0432  | 0.0239 | 0.070911 |
| THBS2    | VTE | rs73238295  | 6  | 169226100 | 7213 | 0.051088 | T | C | -0.2061 | 0.0378 | 5.043E-08 | 0.0192  | 0.0299 | 0.521782 |
| THBS2    | VTE | rs74507247  | 6  | 169224675 | 7213 | 0.098295 | A | G | 0.9451  | 0.0256 | 4.93E-274 | -0.0590 | 0.0210 | 0.005003 |
| THBS2    | VTE | rs74920237  | 6  | 169334738 | 7213 | 0.068418 | G | A | 0.1416  | 0.0330 | 1.833E-05 | -0.0184 | 0.0245 | 0.452314 |
| THBS2    | VTE | rs7753360   | 6  | 168998277 | 7213 | 0.411549 | G | T | 0.0777  | 0.0169 | 4.337E-06 | 0.0001  | 0.0121 | 0.990766 |
| THBS2    | VTE | rs78681488  | 6  | 169156028 | 7213 | 0.021489 | A | G | 0.5913  | 0.0574 | 1.091E-24 | -0.0857 | 0.0408 | 0.035867 |
| THBS2    | VTE | rs9346611   | 6  | 169070944 | 7213 | 0.175794 | T | C | -0.1666 | 0.0218 | 2.543E-14 | 0.0298  | 0.0159 | 0.060194 |
| THBS2    | VTE | rs9478030   | 6  | 169489802 | 7213 | 0.275613 | C | T | -0.1157 | 0.0185 | 4.349E-10 | 0.0169  | 0.0135 | 0.212301 |
| THBS2    | VTE | rs9800437   | 6  | 169319631 | 7213 | 0.032164 | T | C | 0.3870  | 0.0469 | 1.856E-16 | -0.0816 | 0.0359 | 0.023    |
| THBS2    | VTE | rs9800620   | 6  | 169314235 | 7213 | 0.407528 | G | A | -0.0895 | 0.0168 | 1.085E-07 | 0.0362  | 0.0124 | 0.003515 |
| THBS2    | VTE | rs9800782   | 6  | 169241347 | 7213 | 0.019617 | T | C | -0.2936 | 0.0590 | 6.686E-07 | 0.0178  | 0.0460 | 0.699059 |
| SERPINA1 | VTE | rs1016686   | 14 | 94372903  | 7213 | 0.225149 | T | C | 0.5164  | 0.0191 | 4.92E-154 | -0.0208 | 0.0147 | 0.156638 |
| SERPINA1 | VTE | rs111397271 | 14 | 94611890  | 7213 | 0.011923 | A | G | 0.3401  | 0.0761 | 8.08E-06  | 0.0161  | 0.0547 | 0.768964 |
| SERPINA1 | VTE | rs11160184  | 14 | 94471654  | 7213 | 0.160682 | T | C | -0.2078 | 0.0227 | 6.58E-20  | 0.0203  | 0.0169 | 0.229316 |
| SERPINA1 | VTE | rs112209366 | 14 | 94408296  | 7213 | 0.055733 | G | A | 0.5386  | 0.0357 | 1.17E-50  | 0.0150  | 0.0270 | 0.57895  |
| SERPINA1 | VTE | rs112452424 | 14 | 94074461  | 7213 | 0.08346  | A | G | 0.2355  | 0.0299 | 4.08E-15  | -0.0120 | 0.0224 | 0.591431 |
| SERPINA1 | VTE | rs11621961  | 14 | 94303139  | 7213 | 0.369957 | T | C | -0.3050 | 0.0168 | 2.29E-72  | 0.0423  | 0.0124 | 0.000653 |
| SERPINA1 | VTE | rs116862882 | 14 | 94500380  | 7213 | 0.035492 | C | T | 0.1880  | 0.0448 | 2.70E-05  | -0.0322 | 0.0324 | 0.319531 |
| SERPINA1 | VTE | rs12880244  | 14 | 94295255  | 7213 | 0.146402 | A | T | 0.1602  | 0.0233 | 6.50E-12  | -0.0306 | 0.0182 | 0.093019 |
| SERPINA1 | VTE | rs139421381 | 14 | 94459937  | 7213 | 0.023499 | T | G | -0.7402 | 0.0543 | 7.16E-42  | 0.0953  | 0.0394 | 0.015551 |

|          |     |             |    |           |      |          |   |   |         |        |           |         |        |          |
|----------|-----|-------------|----|-----------|------|----------|---|---|---------|--------|-----------|---------|--------|----------|
| SERPINA1 | VTE | rs143038446 | 14 | 94363153  | 7213 | 0.015528 | T | C | 0.4131  | 0.0671 | 7.70E-10  | -0.0938 | 0.0562 | 0.095215 |
| SERPINA1 | VTE | rs146066805 | 14 | 94694328  | 7213 | 0.025094 | T | C | 0.2421  | 0.0526 | 4.30E-06  | 0.0182  | 0.0394 | 0.643503 |
| SERPINA1 | VTE | rs17825650  | 14 | 94482062  | 7213 | 0.160128 | T | C | -0.1598 | 0.0225 | 1.44E-12  | -0.0080 | 0.0162 | 0.619417 |
| SERPINA1 | VTE | rs1956452   | 14 | 94154058  | 7213 | 0.338417 | C | T | 0.1662  | 0.0175 | 3.17E-21  | -0.0318 | 0.0129 | 0.014096 |
| SERPINA1 | VTE | rs28373907  | 14 | 94108068  | 7213 | 0.149244 | C | T | 0.2110  | 0.0230 | 5.33E-20  | -0.0065 | 0.0169 | 0.700292 |
| SERPINA1 | VTE | rs2854946   | 14 | 94582042  | 7213 | 0.217732 | G | C | 0.0909  | 0.0202 | 6.82E-06  | 0.0108  | 0.0145 | 0.458172 |
| SERPINA1 | VTE | rs28929474  | 14 | 94378610  | 7213 | 0.018786 | T | C | -1.8065 | 0.0576 | 2.77E-202 | 0.1543  | 0.0397 | 0.000103 |
| SERPINA1 | VTE | rs2896291   | 14 | 94666318  | 7213 | 0.439484 | G | A | 0.0985  | 0.0168 | 4.31E-09  | 0.0014  | 0.0122 | 0.910732 |
| SERPINA1 | VTE | rs34025389  | 14 | 94343473  | 7213 | 0.035422 | T | C | 0.3704  | 0.0443 | 7.18E-17  | -0.0404 | 0.0345 | 0.241626 |
| SERPINA1 | VTE | rs34097828  | 14 | 94321337  | 7213 | 0.240053 | G | C | -0.2774 | 0.0191 | 5.72E-47  | 0.0212  | 0.0141 | 0.132952 |
| SERPINA1 | VTE | rs55704412  | 14 | 94282356  | 7213 | 0.032234 | A | G | 0.3069  | 0.0470 | 7.37E-11  | -0.0042 | 0.0342 | 0.901589 |
| SERPINA1 | VTE | rs61049496  | 14 | 94516476  | 7213 | 0.242756 | G | A | 0.1266  | 0.0192 | 4.38E-11  | 0.0251  | 0.0141 | 0.075704 |
| SERPINA1 | VTE | rs61982442  | 14 | 93915936  | 7213 | 0.054138 | G | T | 0.2039  | 0.0369 | 3.42E-08  | 0.0104  | 0.0266 | 0.696413 |
| SERPINA1 | VTE | rs6575426   | 14 | 94392997  | 7213 | 0.039304 | T | C | 0.3135  | 0.0426 | 2.09E-13  | 0.0014  | 0.0329 | 0.964852 |
| SERPINA1 | VTE | rs709932    | 14 | 94382864  | 7213 | 0.154929 | T | C | 0.1540  | 0.0228 | 1.48E-11  | 0.0061  | 0.0167 | 0.717601 |
| SERPINA1 | VTE | rs7145310   | 14 | 94423969  | 7213 | 0.45619  | C | A | -0.0806 | 0.0168 | 1.73E-06  | -0.0073 | 0.0123 | 0.549234 |
| SERPINA1 | VTE | rs7145904   | 14 | 94086553  | 7213 | 0.089561 | G | T | -0.2739 | 0.0289 | 3.36E-21  | 0.0016  | 0.0212 | 0.941481 |
| SERPINA1 | VTE | rs7156903   | 14 | 94000564  | 7213 | 0.374116 | T | G | -0.1217 | 0.0171 | 1.16E-12  | 0.0048  | 0.0126 | 0.699812 |
| SERPINA1 | VTE | rs7158855   | 14 | 94560247  | 7213 | 0.255303 | G | A | -0.1803 | 0.0191 | 3.85E-21  | 0.0136  | 0.0138 | 0.326206 |
| SERPINA1 | VTE | rs72702320  | 14 | 94101386  | 7213 | 0.101414 | T | C | -0.1729 | 0.0275 | 3.37E-10  | -0.0113 | 0.0204 | 0.579042 |
| SERPINA1 | VTE | rs76683768  | 14 | 94622606  | 7213 | 0.024747 | C | A | -0.2775 | 0.0532 | 1.92E-07  | 0.0736  | 0.0344 | 0.032123 |
| SERPINA1 | VTE | rs79074413  | 14 | 93907762  | 7213 | 0.014488 | C | T | -0.4533 | 0.0700 | 9.92E-11  | 0.0734  | 0.0460 | 0.110309 |
| SERPINA1 | VTE | rs79247904  | 14 | 94309697  | 7213 | 0.027797 | A | G | 0.3558  | 0.0508 | 2.70E-12  | -0.0870 | 0.0362 | 0.016317 |
| SERPINA1 | VTE | rs80004767  | 14 | 94064607  | 7213 | 0.014211 | A | G | -0.2714 | 0.0691 | 8.56E-05  | -0.0136 | 0.0478 | 0.776138 |
| SERPINA1 | VTE | rs8004587   | 14 | 94521659  | 7213 | 0.207681 | G | A | 0.1111  | 0.0204 | 5.38E-08  | 0.0050  | 0.0147 | 0.731505 |
| SERPINA1 | VTE | rs8006225   | 14 | 94753320  | 7213 | 0.172744 | T | G | -0.0998 | 0.0218 | 4.82E-06  | 0.0444  | 0.0156 | 0.004477 |
| SERPINA1 | VTE | rs8006968   | 14 | 94515198  | 7213 | 0.168169 | A | T | 0.1579  | 0.0221 | 9.87E-13  | -0.0308 | 0.0165 | 0.062052 |
| SERPINA1 | VTE | rs8015166   | 14 | 94500833  | 7213 | 0.136906 | C | T | 0.1050  | 0.0239 | 1.13E-05  | -0.0081 | 0.0177 | 0.646155 |
| SERPINA1 | VTE | rs965344    | 14 | 94351741  | 7213 | 0.207265 | A | G | -0.4209 | 0.0198 | 2.19E-97  | 0.0119  | 0.0148 | 0.423803 |
| RARRES2  | VTE | rs10250758  | 7  | 150389942 | 7213 | 0.462082 | A | C | -0.1489 | 0.0167 | 5.15E-19  | 0.0174  | 0.0122 | 0.153584 |
| RARRES2  | VTE | rs10263027  | 7  | 150422969 | 7213 | 0.481422 | C | T | -0.1065 | 0.0167 | 1.89E-10  | 0.0018  | 0.0121 | 0.880597 |
| RARRES2  | VTE | rs111831496 | 7  | 150366610 | 7213 | 0.031887 | C | T | -0.2085 | 0.0475 | 1.13E-05  | 0.0424  | 0.0329 | 0.197473 |

|          |     |             |    |           |      |          |   |   |         |        |           |         |        |          |
|----------|-----|-------------|----|-----------|------|----------|---|---|---------|--------|-----------|---------|--------|----------|
| RARRES2  | VTE | rs117067760 | 7  | 150339334 | 7213 | 0.026411 | A | G | 0.4366  | 0.0519 | 5.09E-17  | 0.0062  | 0.0353 | 0.859817 |
| RARRES2  | VTE | rs146643012 | 7  | 150344776 | 7213 | 0.01525  | A | G | 0.4776  | 0.0679 | 2.20E-12  | -0.0177 | 0.0530 | 0.738888 |
| RARRES2  | VTE | rs189312654 | 7  | 150308510 | 7213 | 0.018023 | T | C | 0.4306  | 0.0617 | 3.29E-12  | 0.0944  | 0.0539 | 0.07991  |
| RARRES2  | VTE | rs3735167   | 7  | 150342466 | 7213 | 0.262928 | T | C | 0.5005  | 0.0182 | 1.02E-158 | -0.0507 | 0.0140 | 0.000289 |
| RARRES2  | VTE | rs4725944   | 7  | 150779585 | 7213 | 0.411757 | C | G | -0.0963 | 0.0168 | 1.13E-08  | -0.0019 | 0.0124 | 0.875886 |
| RARRES2  | VTE | rs7809489   | 7  | 150402117 | 7213 | 0.074588 | A | G | -0.1254 | 0.0317 | 7.67E-05  | -0.0361 | 0.0240 | 0.132321 |
| CEL      | VTE | rs11244014  | 9  | 133165097 | 7213 | 0.023707 | A | G | 0.2847  | 0.0546 | 1.92E-07  | 0.0897  | 0.0388 | 0.02083  |
| CEL      | VTE | rs117731944 | 9  | 133168659 | 7213 | 0.016567 | C | A | 0.3148  | 0.0651 | 1.36E-06  | -0.0714 | 0.0485 | 0.140771 |
| CEL      | VTE | rs1179011   | 9  | 133319548 | 7213 | 0.369402 | G | A | -0.0787 | 0.0171 | 4.17E-06  | 0.0901  | 0.0126 | 8.71E-13 |
| CEL      | VTE | rs2075733   | 9  | 133072397 | 7213 | 0.040968 | G | A | 0.4428  | 0.0416 | 2.90E-26  | -0.0177 | 0.0319 | 0.580093 |
| CEL      | VTE | rs2097646   | 9  | 132997916 | 7213 | 0.341051 | G | A | 0.0911  | 0.0176 | 2.19E-07  | -0.0001 | 0.0129 | 0.99343  |
| CEL      | VTE | rs4246170   | 9  | 133237026 | 7213 | 0.087273 | G | A | -0.1544 | 0.0295 | 1.76E-07  | 0.1443  | 0.0209 | 5.43E-12 |
| CEL      | VTE | rs45487303  | 9  | 133107106 | 7213 | 0.024331 | T | C | 0.2982  | 0.0541 | 3.71E-08  | 0.0065  | 0.0400 | 0.871382 |
| CEL      | VTE | rs656105    | 9  | 133301911 | 7213 | 0.474213 | T | C | -0.0715 | 0.0166 | 1.75E-05  | 0.0910  | 0.0122 | 9.97E-14 |
| CEL      | VTE | rs667990    | 9  | 133109267 | 7213 | 0.471232 | A | G | 0.1130  | 0.0169 | 2.16E-11  | -0.0387 | 0.0122 | 0.001448 |
| CEL      | VTE | rs72779222  | 9  | 133482710 | 7213 | 0.057188 | C | T | 0.1492  | 0.0353 | 2.40E-05  | -0.0780 | 0.0259 | 0.002601 |
| CEL      | VTE | rs8176739   | 9  | 133256136 | 7213 | 0.023083 | A | G | -0.2374 | 0.0557 | 2.03E-05  | -0.1156 | 0.0428 | 0.006897 |
| GP6      | VTE | rs116850181 | 19 | 55031655  | 7213 | 0.021836 | A | G | 0.2419  | 0.0572 | 2.344E-05 | -0.0432 | 0.0487 | 0.375137 |
| GP6      | VTE | rs11881907  | 19 | 55007769  | 7213 | 0.113961 | T | A | 0.4303  | 0.0258 | 3.292E-61 | 0.0454  | 0.0185 | 0.014336 |
| GP6      | VTE | rs12104158  | 19 | 55161599  | 7213 | 0.104256 | T | G | -0.1280 | 0.0273 | 2.875E-06 | 0.0055  | 0.0197 | 0.78037  |
| GP6      | VTE | rs143108326 | 19 | 55088077  | 7213 | 0.01428  | C | G | 0.3137  | 0.0706 | 8.92E-06  | 0.0758  | 0.0549 | 0.166983 |
| GP6      | VTE | rs145342516 | 19 | 55090712  | 7213 | 0.02953  | A | G | -0.3466 | 0.0495 | 2.799E-12 | 0.0168  | 0.0336 | 0.616244 |
| GP6      | VTE | rs1671168   | 19 | 55076638  | 7213 | 0.471579 | C | G | -0.1354 | 0.0167 | 5.895E-16 | -0.0086 | 0.0122 | 0.480759 |
| GP6      | VTE | rs189534942 | 19 | 55032557  | 7213 | 0.010675 | A | G | 0.6902  | 0.0805 | 1.202E-17 | 0.0937  | 0.0618 | 0.129552 |
| GP6      | VTE | rs4029      | 19 | 55044477  | 7213 | 0.13344  | G | A | 0.2010  | 0.0243 | 1.38E-16  | 0.0206  | 0.0177 | 0.243093 |
| GP6      | VTE | rs703466    | 19 | 54973075  | 7213 | 0.2831   | T | C | 0.1766  | 0.0182 | 4.865E-22 | 0.0220  | 0.0134 | 0.101466 |
| GP6      | VTE | rs703473    | 19 | 54947448  | 7213 | 0.046999 | A | G | 0.2638  | 0.0393 | 2.131E-11 | 0.0388  | 0.0281 | 0.16632  |
| GP6      | VTE | rs73064799  | 19 | 55150064  | 7213 | 0.070359 | T | G | 0.1579  | 0.0325 | 1.229E-06 | -0.0297 | 0.0236 | 0.208841 |
| GP6      | VTE | rs79287667  | 19 | 55025316  | 7213 | 0.013656 | T | G | -0.7798 | 0.0716 | 2.212E-27 | 0.0141  | 0.0478 | 0.767883 |
| GP6      | VTE | rs8104288   | 19 | 55023305  | 7213 | 0.020519 | A | G | 0.5957  | 0.0583 | 2.441E-24 | -0.0356 | 0.0415 | 0.390889 |
| SERPINE2 | VTE | rs112044375 | 2  | 223712660 | 7213 | 0.010814 | T | C | -0.3283 | 0.0803 | 4.4E-05   | 0.0453  | 0.0585 | 0.438736 |
| SERPINE2 | VTE | rs112197117 | 2  | 223789049 | 7213 | 0.032441 | T | C | 0.2385  | 0.0470 | 3.886E-07 | -0.0195 | 0.0335 | 0.561167 |

|          |     |             |   |           |      |          |   |   |         |        |            |         |        |          |
|----------|-----|-------------|---|-----------|------|----------|---|---|---------|--------|------------|---------|--------|----------|
| SERPINE2 | VTE | rs113685646 | 2 | 223824976 | 7213 | 0.023846 | A | G | -0.3921 | 0.0547 | 8.434E-13  | 0.0139  | 0.0427 | 0.74492  |
| SERPINE2 | VTE | rs114211301 | 2 | 223978047 | 7213 | 0.044988 | G | T | -0.1765 | 0.0400 | 1.043E-05  | 0.0115  | 0.0323 | 0.722776 |
| SERPINE2 | VTE | rs116256765 | 2 | 224013743 | 7213 | 0.017954 | A | G | 0.3814  | 0.0629 | 1.369E-09  | 0.0308  | 0.0461 | 0.504071 |
| SERPINE2 | VTE | rs116502077 | 2 | 223930912 | 7213 | 0.030362 | G | A | -0.4952 | 0.0479 | 7.028E-25  | -0.0116 | 0.0359 | 0.747454 |
| SERPINE2 | VTE | rs116598593 | 2 | 224031445 | 7213 | 0.014696 | C | T | -0.6053 | 0.0687 | 1.464E-18  | -0.0406 | 0.0471 | 0.388647 |
| SERPINE2 | VTE | rs11689646  | 2 | 223978048 | 7213 | 0.38188  | T | G | 0.1571  | 0.0171 | 5.723E-20  | 0.0043  | 0.0125 | 0.729234 |
| SERPINE2 | VTE | rs12478391  | 2 | 224020573 | 7213 | 0.023083 | A | C | -0.7640 | 0.0550 | 2.736E-43  | 0.0734  | 0.0372 | 0.048342 |
| SERPINE2 | VTE | rs12998332  | 2 | 224434849 | 7213 | 0.173645 | A | G | -0.0984 | 0.0221 | 8.239E-06  | 0.0048  | 0.0162 | 0.768582 |
| SERPINE2 | VTE | rs13412535  | 2 | 224010157 | 7213 | 0.234784 | A | G | -0.9268 | 0.0162 | 3.662e-587 | 0.0545  | 0.0142 | 0.000118 |
| SERPINE2 | VTE | rs139935662 | 2 | 223731399 | 7213 | 0.028352 | G | T | -0.4047 | 0.0496 | 4.23E-16   | 0.0204  | 0.0378 | 0.588937 |
| SERPINE2 | VTE | rs140405039 | 2 | 224018827 | 7213 | 0.025995 | T | C | -0.7067 | 0.0521 | 1.874E-41  | 0.0879  | 0.0450 | 0.050921 |
| SERPINE2 | VTE | rs142948546 | 2 | 223943779 | 7213 | 0.010398 | C | A | 0.4624  | 0.0818 | 1.608E-08  | -0.0016 | 0.0737 | 0.983161 |
| SERPINE2 | VTE | rs143958932 | 2 | 224183342 | 7213 | 0.010814 | G | A | 0.4226  | 0.0797 | 1.191E-07  | 0.0266  | 0.0674 | 0.693219 |
| SERPINE2 | VTE | rs1439932   | 2 | 223501176 | 7213 | 0.252322 | C | T | -0.0969 | 0.0191 | 4.243E-07  | -0.0063 | 0.0142 | 0.654663 |
| SERPINE2 | VTE | rs1453661   | 2 | 224080761 | 7213 | 0.050395 | G | C | 0.1837  | 0.0380 | 1.329E-06  | 0.0015  | 0.0278 | 0.958138 |
| SERPINE2 | VTE | rs145554607 | 2 | 223966154 | 7213 | 0.036323 | T | C | 0.1836  | 0.0446 | 3.856E-05  | 0.0021  | 0.0331 | 0.95045  |
| SERPINE2 | VTE | rs147808525 | 2 | 224101292 | 7213 | 0.01227  | T | C | 0.4264  | 0.0751 | 1.39E-08   | 0.1252  | 0.0547 | 0.022173 |
| SERPINE2 | VTE | rs147859711 | 2 | 223563032 | 7213 | 0.011368 | T | A | -0.3104 | 0.0789 | 8.398E-05  | -0.0389 | 0.0624 | 0.533108 |
| SERPINE2 | VTE | rs148629664 | 2 | 223721246 | 7213 | 0.017053 | A | G | -0.2581 | 0.0645 | 6.376E-05  | 0.0559  | 0.0502 | 0.264816 |
| SERPINE2 | VTE | rs151126513 | 2 | 223496032 | 7213 | 0.03154  | G | A | -0.1996 | 0.0473 | 2.437E-05  | 0.0652  | 0.0380 | 0.086268 |
| SERPINE2 | VTE | rs1530018   | 2 | 224060404 | 7213 | 0.226189 | G | A | 0.4158  | 0.0192 | 7.11E-101  | -0.0222 | 0.0144 | 0.122598 |
| SERPINE2 | VTE | rs16865181  | 2 | 223769568 | 7213 | 0.01733  | C | G | 0.2532  | 0.0632 | 6.303E-05  | 0.0343  | 0.0478 | 0.472995 |
| SERPINE2 | VTE | rs16865990  | 2 | 224459365 | 7213 | 0.011507 | G | A | -0.3444 | 0.0774 | 8.864E-06  | 0.0749  | 0.0650 | 0.249199 |
| SERPINE2 | VTE | rs17196910  | 2 | 224025763 | 7213 | 0.031956 | T | C | 0.3116  | 0.0471 | 4.017E-11  | 0.0192  | 0.0310 | 0.537066 |
| SERPINE2 | VTE | rs187436386 | 2 | 223779796 | 7213 | 0.010814 | T | C | -0.3894 | 0.0808 | 1.47E-06   | 0.1122  | 0.0614 | 0.067927 |
| SERPINE2 | VTE | rs192260819 | 2 | 223911711 | 7213 | 0.016082 | G | C | 0.2796  | 0.0652 | 1.821E-05  | -0.0135 | 0.0510 | 0.790546 |
| SERPINE2 | VTE | rs2543659   | 2 | 224390297 | 7213 | 0.204561 | C | T | 0.0910  | 0.0207 | 1.132E-05  | -0.0148 | 0.0150 | 0.322569 |
| SERPINE2 | VTE | rs282252    | 2 | 224067522 | 7213 | 0.018716 | T | C | -0.3832 | 0.0611 | 3.886E-10  | -0.0186 | 0.0505 | 0.712801 |
| SERPINE2 | VTE | rs2894512   | 2 | 223701170 | 7213 | 0.012547 | A | T | -0.2971 | 0.0739 | 5.916E-05  | 0.0461  | 0.0587 | 0.432393 |
| SERPINE2 | VTE | rs34439826  | 2 | 224164071 | 7213 | 0.121586 | A | C | 0.1889  | 0.0253 | 8.873E-14  | 0.0095  | 0.0181 | 0.598097 |
| SERPINE2 | VTE | rs35990446  | 2 | 223947729 | 7213 | 0.135519 | A | G | -0.2143 | 0.0241 | 7.441E-19  | -0.0040 | 0.0174 | 0.818463 |
| SERPINE2 | VTE | rs4674826   | 2 | 223836906 | 7213 | 0.101137 | T | C | -0.1896 | 0.0273 | 4.48E-12   | 0.0416  | 0.0212 | 0.049543 |



|           |     |             |    |           |      |          |   |   |         |        |              |         |        |          |
|-----------|-----|-------------|----|-----------|------|----------|---|---|---------|--------|--------------|---------|--------|----------|
| SERPINE2  | VTE | rs4674836   | 2  | 223990794 | 7213 | 0.377651 | G | A | -0.3705 | 0.0166 | 3.25E-107    | 0.0071  | 0.0126 | 0.572909 |
| SERPINE2  | VTE | rs62185104  | 2  | 223781461 | 7213 | 0.052197 | C | T | 0.1635  | 0.0369 | 9.792E-06    | -0.0083 | 0.0267 | 0.755219 |
| SERPINE2  | VTE | rs6714137   | 2  | 223863261 | 7213 | 0.140995 | A | G | 0.2670  | 0.0236 | 2.37E-29     | -0.0190 | 0.0173 | 0.272077 |
| SERPINE2  | VTE | rs6748928   | 2  | 224412289 | 7213 | 0.19347  | G | C | 0.0876  | 0.0212 | 3.539E-05    | 0.0073  | 0.0150 | 0.627565 |
| SERPINE2  | VTE | rs74807729  | 2  | 224031068 | 7213 | 0.018023 | A | G | 0.2827  | 0.0623 | 5.828E-06    | -0.0521 | 0.0499 | 0.296281 |
| SERPINE2  | VTE | rs755018    | 2  | 223740623 | 7213 | 0.481214 | C | T | -0.0841 | 0.0166 | 4.095E-07    | 0.0017  | 0.0121 | 0.890795 |
| SERPINE2  | VTE | rs7584132   | 2  | 224007581 | 7213 | 0.165742 | G | A | 0.4194  | 0.0219 | 9.545E-80    | -0.0218 | 0.0163 | 0.180367 |
| SERPINE2  | VTE | rs7588220   | 2  | 224008887 | 7213 | 0.023361 | A | G | 0.2491  | 0.0554 | 6.902E-06    | 0.0080  | 0.0373 | 0.830452 |
| SERPINE2  | VTE | rs77033874  | 2  | 224170096 | 7213 | 0.019479 | T | C | -0.2997 | 0.0594 | 4.669E-07    | -0.0073 | 0.0495 | 0.882358 |
| SERPINE2  | VTE | rs79074603  | 2  | 224220878 | 7213 | 0.037987 | A | G | -0.1776 | 0.0436 | 4.687E-05    | 0.0102  | 0.0299 | 0.733957 |
| SERPINA10 | VTE | rs10873448  | 14 | 94164034  | 7213 | 0.168654 | T | C | 0.8074  | 0.0200 | 8.73673e-322 | -0.0463 | 0.0166 | 0.005337 |
| SERPINA10 | VTE | rs117186178 | 14 | 94413966  | 7213 | 0.022321 | T | C | -0.3615 | 0.0558 | 9.612E-11    | -0.0273 | 0.0430 | 0.525244 |
| SERPINA10 | VTE | rs117635679 | 14 | 94159715  | 7213 | 0.020519 | C | T | 0.8425  | 0.0579 | 2.478E-47    | 0.0256  | 0.0447 | 0.566777 |
| SERPINA10 | VTE | rs12587447  | 14 | 94300389  | 7213 | 0.03459  | C | T | -0.1937 | 0.0454 | 1.984E-05    | -0.0503 | 0.0353 | 0.153758 |
| SERPINA10 | VTE | rs12880427  | 14 | 94107161  | 7213 | 0.138847 | T | C | -0.1283 | 0.0237 | 6.449E-08    | -0.0068 | 0.0175 | 0.69641  |
| SERPINA10 | VTE | rs12886767  | 14 | 94173587  | 7213 | 0.240191 | G | C | -0.1483 | 0.0193 | 1.617E-14    | -0.0070 | 0.0145 | 0.629782 |
| SERPINA10 | VTE | rs12893359  | 14 | 94446806  | 7213 | 0.427769 | A | G | -0.0711 | 0.0168 | 2.237E-05    | -0.0030 | 0.0123 | 0.809766 |
| SERPINA10 | VTE | rs151207481 | 14 | 94460643  | 7213 | 0.015874 | A | G | 0.3375  | 0.0661 | 3.428E-07    | -0.0439 | 0.0567 | 0.438976 |
| SERPINA10 | VTE | rs17090693  | 14 | 94374994  | 7213 | 0.243241 | C | T | -0.1261 | 0.0192 | 5.82E-11     | 0.0174  | 0.0140 | 0.21313  |
| SERPINA10 | VTE | rs17129523  | 14 | 94250303  | 7213 | 0.020311 | A | G | 0.7909  | 0.0587 | 6.624E-41    | -0.0856 | 0.0438 | 0.05069  |
| SERPINA10 | VTE | rs1951022   | 14 | 94509410  | 7213 | 0.154443 | T | C | -0.1160 | 0.0228 | 3.567E-07    | 0.0460  | 0.0165 | 0.005187 |
| SERPINA10 | VTE | rs1956178   | 14 | 94320207  | 7213 | 0.17919  | A | C | 0.1391  | 0.0214 | 9.124E-11    | -0.0102 | 0.0160 | 0.523007 |
| SERPINA10 | VTE | rs2232710   | 14 | 94284149  | 7213 | 0.011854 | C | T | 0.5787  | 0.0757 | 2.411E-14    | 0.0825  | 0.0550 | 0.13359  |
| SERPINA10 | VTE | rs2402403   | 14 | 94066833  | 7213 | 0.01733  | C | A | -0.3188 | 0.0637 | 5.773E-07    | 0.0261  | 0.0508 | 0.607696 |
| SERPINA10 | VTE | rs34520961  | 14 | 94176080  | 7213 | 0.075558 | G | A | -0.1601 | 0.0314 | 3.658E-07    | 0.0166  | 0.0219 | 0.44702  |
| SERPINA10 | VTE | rs45505795  | 14 | 94290606  | 7213 | 0.030293 | C | G | -0.2793 | 0.0488 | 1.06E-08     | 0.1237  | 0.0353 | 0.000461 |
| SERPINA10 | VTE | rs4900218   | 14 | 94119515  | 7213 | 0.046028 | T | C | 0.2210  | 0.0396 | 2.452E-08    | -0.0500 | 0.0290 | 0.083959 |
| SERPINA10 | VTE | rs56280987  | 14 | 94288969  | 7213 | 0.017122 | T | C | 0.7831  | 0.0638 | 2.738E-34    | -0.0708 | 0.0491 | 0.149173 |
| SERPINA10 | VTE | rs67412635  | 14 | 94360148  | 7213 | 0.045127 | C | T | -0.2144 | 0.0395 | 5.851E-08    | 0.0232  | 0.0296 | 0.434013 |
| SERPINA10 | VTE | rs67922411  | 14 | 94303570  | 7213 | 0.204423 | G | A | 0.1461  | 0.0205 | 1.172E-12    | 0.0023  | 0.0149 | 0.87996  |
| SERPINA10 | VTE | rs7141881   | 14 | 94117527  | 7213 | 0.393526 | A | G | 0.1319  | 0.0170 | 9.149E-15    | -0.0027 | 0.0125 | 0.828495 |
| SERPINA10 | VTE | rs743206    | 14 | 94413325  | 7213 | 0.349716 | A | G | 0.0968  | 0.0176 | 3.919E-08    | 0.0068  | 0.0129 | 0.600487 |

|           |     |             |    |           |      |          |   |   |         |        |           |         |        |          |
|-----------|-----|-------------|----|-----------|------|----------|---|---|---------|--------|-----------|---------|--------|----------|
| SERPINA10 | VTE | rs74343336  | 14 | 94191609  | 7213 | 0.012616 | C | T | 0.7658  | 0.0737 | 4E-25     | -0.1723 | 0.0533 | 0.001226 |
| SERPINA10 | VTE | rs74393562  | 14 | 94408286  | 7213 | 0.019825 | C | T | 0.4019  | 0.0595 | 1.527E-11 | 0.0365  | 0.0470 | 0.437512 |
| SERPINA10 | VTE | rs75199535  | 14 | 94341457  | 7213 | 0.054138 | A | G | 0.4377  | 0.0365 | 9.083E-33 | 0.0133  | 0.0272 | 0.625789 |
| SERPINA10 | VTE | rs75255245  | 14 | 94339720  | 7213 | 0.069527 | A | G | 0.1620  | 0.0330 | 9.193E-07 | -0.0550 | 0.0247 | 0.026214 |
| SERPINA10 | VTE | rs753642    | 14 | 93854240  | 7213 | 0.395051 | C | T | -0.0729 | 0.0170 | 1.822E-05 | 0.0110  | 0.0124 | 0.376816 |
| SERPINA10 | VTE | rs76185743  | 14 | 93818814  | 7213 | 0.030986 | T | C | 0.2188  | 0.0480 | 5.174E-06 | -0.0237 | 0.0360 | 0.509588 |
| SERPINA10 | VTE | rs76249699  | 14 | 94299746  | 7213 | 0.019825 | C | T | 0.3431  | 0.0593 | 7.654E-09 | 0.0106  | 0.0471 | 0.822273 |
| SERPINA10 | VTE | rs80319562  | 14 | 94434741  | 7213 | 0.06516  | G | A | 0.1783  | 0.0338 | 1.424E-07 | 0.0116  | 0.0255 | 0.648246 |
| SERPINA10 | VTE | rs9972236   | 14 | 94104994  | 7213 | 0.15278  | T | C | 0.2023  | 0.0231 | 2.479E-18 | -0.0327 | 0.0176 | 0.063426 |
| OBP2B     | VTE | rs117325350 | 9  | 133203126 | 7213 | 0.037779 | C | T | -0.3299 | 0.0435 | 3.813E-14 | -0.0485 | 0.0324 | 0.134256 |
| OBP2B     | VTE | rs117362891 | 9  | 133513472 | 7213 | 0.019825 | T | C | -0.2697 | 0.0588 | 4.522E-06 | 0.0090  | 0.0435 | 0.836463 |
| OBP2B     | VTE | rs12340741  | 9  | 133232142 | 7213 | 0.023985 | G | A | -0.5332 | 0.0541 | 8.406E-23 | -0.0185 | 0.0402 | 0.645033 |
| OBP2B     | VTE | rs4454354   | 9  | 133214142 | 7213 | 0.21288  | T | C | -0.3520 | 0.0199 | 1.978E-68 | 0.0408  | 0.0151 | 0.006974 |
| OBP2B     | VTE | rs567493    | 9  | 133318693 | 7213 | 0.272355 | A | G | 0.0869  | 0.0188 | 3.768E-06 | -0.0880 | 0.0140 | 3E-10    |
| OBP2B     | VTE | rs60571346  | 9  | 133195896 | 7213 | 0.471025 | C | T | 0.1390  | 0.0166 | 7.033E-17 | -0.0662 | 0.0123 | 6.75E-08 |
| OBP2B     | VTE | rs76643124  | 9  | 133491326 | 7213 | 0.028005 | A | G | -0.2946 | 0.0503 | 4.889E-09 | 0.1727  | 0.0460 | 0.000173 |
| EFEMP1    | VTE | rs10865292  | 2  | 55988917  | 7213 | 0.088451 | G | A | 0.1743  | 0.0291 | 2.23E-09  | 0.0029  | 0.0219 | 0.896425 |
| EFEMP1    | VTE | rs114254392 | 2  | 55951979  | 7213 | 0.040829 | C | A | -0.2369 | 0.0415 | 1.21E-08  | 0.0654  | 0.0304 | 0.031295 |
| EFEMP1    | VTE | rs114782293 | 2  | 55572110  | 7213 | 0.016151 | T | A | -0.2644 | 0.0662 | 6.58E-05  | 0.0538  | 0.0493 | 0.274804 |
| EFEMP1    | VTE | rs114869558 | 2  | 55753290  | 7213 | 0.011299 | A | G | -0.3111 | 0.0791 | 8.52E-05  | -0.0056 | 0.0561 | 0.919853 |
| EFEMP1    | VTE | rs116679420 | 2  | 55629814  | 7213 | 0.03362  | T | C | -0.2326 | 0.0460 | 4.40E-07  | 0.0343  | 0.0313 | 0.27306  |
| EFEMP1    | VTE | rs11695502  | 2  | 55867864  | 7213 | 0.103355 | C | T | -0.1703 | 0.0273 | 4.81E-10  | 0.0228  | 0.0189 | 0.227953 |
| EFEMP1    | VTE | rs13001332  | 2  | 56083064  | 7213 | 0.099681 | A | T | -0.1714 | 0.0280 | 9.24E-10  | -0.0046 | 0.0192 | 0.81163  |
| EFEMP1    | VTE | rs1432559   | 2  | 55962483  | 7213 | 0.213919 | G | T | -0.1490 | 0.0203 | 2.25E-13  | 0.0166  | 0.0147 | 0.259529 |
| EFEMP1    | VTE | rs143681669 | 2  | 55809841  | 7213 | 0.011784 | A | G | 0.3520  | 0.0770 | 4.96E-06  | -0.1050 | 0.0647 | 0.104847 |
| EFEMP1    | VTE | rs145713418 | 2  | 55738460  | 7213 | 0.02239  | A | C | -0.3195 | 0.0561 | 1.26E-08  | 0.0539  | 0.0405 | 0.182792 |
| EFEMP1    | VTE | rs146147002 | 2  | 56018468  | 7213 | 0.016359 | A | G | -0.3353 | 0.0652 | 2.77E-07  | 0.0877  | 0.0511 | 0.085914 |
| EFEMP1    | VTE | rs17047269  | 2  | 55862304  | 7213 | 0.013171 | A | T | 0.3293  | 0.0734 | 7.37E-06  | -0.0320 | 0.0526 | 0.543685 |
| EFEMP1    | VTE | rs17268653  | 2  | 56218166  | 7213 | 0.029877 | G | A | 0.1964  | 0.0487 | 5.48E-05  | 0.0313  | 0.0362 | 0.388423 |
| EFEMP1    | VTE | rs1802575   | 2  | 55866069  | 7213 | 0.124497 | C | G | -0.3684 | 0.0248 | 2.28E-49  | 0.0571  | 0.0175 | 0.00111  |
| EFEMP1    | VTE | rs3791679   | 2  | 55869757  | 7213 | 0.240191 | G | A | 0.4274  | 0.0189 | 3.78E-109 | -0.0353 | 0.0146 | 0.015584 |
| EFEMP1    | VTE | rs41291177  | 2  | 55983263  | 7213 | 0.219881 | G | A | -0.0865 | 0.0201 | 1.63E-05  | 0.0183  | 0.0145 | 0.20523  |

|        |     |             |   |           |      |          |   |   |         |        |           |         |        |          |
|--------|-----|-------------|---|-----------|------|----------|---|---|---------|--------|-----------|---------|--------|----------|
| EFEMP1 | VTE | rs58754091  | 2 | 55842539  | 7213 | 0.174199 | G | A | -0.1452 | 0.0219 | 3.60E-11  | 0.0226  | 0.0158 | 0.152929 |
| EFEMP1 | VTE | rs727877    | 2 | 55892375  | 7213 | 0.071953 | T | A | 0.2507  | 0.0323 | 8.88E-15  | -0.0188 | 0.0242 | 0.438177 |
| EFEMP1 | VTE | rs736345    | 2 | 55619011  | 7213 | 0.171843 | G | A | -0.1227 | 0.0222 | 3.20E-08  | 0.0282  | 0.0156 | 0.071175 |
| EFEMP1 | VTE | rs7583519   | 2 | 56123171  | 7213 | 0.30958  | A | G | 0.1135  | 0.0181 | 3.69E-10  | -0.0192 | 0.0134 | 0.152443 |
| EFEMP1 | VTE | rs76771294  | 2 | 56049624  | 7213 | 0.019271 | A | G | 0.3274  | 0.0606 | 6.73E-08  | -0.0059 | 0.0447 | 0.894131 |
| EFEMP1 | VTE | rs782628    | 2 | 55673803  | 7213 | 0.096839 | A | C | 0.2199  | 0.0282 | 7.50E-15  | -0.0023 | 0.0208 | 0.913757 |
| F5     | VTE | rs10753787  | 1 | 169580537 | 7213 | 0.418134 | T | C | 0.1028  | 0.0168 | 1.043E-09 | 0.0284  | 0.0122 | 0.019904 |
| F5     | VTE | rs10800427  | 1 | 169303213 | 7213 | 0.053376 | A | T | 0.1621  | 0.0368 | 1.049E-05 | 0.5430  | 0.0257 | 2E-99    |
| F5     | VTE | rs111704584 | 1 | 169494768 | 7213 | 0.01837  | A | G | -0.2549 | 0.0609 | 2.832E-05 | -0.0474 | 0.0495 | 0.338341 |
| F5     | VTE | rs1200140   | 1 | 169113135 | 7213 | 0.212186 | A | G | -0.1363 | 0.0203 | 1.847E-11 | -0.0212 | 0.0146 | 0.146488 |
| F5     | VTE | rs148459673 | 1 | 169767716 | 7213 | 0.015874 | A | C | -0.3586 | 0.0658 | 5.255E-08 | 0.1428  | 0.0480 | 0.002917 |
| F5     | VTE | rs149686001 | 1 | 169048123 | 7213 | 0.010467 | A | G | -0.4696 | 0.0815 | 8.643E-09 | -0.0142 | 0.0664 | 0.83059  |
| F5     | VTE | rs16861872  | 1 | 169031153 | 7213 | 0.07743  | C | A | -0.1353 | 0.0310 | 1.279E-05 | 0.0034  | 0.0224 | 0.879715 |
| F5     | VTE | rs61805767  | 1 | 169532757 | 7213 | 0.182518 | A | G | 0.1291  | 0.0218 | 3.103E-09 | -0.0490 | 0.0164 | 0.002715 |
| F5     | VTE | rs7415756   | 1 | 169365044 | 7213 | 0.377513 | C | T | 0.0903  | 0.0170 | 1.205E-07 | 0.0656  | 0.0125 | 1.56E-07 |
| F5     | VTE | rs76955769  | 1 | 169903560 | 7213 | 0.042146 | A | G | -0.1732 | 0.0414 | 2.942E-05 | -0.0353 | 0.0296 | 0.231822 |
| F5     | VTE | rs9332641   | 1 | 169524475 | 7213 | 0.058644 | T | C | -0.5120 | 0.0350 | 1.106E-47 | 0.0549  | 0.0260 | 0.034979 |
| MSR1   | VTE | rs10090333  | 8 | 16230061  | 7213 | 0.26577  | T | A | -0.0754 | 0.0191 | 7.79E-05  | 0.0169  | 0.0138 | 0.219729 |
| MSR1   | VTE | rs1030517   | 8 | 16330801  | 7213 | 0.170456 | A | G | -0.2463 | 0.0223 | 4.069E-28 | 0.0206  | 0.0166 | 0.215169 |
| MSR1   | VTE | rs117609170 | 8 | 15976529  | 7213 | 0.013656 | T | C | -0.4348 | 0.0717 | 1.372E-09 | 0.0797  | 0.0483 | 0.098971 |
| MSR1   | VTE | rs1871573   | 8 | 16166714  | 7213 | 0.474491 | G | C | -0.1548 | 0.0166 | 1.551E-20 | -0.0128 | 0.0122 | 0.29692  |
| MSR1   | VTE | rs1949919   | 8 | 16559760  | 7213 | 0.407389 | C | A | -0.1296 | 0.0167 | 1.021E-14 | -0.0083 | 0.0124 | 0.501588 |
| MSR1   | VTE | rs2410390   | 8 | 16171084  | 7213 | 0.045266 | T | C | 0.1586  | 0.0404 | 8.634E-05 | 0.0240  | 0.0272 | 0.376207 |
| MSR1   | VTE | rs41341748  | 8 | 16155085  | 7213 | 0.010259 | A | G | -1.4944 | 0.0784 | 3.866E-79 | 0.1411  | 0.0541 | 0.009063 |
| MSR1   | VTE | rs59251421  | 8 | 16200030  | 7213 | 0.077707 | T | C | -0.5130 | 0.0304 | 1.394E-62 | 0.0485  | 0.0234 | 0.038248 |
| MSR1   | VTE | rs7016138   | 8 | 16080855  | 7213 | 0.097324 | A | C | -0.1582 | 0.0283 | 2.403E-08 | 0.0139  | 0.0210 | 0.507855 |
| MSR1   | VTE | rs80014125  | 8 | 16613417  | 7213 | 0.03459  | A | G | 0.2053  | 0.0454 | 6.115E-06 | 0.0083  | 0.0352 | 0.814631 |

**Supplementary Table 4 Colocalization results of plasma pQTL and VTE GWAS.**

| <b>protein</b> | <b>nsnps</b> | <b>PP.H0.abf</b> | <b>PP.H1.abf</b> | <b>PP.H2.abf</b> | <b>PP.H3.abf</b> | <b>PP.H4.abf</b> |
|----------------|--------------|------------------|------------------|------------------|------------------|------------------|
| PLCG2          | 3587         | 7.43E-40         | 2.26E-03         | 3.18E-37         | 0.9661           | 0.0317           |
| SERPINA10      | 3328         | 0                | 0.56             | 0                | 0.1752           | 0.2635           |
| KNG1           | 2517         | 1.78E-72         | 0.28             | 2.61E-73         | 0.0401           | 0.6822           |
| MSR1           | 3830         | 1.40E-58         | 0.57             | 2.03E-59         | 0.0814           | 0.3526           |
| SERPINE2       | 2719         | 0                | 0.08             | 0                | 0.0073           | 0.9116           |
| LRP4           | 1288         | 5.62E-198        | 5.67E-27         | 9.92E-172        | 1.0000           | 1.17E-21         |
| F11            | 2973         | 1.39E-170        | 1.92E-33         | 1.50E-140        | 0.0011           | 0.9989           |
| PROC           | 2770         | 2.17E-39         | 8.22E-03         | 1.00E-37         | 0.3788           | 0.6129           |
| RARRES2        | 2159         | 9.34E-159        | 0.17             | 1.74E-159        | 0.0303           | 0.8029           |
| GP6            | 2279         | 0                | 0.24             | 0                | 0.0752           | 0.6881           |
| THBS2          | 3403         | 1.12E-284        | 0.54             | 3.62E-285        | 0.1732           | 0.2888           |
| SERPINA1       | 3348         | 2.11E-183        | 0.03             | 6.79E-184        | 0.0102           | 0.9552           |
| KLKB1          | 3078         | 1.59E-131        | 9.26E-31         | 1.71E-101        | 1.0000           | 5.97E-12         |
| F2             | 1153         | 3.73E-37         | 5.94E-30         | 6.58E-11         | 4.80E-05         | 1.0000           |
| F5             | 3270         | 2.21E-239        | 1.21E-183        | 1.83E-56         | 1.0000           | 1.18E-51         |
| OBP2B          | 2504         | 1.47E-155        | 3.04E-93         | 4.82E-63         | 1.0000           | 6.56E-65         |
| PLEK           | 2721         | 1.67E-163        | 2.39E-05         | 7.36E-162        | 0.0001           | 0.9999           |
| EFEMP1         | 3081         | 4.99E-105        | 8.00E-01         | 5.69E-106        | 0.0910           | 0.1095           |
| ABO            | 2595         | 0                | 3.04E-93         | 0                | 1.0000           | 1.38E-89         |
| CEL            | 2370         | 1.15E-111        | 3.04E-93         | 3.80E-19         | 1.0000           | 5.78E-21         |

**Supplementary Table 5 Colocalization results of snp in plasma pQTL and VTE GWAS.**

| snp        | SNP.PP.H4 | gene |
|------------|-----------|------|
| rs1007738  | 2.64E-69  | F2   |
| rs10160701 | 3.31E-75  | F2   |
| rs10219383 | 9.05E-75  | F2   |
| rs1044796  | 1.97E-74  | F2   |
| rs10466476 | 3.50E-75  | F2   |
| rs10466477 | 3.45E-75  | F2   |
| rs10466478 | 1.41E-69  | F2   |
| rs10501319 | 1.21E-71  | F2   |
| rs1060573  | 1.21E-69  | F2   |
| rs10734548 | 5.59E-69  | F2   |
| rs10734549 | 3.76E-69  | F2   |
| rs10742784 | 2.66E-69  | F2   |
| rs10742797 | 2.61E-72  | F2   |
| rs10769199 | 3.26E-74  | F2   |
| rs10769204 | 1.36E-70  | F2   |
| rs10769205 | 6.62E-70  | F2   |
| rs10769208 | 3.80E-69  | F2   |
| rs10769211 | 2.39E-69  | F2   |
| rs10769212 | 2.31E-69  | F2   |
| rs10769225 | 2.21E-71  | F2   |
| rs10769226 | 2.59E-71  | F2   |
| rs10769227 | 1.98E-71  | F2   |
| rs10769228 | 1.87E-71  | F2   |
| rs10769230 | 1.69E-69  | F2   |
| rs10769233 | 3.50E-69  | F2   |
| rs10769234 | 2.42E-69  | F2   |
| rs10769239 | 7.86E-70  | F2   |
| rs10769244 | 8.33E-70  | F2   |
| rs10769245 | 6.79E-70  | F2   |
| rs10769248 | 2.18E-72  | F2   |
| rs10838579 | 1.21E-74  | F2   |
| rs10838586 | 6.00E-73  | F2   |
| rs10838587 | 5.19E-73  | F2   |
| rs10838588 | 5.29E-73  | F2   |
| rs10838589 | 7.69E-73  | F2   |
| rs10838590 | 6.52E-73  | F2   |
| rs10838595 | 2.02E-75  | F2   |
| rs10838596 | 1.58E-68  | F2   |
| rs10838601 | 4.30E-68  | F2   |
| rs10838602 | 3.98E-75  | F2   |
| rs10838610 | 1.44E-70  | F2   |
| rs10838611 | 8.90E-64  | F2   |
| rs10838612 | 5.78E-71  | F2   |
| rs10838613 | 2.73E-75  | F2   |
| rs10838620 | 3.66E-69  | F2   |
| rs10838621 | 9.76E-68  | F2   |
| rs10838624 | 4.03E-68  | F2   |
| rs10838627 | 3.42E-68  | F2   |

|            |           |     |
|------------|-----------|-----|
| rs10838628 | 3.60E-68  | F2  |
| rs10838629 | 2.26E-69  | F2  |
| rs10000459 | 1.08E-137 | F11 |
| rs10000731 | 3.85E-177 | F11 |
| rs10001084 | 1.56E-174 | F11 |
| rs10001377 | 1.01E-177 | F11 |
| rs10001944 | 1.11E-177 | F11 |
| rs10002009 | 1.14E-175 | F11 |
| rs10002028 | 1.07E-177 | F11 |
| rs10002129 | 5.67E-177 | F11 |
| rs10002339 | 1.39E-176 | F11 |
| rs10002348 | 4.27E-177 | F11 |
| rs10002615 | 1.11E-176 | F11 |
| rs10002763 | 5.38E-176 | F11 |
| rs10002784 | 4.63E-177 | F11 |
| rs10003196 | 1.49E-173 | F11 |
| rs10003363 | 1.37E-177 | F11 |
| rs10003588 | 1.55E-173 | F11 |
| rs10004157 | 5.62E-177 | F11 |
| rs10004205 | 1.19E-177 | F11 |
| rs10004538 | 4.81E-176 | F11 |
| rs10004932 | 1.17E-176 | F11 |
| rs10005888 | 4.63E-177 | F11 |
| rs10006277 | 3.33E-175 | F11 |
| rs10007140 | 2.42E-177 | F11 |
| rs10007356 | 6.14E-177 | F11 |
| rs10007676 | 5.81E-177 | F11 |
| rs10008039 | 1.56E-176 | F11 |
| rs10008621 | 8.09E-177 | F11 |
| rs10008724 | 7.75E-176 | F11 |
| rs10009030 | 1.59E-177 | F11 |
| rs10010181 | 2.42E-177 | F11 |
| rs10010232 | 5.27E-177 | F11 |
| rs10010668 | 2.21E-177 | F11 |
| rs10011164 | 1.05E-176 | F11 |
| rs10011311 | 1.43E-176 | F11 |
| rs10012237 | 2.25E-177 | F11 |
| rs10012258 | 1.51E-176 | F11 |
| rs10012858 | 8.42E-177 | F11 |
| rs10013071 | 4.22E-177 | F11 |
| rs10013195 | 2.11E-176 | F11 |
| rs10013218 | 5.32E-177 | F11 |
| rs10013254 | 1.34E-177 | F11 |
| rs10013461 | 2.79E-176 | F11 |
| rs10013653 | 6.91E-148 | F11 |
| rs10013900 | 2.54E-177 | F11 |
| rs10014399 | 2.79E-162 | F11 |
| rs10014510 | 2.26E-175 | F11 |
| rs10014524 | 2.42E-177 | F11 |
| rs10014983 | 6.46E-177 | F11 |
| rs10015147 | 1.24E-176 | F11 |

|            |           |     |
|------------|-----------|-----|
| rs10015908 | 2.57E-175 | F11 |
| rs1000012  | 0.00E+00  | ABO |
| rs10115001 | 0.00E+00  | ABO |
| rs10116061 | 0.00E+00  | ABO |
| rs10117024 | 0.00E+00  | ABO |
| rs10117159 | 0.00E+00  | ABO |
| rs10117255 | 0.00E+00  | ABO |
| rs10117852 | 0.00E+00  | ABO |
| rs10117989 | 0.00E+00  | ABO |
| rs10118950 | 0.00E+00  | ABO |
| rs10119590 | 0.00E+00  | ABO |
| rs10119905 | 0.00E+00  | ABO |
| rs10120207 | 0.00E+00  | ABO |
| rs10121171 | 0.00E+00  | ABO |
| rs10121513 | 0.00E+00  | ABO |
| rs10121728 | 0.00E+00  | ABO |
| rs10121827 | 0.00E+00  | ABO |
| rs10122534 | 0.00E+00  | ABO |
| rs10124364 | 0.00E+00  | ABO |
| rs10125348 | 0.00E+00  | ABO |
| rs10125492 | 0.00E+00  | ABO |
| rs1018857  | 0.00E+00  | ABO |
| rs1034579  | 0.00E+00  | ABO |
| rs1043077  | 0.00E+00  | ABO |
| rs10435928 | 0.00E+00  | ABO |
| rs10441806 | 0.00E+00  | ABO |
| rs10491534 | 0.00E+00  | ABO |
| rs10491535 | 0.00E+00  | ABO |
| rs10491536 | 0.00E+00  | ABO |
| rs10491903 | 0.00E+00  | ABO |
| rs1050700  | 0.00E+00  | ABO |
| rs1052517  | 0.00E+00  | ABO |
| rs1053878  | 0.00E+00  | ABO |
| rs1054379  | 0.00E+00  | ABO |
| rs1055432  | 0.00E+00  | ABO |
| rs1062218  | 0.00E+00  | ABO |
| rs1062356  | 0.00E+00  | ABO |
| rs106906   | 0.00E+00  | ABO |
| rs1073123  | 0.00E+00  | ABO |
| rs10736857 | 0.00E+00  | ABO |
| rs10736859 | 0.00E+00  | ABO |
| rs10736860 | 0.00E+00  | ABO |
| rs1074052  | 0.00E+00  | ABO |
| rs10751500 | 0.00E+00  | ABO |
| rs10751502 | 0.00E+00  | ABO |
| rs10751505 | 0.00E+00  | ABO |
| rs10761397 | 0.00E+00  | ABO |
| rs10761412 | 0.00E+00  | ABO |
| rs10761413 | 0.00E+00  | ABO |
| rs1076150  | 0.00E+00  | ABO |
| rs1076151  | 0.00E+00  | ABO |

|             |           |       |
|-------------|-----------|-------|
| rs1000455   | 6.12E-45  | PLCG2 |
| rs1000456   | 3.33E-44  | PLCG2 |
| rs10153053  | 1.02E-44  | PLCG2 |
| rs10153151  | 4.38E-45  | PLCG2 |
| rs1017237   | 3.54E-44  | PLCG2 |
| rs1017238   | 1.45E-44  | PLCG2 |
| rs1017242   | 4.53E-45  | PLCG2 |
| rs1017243   | 4.38E-45  | PLCG2 |
| rs10220955  | 8.84E-45  | PLCG2 |
| rs1027213   | 1.76E-44  | PLCG2 |
| rs1032339   | 3.66E-45  | PLCG2 |
| rs1035572   | 4.02E-45  | PLCG2 |
| rs1035573   | 6.01E-45  | PLCG2 |
| rs1037971   | 8.83E-44  | PLCG2 |
| rs1037972   | 8.63E-44  | PLCG2 |
| rs10438632  | 5.44E-45  | PLCG2 |
| rs10454708  | 7.01E-44  | PLCG2 |
| rs10493891  | 2.24E-45  | PLCG2 |
| rs10514517  | 3.71E-43  | PLCG2 |
| rs10514518  | 4.66E-44  | PLCG2 |
| rs10514519  | 4.46E-43  | PLCG2 |
| rs10514520  | 1.11E-43  | PLCG2 |
| rs10514521  | 1.06E-43  | PLCG2 |
| rs10514523  | 2.29E-45  | PLCG2 |
| rs10514524  | 2.12E-45  | PLCG2 |
| rs10514525  | 1.68E-45  | PLCG2 |
| rs10514527  | 1.75E-45  | PLCG2 |
| rs10514528  | 2.11E-45  | PLCG2 |
| rs10514529  | 5.05E-44  | PLCG2 |
| rs10514530  | 6.27E-44  | PLCG2 |
| rs10514531  | 3.61E-45  | PLCG2 |
| rs10514532  | 4.10E-45  | PLCG2 |
| rs10514533  | 4.19E-45  | PLCG2 |
| rs10514534  | 4.10E-45  | PLCG2 |
| rs1056629   | 3.53E-45  | PLCG2 |
| rs1056654   | 3.54E-45  | PLCG2 |
| rs1056675   | 2.95E-45  | PLCG2 |
| rs1056690   | 3.54E-45  | PLCG2 |
| rs1064208   | 3.02E-45  | PLCG2 |
| rs1071644   | 4.23E-21  | PLCG2 |
| rs10871410  | 9.37E-45  | PLCG2 |
| rs10871411  | 1.08E-44  | PLCG2 |
| rs10871413  | 3.58E-45  | PLCG2 |
| rs10871414  | 1.91E-45  | PLCG2 |
| rs10871415  | 2.18E-45  | PLCG2 |
| rs10871420  | 1.76E-43  | PLCG2 |
| rs10871424  | 2.72E-45  | PLCG2 |
| rs10871425  | 6.72E-45  | PLCG2 |
| rs111302260 | 3.88E-45  | PLCG2 |
| rs111362226 | 1.71E-44  | PLCG2 |
| rs1007738   | 1.14E-153 | LRP4  |



|            |           |      |
|------------|-----------|------|
| rs10160701 | 4.12E-182 | LRP4 |
| rs10466476 | 5.84E-181 | LRP4 |
| rs10466477 | 8.05E-181 | LRP4 |
| rs10466478 | 4.42E-155 | LRP4 |
| rs10501319 | 5.27E-177 | LRP4 |
| rs10501320 | 9.94E-183 | LRP4 |
| rs10501321 | 1.67E-165 | LRP4 |
| rs1050244  | 2.68E-183 | LRP4 |
| rs1051006  | 2.86E-174 | LRP4 |
| rs1052373  | 9.09E-166 | LRP4 |
| rs1055510  | 1.37E-165 | LRP4 |
| rs1057233  | 1.00E-175 | LRP4 |
| rs1060573  | 4.01E-155 | LRP4 |
| rs10734548 | 1.41E-153 | LRP4 |
| rs10734549 | 1.89E-153 | LRP4 |
| rs10734557 | 2.36E-176 | LRP4 |
| rs10742784 | 9.01E-154 | LRP4 |
| rs10742797 | 7.27E-179 | LRP4 |
| rs10742799 | 1.42E-165 | LRP4 |
| rs10742801 | 1.34E-165 | LRP4 |
| rs10747    | 1.23E-177 | LRP4 |
| rs10769204 | 2.17E-149 | LRP4 |
| rs10769205 | 4.55E-134 | LRP4 |
| rs10769208 | 1.91E-153 | LRP4 |
| rs10769211 | 5.84E-154 | LRP4 |
| rs10769212 | 9.08E-154 | LRP4 |
| rs10769225 | 2.23E-176 | LRP4 |
| rs10769226 | 2.29E-176 | LRP4 |
| rs10769227 | 2.11E-176 | LRP4 |
| rs10769228 | 1.90E-176 | LRP4 |
| rs10769230 | 7.15E-154 | LRP4 |
| rs10769233 | 3.27E-153 | LRP4 |
| rs10769234 | 4.75E-154 | LRP4 |
| rs10769239 | 7.97E-156 | LRP4 |
| rs10769244 | 8.53E-156 | LRP4 |
| rs10769245 | 6.05E-156 | LRP4 |
| rs10769248 | 8.91E-179 | LRP4 |
| rs10769252 | 9.39E-166 | LRP4 |
| rs10769253 | 6.16E-175 | LRP4 |
| rs10769254 | 1.18E-171 | LRP4 |
| rs10769255 | 1.62E-175 | LRP4 |
| rs10769256 | 8.76E-184 | LRP4 |
| rs10838601 | 2.84E-158 | LRP4 |
| rs10838602 | 2.09E-182 | LRP4 |
| rs10838610 | 4.26E-149 | LRP4 |
| rs10838611 | 8.51E-78  | LRP4 |
| rs10838612 | 1.72E-144 | LRP4 |
| rs10838613 | 7.77E-181 | LRP4 |
| rs10838620 | 1.82E-153 | LRP4 |
| rs1000504  | 5.14E-170 | PLEK |
| rs1002537  | 2.02E-168 | PLEK |

|            |           |       |
|------------|-----------|-------|
| rs10153623 | 3.86E-169 | PLEK  |
| rs1016349  | 1.56E-139 | PLEK  |
| rs1016350  | 9.15E-140 | PLEK  |
| rs10164780 | 2.27E-159 | PLEK  |
| rs10164991 | 3.46E-167 | PLEK  |
| rs10166882 | 2.33E-167 | PLEK  |
| rs10167016 | 1.38E-167 | PLEK  |
| rs10167373 | 2.28E-167 | PLEK  |
| rs10167610 | 2.22E-170 | PLEK  |
| rs10167650 | 3.42E-120 | PLEK  |
| rs10167680 | 2.28E-167 | PLEK  |
| rs10167684 | 2.28E-167 | PLEK  |
| rs10167733 | 2.18E-170 | PLEK  |
| rs10168414 | 1.20E-152 | PLEK  |
| rs10169751 | 4.39E-169 | PLEK  |
| rs10170087 | 2.37E-170 | PLEK  |
| rs10171075 | 1.29E-170 | PLEK  |
| rs10171076 | 6.06E-169 | PLEK  |
| rs10171662 | 1.47E-170 | PLEK  |
| rs10171786 | 2.69E-170 | PLEK  |
| rs10171972 | 2.10E-170 | PLEK  |
| rs10172004 | 7.74E-167 | PLEK  |
| rs10172125 | 2.32E-159 | PLEK  |
| rs10172469 | 1.41E-167 | PLEK  |
| rs10172974 | 1.86E-167 | PLEK  |
| rs10173197 | 2.68E-167 | PLEK  |
| rs10173449 | 2.38E-167 | PLEK  |
| rs10173501 | 3.99E-167 | PLEK  |
| rs10173586 | 6.38E-169 | PLEK  |
| rs10174380 | 7.99E-140 | PLEK  |
| rs10174579 | 1.26E-139 | PLEK  |
| rs10174998 | 1.13E-167 | PLEK  |
| rs10175092 | 6.47E-170 | PLEK  |
| rs10176108 | 4.45E-170 | PLEK  |
| rs10176505 | 7.10E-167 | PLEK  |
| rs10176792 | 8.15E-167 | PLEK  |
| rs10177248 | 2.08E-170 | PLEK  |
| rs10177314 | 1.85E-167 | PLEK  |
| rs10178143 | 1.96E-168 | PLEK  |
| rs10178792 | 2.33E-51  | PLEK  |
| rs10179154 | 4.85E-168 | PLEK  |
| rs10179623 | 2.77E-167 | PLEK  |
| rs10179993 | 1.93E-169 | PLEK  |
| rs10180188 | 2.99E-169 | PLEK  |
| rs10180387 | 3.45E-167 | PLEK  |
| rs10180585 | 5.84E-170 | PLEK  |
| rs10180676 | 2.59E-170 | PLEK  |
| rs10180779 | 2.42E-167 | PLEK  |
| rs10000459 | 4.02E-43  | KLKB1 |
| rs10000731 | 1.67E-126 | KLKB1 |
| rs10000785 | 2.28E-127 | KLKB1 |

|            |           |       |
|------------|-----------|-------|
| rs10001084 | 2.01E-124 | KLKB1 |
| rs10001377 | 1.94E-127 | KLKB1 |
| rs10001944 | 2.67E-127 | KLKB1 |
| rs10002009 | 2.29E-125 | KLKB1 |
| rs10002028 | 2.68E-127 | KLKB1 |
| rs10002129 | 9.69E-127 | KLKB1 |
| rs10002339 | 4.30E-127 | KLKB1 |
| rs10002348 | 3.03E-127 | KLKB1 |
| rs10002615 | 4.61E-127 | KLKB1 |
| rs10002763 | 4.89E-127 | KLKB1 |
| rs10002784 | 6.45E-127 | KLKB1 |
| rs10003196 | 3.19E-124 | KLKB1 |
| rs10003363 | 2.10E-127 | KLKB1 |
| rs10003588 | 3.13E-124 | KLKB1 |
| rs10004157 | 1.41E-126 | KLKB1 |
| rs10004205 | 2.30E-127 | KLKB1 |
| rs10004538 | 3.00E-124 | KLKB1 |
| rs10004932 | 2.55E-55  | KLKB1 |
| rs10005888 | 2.74E-127 | KLKB1 |
| rs10006277 | 6.93E-126 | KLKB1 |
| rs10007140 | 3.95E-127 | KLKB1 |
| rs10007356 | 1.69E-126 | KLKB1 |
| rs10007676 | 4.38E-127 | KLKB1 |
| rs10008039 | 2.68E-126 | KLKB1 |
| rs10008621 | 2.45E-126 | KLKB1 |
| rs10008724 | 3.82E-126 | KLKB1 |
| rs10009030 | 2.59E-127 | KLKB1 |
| rs10009306 | 2.27E-126 | KLKB1 |
| rs10010181 | 4.01E-127 | KLKB1 |
| rs10010232 | 2.93E-127 | KLKB1 |
| rs10010668 | 5.12E-127 | KLKB1 |
| rs10011164 | 3.81E-126 | KLKB1 |
| rs10011292 | 1.07E-126 | KLKB1 |
| rs10011311 | 6.07E-127 | KLKB1 |
| rs10012237 | 2.64E-127 | KLKB1 |
| rs10012258 | 3.36E-126 | KLKB1 |
| rs10012858 | 2.59E-127 | KLKB1 |
| rs10013071 | 3.61E-127 | KLKB1 |
| rs10013195 | 3.85E-126 | KLKB1 |
| rs10013218 | 2.94E-127 | KLKB1 |
| rs10013254 | 2.71E-127 | KLKB1 |
| rs10013461 | 2.51E-126 | KLKB1 |
| rs10013653 | 2.28E-75  | KLKB1 |
| rs10013900 | 5.21E-127 | KLKB1 |
| rs10014399 | 1.41E-104 | KLKB1 |
| rs10014510 | 5.24E-126 | KLKB1 |
| rs10014865 | 5.24E-125 | KLKB1 |
| rs10048716 | 4.26E-46  | PROC  |
| rs10048749 | 9.57E-46  | PROC  |
| rs1011019  | 1.70E-19  | PROC  |
| rs10164978 | 8.76E-46  | PROC  |

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| rs10165440 | 7.39E-46 | PROC |
| rs10166461 | 6.77E-46 | PROC |
| rs10167189 | 2.57E-46 | PROC |
| rs10167294 | 4.88E-34 | PROC |
| rs10168813 | 1.09E-44 | PROC |
| rs10169028 | 9.11E-44 | PROC |
| rs10169310 | 2.95E-46 | PROC |
| rs10171345 | 7.86E-45 | PROC |
| rs10171785 | 7.35E-46 | PROC |
| rs10171898 | 6.59E-46 | PROC |
| rs10172249 | 7.29E-46 | PROC |
| rs10173388 | 7.35E-46 | PROC |
| rs10174611 | 1.50E-45 | PROC |
| rs10177052 | 4.38E-38 | PROC |
| rs10178163 | 3.69E-45 | PROC |
| rs10178188 | 5.79E-43 | PROC |
| rs10178199 | 9.53E-46 | PROC |
| rs10178499 | 3.69E-45 | PROC |
| rs10180714 | 9.54E-46 | PROC |
| rs10180750 | 1.47E-45 | PROC |
| rs10180840 | 2.45E-46 | PROC |
| rs10180930 | 3.63E-46 | PROC |
| rs10182292 | 1.01E-45 | PROC |
| rs10182429 | 5.76E-46 | PROC |
| rs10183605 | 2.71E-46 | PROC |
| rs10183797 | 6.12E-46 | PROC |
| rs10185083 | 9.52E-46 | PROC |
| rs10185637 | 3.51E-46 | PROC |
| rs10186397 | 5.82E-46 | PROC |
| rs10188441 | 9.11E-44 | PROC |
| rs10189694 | 8.99E-44 | PROC |
| rs10189721 | 7.65E-46 | PROC |
| rs10190229 | 1.76E-45 | PROC |
| rs10190872 | 4.20E-45 | PROC |
| rs10191259 | 2.47E-46 | PROC |
| rs10191573 | 9.26E-44 | PROC |
| rs10193351 | 7.28E-46 | PROC |
| rs10193937 | 1.49E-45 | PROC |
| rs10194052 | 6.39E-46 | PROC |
| rs10194509 | 4.61E-46 | PROC |
| rs10194711 | 2.00E-45 | PROC |
| rs10194727 | 1.44E-39 | PROC |
| rs10194975 | 3.00E-45 | PROC |
| rs10195067 | 2.98E-45 | PROC |
| rs10195774 | 1.05E-43 | PROC |
| rs10195813 | 1.01E-40 | PROC |
| rs1003410  | 1.89E-79 | KNG1 |
| rs1004588  | 6.10E-78 | KNG1 |
| rs1004589  | 2.46E-78 | KNG1 |
| rs1009640  | 2.06E-78 | KNG1 |
| rs1011551  | 1.15E-77 | KNG1 |

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| rs1014695  | 1.93E-78  | KNG1  |
| rs10212190 | 2.84E-79  | KNG1  |
| rs10212404 | 1.01E-78  | KNG1  |
| rs1029353  | 1.22E-76  | KNG1  |
| rs1030109  | 1.62E-77  | KNG1  |
| rs1042445  | 1.56E-78  | KNG1  |
| rs1042464  | 4.44E-79  | KNG1  |
| rs1042642  | 2.02E-79  | KNG1  |
| rs1042757  | 2.48E-79  | KNG1  |
| rs10439970 | 6.80E-71  | KNG1  |
| rs10439971 | 5.42E-71  | KNG1  |
| rs10440056 | 5.42E-71  | KNG1  |
| rs10440057 | 5.47E-71  | KNG1  |
| rs10470529 | 1.69E-77  | KNG1  |
| rs1047115  | 1.58E-78  | KNG1  |
| rs1047148  | 1.06E-78  | KNG1  |
| rs10490807 | 8.69E-79  | KNG1  |
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| rs10513812 | 8.51E-78  | KNG1  |
| rs1063537  | 8.06E-78  | KNG1  |
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| rs1071592  | 9.94E-78  | KNG1  |
| rs10770    | 4.00E-76  | KNG1  |
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| rs10804906 | 7.75E-79  | KNG1  |
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| rs10937255 | 1.39E-77  | KNG1  |
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| rs1001844  | 1.82E-290 | THBS2 |
| rs1002234  | 4.70E-291 | THBS2 |
| rs1003492  | 2.10E-290 | THBS2 |
| rs1004298  | 2.85E-289 | THBS2 |
| rs10080336 | 1.99E-290 | THBS2 |
| rs1014449  | 5.93E-290 | THBS2 |

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| rs1018559  | 3.04E-287 | THBS2    |
| rs10223642 | 9.53E-291 | THBS2    |
| rs10280    | 1.68E-195 | THBS2    |
| rs1028295  | 2.03E-288 | THBS2    |
| rs1028296  | 3.02E-290 | THBS2    |
| rs1033458  | 6.45E-287 | THBS2    |
| rs1040     | 1.86E-195 | THBS2    |
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| rs1040933  | 8.86E-291 | THBS2    |
| rs1042     | 1.83E-243 | THBS2    |
| rs10455733 | 3.40E-291 | THBS2    |
| rs10455734 | 3.36E-291 | THBS2    |
| rs10455736 | 1.98E-288 | THBS2    |
| rs10455737 | 1.98E-288 | THBS2    |
| rs10455738 | 5.59E-290 | THBS2    |
| rs10455740 | 1.81E-290 | THBS2    |
| rs10455744 | 2.97E-290 | THBS2    |
| rs1047910  | 3.60E-284 | THBS2    |
| rs10485330 | 1.09E-289 | THBS2    |
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| rs1056672  | 1.59E-284 | THBS2    |
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| rs10755555 | 5.15E-290 | THBS2    |
| rs10755558 | 2.18E-288 | THBS2    |
| rs1077326  | 7.88E-290 | THBS2    |
| rs10806650 | 3.24E-291 | THBS2    |
| rs10806651 | 3.15E-291 | THBS2    |
| rs10806653 | 7.14E-291 | THBS2    |
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| rs10806655 | 2.21E-290 | THBS2    |
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| rs10806670 | 1.68E-284 | THBS2    |
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| rs10945306 | 5.26E-288 | THBS2    |
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| rs1003740  | 2.29E-189 | SERPINA1 |
| rs1004958  | 3.30E-188 | SERPINA1 |
| rs1005348  | 2.02E-188 | SERPINA1 |
| rs1007148  | 3.27E-186 | SERPINA1 |
| rs1007149  | 3.69E-186 | SERPINA1 |
| rs10083317 | 2.71E-190 | SERPINA1 |

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| rs10083334 | 1.55E-189 | SERPINA1 |
| rs1012016  | 8.77E-180 | SERPINA1 |
| rs1012808  | 1.29E-183 | SERPINA1 |
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| rs10085554 | 4.86E-164 | RARRES2  |
| rs10085672 | 2.43E-164 | RARRES2  |
| rs1010614  | 1.75E-148 | RARRES2  |
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| rs10156097 | 1.28E-149 | RARRES2  |
| rs1016193  | 1.24E-165 | RARRES2  |

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| rs1021185  | 1.25E-165 | RARRES2 |
| rs10215009 | 4.14E-164 | RARRES2 |
| rs10215048 | 1.22E-164 | RARRES2 |
| rs10215091 | 1.61E-165 | RARRES2 |
| rs10215092 | 1.21E-164 | RARRES2 |
| rs10215370 | 8.19E-165 | RARRES2 |
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| rs10215385 | 8.73E-165 | RARRES2 |
| rs10216102 | 1.59E-165 | RARRES2 |
| rs10224387 | 1.10E-165 | RARRES2 |
| rs10225462 | 2.09E-165 | RARRES2 |
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| rs10226213 | 1.11E-165 | RARRES2 |
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| rs10229175 | 1.50E-163 | RARRES2 |
| rs10230559 | 2.90E-165 | RARRES2 |
| rs10231041 | 1.81E-165 | RARRES2 |
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| rs10231567 | 2.31E-159 | RARRES2 |
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| rs10231759 | 3.72E-164 | RARRES2 |
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| rs10232947 | 1.70E-165 | RARRES2 |
| rs10233783 | 1.03E-164 | RARRES2 |
| rs10234866 | 2.82E-163 | RARRES2 |
| rs10234910 | 1.24E-165 | RARRES2 |
| rs10235151 | 1.72E-165 | RARRES2 |
| rs1000012  | 4.80E-97  | CEL     |
| rs10115625 | 2.28E-97  | CEL     |
| rs10116061 | 1.74E-98  | CEL     |
| rs10117024 | 2.59E-97  | CEL     |
| rs10117159 | 1.72E-92  | CEL     |
| rs10117255 | 3.31E-93  | CEL     |
| rs10117989 | 1.85E-98  | CEL     |
| rs10118950 | 1.30E-95  | CEL     |
| rs10119590 | 1.36E-97  | CEL     |



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| rs10119905 | 1.07E-95 | CEL |
| rs10120207 | 7.79E-98 | CEL |
| rs10121171 | 1.84E-98 | CEL |
| rs10121513 | 1.28E-97 | CEL |
| rs10121728 | 3.49E-98 | CEL |
| rs10122534 | 2.10E-98 | CEL |
| rs10123872 | 3.98E-98 | CEL |
| rs10124364 | 4.18E-93 | CEL |
| rs10125348 | 6.31E-98 | CEL |
| rs10125492 | 6.17E-98 | CEL |
| rs1018857  | 1.44E-97 | CEL |
| rs1028892  | 1.29E-97 | CEL |
| rs1034579  | 6.70E-98 | CEL |
| rs10435974 | 2.77E-98 | CEL |
| rs10435975 | 2.94E-98 | CEL |
| rs10441806 | 1.97E-91 | CEL |
| rs1045737  | 6.84E-98 | CEL |
| rs1045740  | 5.82E-98 | CEL |
| rs10491534 | 3.82E-97 | CEL |
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| rs10491536 | 9.61E-98 | CEL |
| rs10491903 | 8.56E-98 | CEL |
| rs10491904 | 2.05E-98 | CEL |
| rs10491905 | 1.03E-97 | CEL |
| rs1050700  | 7.91E-98 | CEL |
| rs10512415 | 7.62E-98 | CEL |
| rs1052517  | 1.88E-94 | CEL |
| rs1053878  | 3.12E-96 | CEL |
| rs1054379  | 3.74E-95 | CEL |
| rs1055432  | 3.28E-97 | CEL |
| rs1062218  | 4.27E-98 | CEL |
| rs1062356  | 3.44E-89 | CEL |
| rs106906   | 2.78E-97 | CEL |
| rs1073123  | 6.56E-98 | CEL |
| rs10736856 | 8.58E-98 | CEL |
| rs10736857 | 1.64E-97 | CEL |
| rs10736859 | 2.59E-98 | CEL |
| rs10736860 | 3.19E-94 | CEL |
| rs10751495 | 8.56E-98 | CEL |
| rs10751500 | 1.14E-94 | CEL |
| rs10751502 | 9.08E-94 | CEL |
| rs1000319  | 0.00E+00 | GP6 |
| rs1000320  | 0.00E+00 | GP6 |
| rs1000321  | 0.00E+00 | GP6 |
| rs1004443  | 0.00E+00 | GP6 |
| rs1036231  | 0.00E+00 | GP6 |
| rs10401201 | 0.00E+00 | GP6 |
| rs10401467 | 0.00E+00 | GP6 |
| rs10401558 | 0.00E+00 | GP6 |
| rs10401614 | 0.00E+00 | GP6 |
| rs10401701 | 0.00E+00 | GP6 |

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| rs10401754 | 0.00E+00 | GP6      |
| rs10401802 | 0.00E+00 | GP6      |
| rs10401863 | 0.00E+00 | GP6      |
| rs10402153 | 0.00E+00 | GP6      |
| rs10402311 | 0.00E+00 | GP6      |
| rs10402335 | 0.00E+00 | GP6      |
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| rs10402577 | 0.00E+00 | GP6      |
| rs10402581 | 0.00E+00 | GP6      |
| rs10402586 | 0.00E+00 | GP6      |
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| rs10403570 | 0.00E+00 | GP6      |
| rs10403571 | 0.00E+00 | GP6      |
| rs10404178 | 0.00E+00 | GP6      |
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| rs10407009 | 0.00E+00 | GP6      |
| rs10407012 | 0.00E+00 | GP6      |
| rs10407760 | 0.00E+00 | GP6      |
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| rs10408421 | 0.00E+00 | GP6      |
| rs10408436 | 0.00E+00 | GP6      |
| rs10409029 | 0.00E+00 | GP6      |
| rs10409108 | 0.00E+00 | GP6      |
| rs10409160 | 0.00E+00 | GP6      |
| rs10409253 | 0.00E+00 | GP6      |
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| rs1001393  | 0.00E+00 | SERPINE2 |
| rs1002998  | 0.00E+00 | SERPINE2 |
| rs1006212  | 0.00E+00 | SERPINE2 |
| rs1006213  | 0.00E+00 | SERPINE2 |
| rs1006214  | 0.00E+00 | SERPINE2 |
| rs1008415  | 0.00E+00 | SERPINE2 |
| rs1009270  | 0.00E+00 | SERPINE2 |
| rs1010837  | 0.00E+00 | SERPINE2 |
| rs1014491  | 0.00E+00 | SERPINE2 |
| rs1014492  | 0.00E+00 | SERPINE2 |

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| rs10153617 | 0.00E+00 | SERPINE2  |
| rs10164837 | 0.00E+00 | SERPINE2  |
| rs10165501 | 0.00E+00 | SERPINE2  |
| rs10166590 | 0.00E+00 | SERPINE2  |
| rs10166620 | 0.00E+00 | SERPINE2  |
| rs10166881 | 0.00E+00 | SERPINE2  |
| rs10166898 | 0.00E+00 | SERPINE2  |
| rs10166964 | 0.00E+00 | SERPINE2  |
| rs10167081 | 0.00E+00 | SERPINE2  |
| rs10167473 | 0.00E+00 | SERPINE2  |
| rs10168322 | 0.00E+00 | SERPINE2  |
| rs10168404 | 0.00E+00 | SERPINE2  |
| rs10168863 | 0.00E+00 | SERPINE2  |
| rs10169504 | 0.00E+00 | SERPINE2  |
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| rs10173653 | 0.00E+00 | SERPINE2  |
| rs10174003 | 0.00E+00 | SERPINE2  |
| rs10174215 | 0.00E+00 | SERPINE2  |
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| rs10175515 | 0.00E+00 | SERPINE2  |
| rs10176412 | 0.00E+00 | SERPINE2  |
| rs10176735 | 0.00E+00 | SERPINE2  |
| rs10176854 | 0.00E+00 | SERPINE2  |
| rs10177151 | 0.00E+00 | SERPINE2  |
| rs10177259 | 0.00E+00 | SERPINE2  |
| rs10177420 | 0.00E+00 | SERPINE2  |
| rs10177693 | 0.00E+00 | SERPINE2  |
| rs1001381  | 0.00E+00 | SERPINA10 |
| rs1002520  | 0.00E+00 | SERPINA10 |
| rs1003740  | 0.00E+00 | SERPINA10 |
| rs1004027  | 0.00E+00 | SERPINA10 |
| rs1004958  | 0.00E+00 | SERPINA10 |
| rs1005348  | 0.00E+00 | SERPINA10 |
| rs1007148  | 0.00E+00 | SERPINA10 |
| rs1007149  | 0.00E+00 | SERPINA10 |
| rs10083317 | 0.00E+00 | SERPINA10 |
| rs10083334 | 0.00E+00 | SERPINA10 |
| rs1012016  | 0.00E+00 | SERPINA10 |
| rs1012808  | 0.00E+00 | SERPINA10 |

|            |             |           |
|------------|-------------|-----------|
| rs10129195 | 0.00E+00    | SERPINA10 |
| rs10129374 | 0.00E+00    | SERPINA10 |
| rs10129381 | 0.00E+00    | SERPINA10 |
| rs10129487 | 0.00E+00    | SERPINA10 |
| rs10129500 | 0.00E+00    | SERPINA10 |
| rs10129651 | 0.00E+00    | SERPINA10 |
| rs10129672 | 0.00E+00    | SERPINA10 |
| rs10129705 | 0.00E+00    | SERPINA10 |
| rs10129953 | 0.00E+00    | SERPINA10 |
| rs10130697 | 1.12E-304   | SERPINA10 |
| rs10130707 | 0.00E+00    | SERPINA10 |
| rs10130906 | 0.00E+00    | SERPINA10 |
| rs10130954 | 89668569378 | SERPINA10 |
| rs10130996 | 0.00E+00    | SERPINA10 |
| rs10131174 | 89363964246 | SERPINA10 |
| rs10131610 | 0.00E+00    | SERPINA10 |
| rs10131646 | 0.00E+00    | SERPINA10 |
| rs10131729 | 0.00E+00    | SERPINA10 |
| rs10131754 | 0.00E+00    | SERPINA10 |
| rs10131818 | 0.00E+00    | SERPINA10 |
| rs10131882 | 0.00E+00    | SERPINA10 |
| rs10132066 | 2.28E-283   | SERPINA10 |
| rs10132071 | 0.00E+00    | SERPINA10 |
| rs10132074 | 0.00E+00    | SERPINA10 |
| rs10132232 | 0.00E+00    | SERPINA10 |
| rs10132253 | 0.00E+00    | SERPINA10 |
| rs10132388 | 0.00E+00    | SERPINA10 |
| rs10132393 | 0.00E+00    | SERPINA10 |
| rs10132395 | 0.00E+00    | SERPINA10 |
| rs10132534 | 0.00E+00    | SERPINA10 |
| rs10132668 | 0.00E+00    | SERPINA10 |
| rs10132928 | 0.00E+00    | SERPINA10 |
| rs10132931 | 0.00E+00    | SERPINA10 |
| rs10133253 | 0.00E+00    | SERPINA10 |
| rs10133592 | 0.00E+00    | SERPINA10 |
| rs10133607 | 0.00E+00    | SERPINA10 |
| rs10133685 | 0.00E+00    | SERPINA10 |
| rs10133701 | 0.00E+00    | SERPINA10 |
| rs1000012  | 1.20E-97    | OBP2B     |
| rs10115001 | 1.42E-97    | OBP2B     |
| rs10115625 | 4.59E-98    | OBP2B     |
| rs10116061 | 1.06E-97    | OBP2B     |
| rs10117024 | 2.89E-98    | OBP2B     |
| rs10117159 | 1.49E-92    | OBP2B     |
| rs10117255 | 2.49E-92    | OBP2B     |
| rs10117989 | 5.66E-98    | OBP2B     |
| rs10118950 | 1.78E-98    | OBP2B     |
| rs10119590 | 1.41E-77    | OBP2B     |
| rs10119905 | 1.77E-98    | OBP2B     |
| rs10120207 | 5.01E-98    | OBP2B     |
| rs10121171 | 5.65E-98    | OBP2B     |

|            |           |        |
|------------|-----------|--------|
| rs10121513 | 5.70E-98  | OBP2B  |
| rs10121728 | 4.00E-98  | OBP2B  |
| rs10121827 | 2.40E-97  | OBP2B  |
| rs10122534 | 7.08E-98  | OBP2B  |
| rs10123872 | 5.32E-98  | OBP2B  |
| rs10124364 | 4.12E-92  | OBP2B  |
| rs10125348 | 3.00E-98  | OBP2B  |
| rs10125492 | 3.16E-98  | OBP2B  |
| rs1018857  | 1.60E-97  | OBP2B  |
| rs1034579  | 5.20E-98  | OBP2B  |
| rs10435928 | 3.81E-98  | OBP2B  |
| rs10441806 | 4.46E-91  | OBP2B  |
| rs10491534 | 3.81E-97  | OBP2B  |
| rs10491535 | 7.77E-98  | OBP2B  |
| rs10491536 | 8.54E-98  | OBP2B  |
| rs10491903 | 8.97E-98  | OBP2B  |
| rs1050700  | 3.77E-98  | OBP2B  |
| rs1052517  | 2.33E-57  | OBP2B  |
| rs1053878  | 4.05E-96  | OBP2B  |
| rs1054379  | 5.49E-96  | OBP2B  |
| rs1055432  | 1.09E-97  | OBP2B  |
| rs1062218  | 1.51E-97  | OBP2B  |
| rs1062356  | 3.46E-98  | OBP2B  |
| rs106906   | 1.91E-97  | OBP2B  |
| rs1073123  | 8.16E-98  | OBP2B  |
| rs10736857 | 4.01E-98  | OBP2B  |
| rs10736859 | 1.05E-94  | OBP2B  |
| rs10736860 | 3.06E-48  | OBP2B  |
| rs1074052  | 1.73E-98  | OBP2B  |
| rs10751495 | 3.78E-98  | OBP2B  |
| rs10751500 | 1.00E-91  | OBP2B  |
| rs10751502 | 1.38E-96  | OBP2B  |
| rs10751505 | 6.20E-96  | OBP2B  |
| rs10761397 | 1.90E-98  | OBP2B  |
| rs10761412 | 6.00E-98  | OBP2B  |
| rs10761413 | 2.04E-98  | OBP2B  |
| rs1076150  | 1.78E-93  | OBP2B  |
| rs1001471  | 5.95E-111 | EFEMP1 |
| rs1013138  | 1.38E-110 | EFEMP1 |
| rs1016339  | 1.86E-110 | EFEMP1 |
| rs1016340  | 6.35E-111 | EFEMP1 |
| rs10165864 | 5.15E-111 | EFEMP1 |
| rs10166638 | 4.30E-111 | EFEMP1 |
| rs10166672 | 1.11E-110 | EFEMP1 |
| rs10167115 | 2.48E-109 | EFEMP1 |
| rs10167227 | 2.17E-79  | EFEMP1 |
| rs10168390 | 1.18E-110 | EFEMP1 |
| rs10169061 | 3.92E-110 | EFEMP1 |
| rs10169185 | 9.04E-111 | EFEMP1 |
| rs10170404 | 1.47E-106 | EFEMP1 |
| rs10170461 | 4.04E-110 | EFEMP1 |

|            |           |        |
|------------|-----------|--------|
| rs10171335 | 4.08E-107 | EFEMP1 |
| rs10171458 | 2.71E-110 | EFEMP1 |
| rs1017178  | 2.48E-110 | EFEMP1 |
| rs1017179  | 2.88E-110 | EFEMP1 |
| rs10171800 | 1.57E-107 | EFEMP1 |
| rs10172020 | 1.78E-110 | EFEMP1 |
| rs10172181 | 3.41E-105 | EFEMP1 |
| rs10172460 | 1.31E-110 | EFEMP1 |
| rs10172506 | 3.77E-105 | EFEMP1 |
| rs10172729 | 1.05E-109 | EFEMP1 |
| rs10172790 | 1.16E-109 | EFEMP1 |
| rs10173150 | 2.29E-105 | EFEMP1 |
| rs10173165 | 9.77E-106 | EFEMP1 |
| rs10173401 | 1.23E-108 | EFEMP1 |
| rs10173540 | 2.32E-110 | EFEMP1 |
| rs10173561 | 6.70E-111 | EFEMP1 |
| rs1017371  | 8.46E-104 | EFEMP1 |
| rs10174335 | 2.30E-67  | EFEMP1 |
| rs10175691 | 7.44E-111 | EFEMP1 |
| rs10176080 | 7.02E-110 | EFEMP1 |
| rs10176385 | 5.89E-110 | EFEMP1 |
| rs10176451 | 1.04E-110 | EFEMP1 |
| rs10176730 | 1.06E-105 | EFEMP1 |
| rs10177559 | 1.78E-109 | EFEMP1 |
| rs10177584 | 2.63E-109 | EFEMP1 |
| rs10178481 | 1.21E-105 | EFEMP1 |
| rs10178508 | 1.39E-108 | EFEMP1 |
| rs10178971 | 5.33E-111 | EFEMP1 |
| rs10179694 | 1.14E-107 | EFEMP1 |
| rs10179998 | 5.40E-111 | EFEMP1 |
| rs10180043 | 1.37E-104 | EFEMP1 |
| rs10180182 | 1.15E-109 | EFEMP1 |
| rs10180643 | 2.00E-110 | EFEMP1 |
| rs10181430 | 2.20E-110 | EFEMP1 |
| rs10181648 | 6.28E-111 | EFEMP1 |
| rs10182056 | 5.99E-109 | EFEMP1 |
| rs10047168 | 1.95E-193 | F5     |
| rs10081959 | 3.76E-186 | F5     |
| rs10081960 | 1.84E-182 | F5     |
| rs10082323 | 3.68E-195 | F5     |
| rs1011266  | 1.06E-190 | F5     |
| rs1011638  | 7.53E-191 | F5     |
| rs1014965  | 4.28E-195 | F5     |
| rs10157246 | 1.95E-195 | F5     |
| rs10157266 | 2.18E-195 | F5     |
| rs10157398 | 2.12E-195 | F5     |
| rs10157960 | 1.08E-193 | F5     |
| rs10158131 | 1.84E-191 | F5     |
| rs10158265 | 5.27E-193 | F5     |
| rs10158595 | 7.90E-183 | F5     |
| rs10158861 | 6.39E-193 | F5     |

|            |           |      |
|------------|-----------|------|
| rs10159425 | 1.14E-194 | F5   |
| rs1018827  | 1.41E-111 | F5   |
| rs1018828  | 3.40E-194 | F5   |
| rs1018831  | 5.22E-185 | F5   |
| rs1018832  | 2.07E-180 | F5   |
| rs1024340  | 5.35E-194 | F5   |
| rs1024341  | 5.54E-194 | F5   |
| rs1028180  | 5.32E-194 | F5   |
| rs1040500  | 5.90E-194 | F5   |
| rs1040501  | 5.92E-194 | F5   |
| rs1040502  | 7.01E-190 | F5   |
| rs1040503  | 1.03E-191 | F5   |
| rs1040504  | 5.04E-195 | F5   |
| rs1040505  | 5.12E-195 | F5   |
| rs10429893 | 9.13E-184 | F5   |
| rs10442644 | 2.60E-195 | F5   |
| rs10442649 | 2.33E-195 | F5   |
| rs10458388 | 2.21E-180 | F5   |
| rs10458394 | 2.53E-180 | F5   |
| rs10458395 | 3.80E-188 | F5   |
| rs10458396 | 3.81E-188 | F5   |
| rs10458397 | 3.82E-188 | F5   |
| rs1046058  | 3.32E-193 | F5   |
| rs10465575 | 3.52E-184 | F5   |
| rs10465576 | 7.92E-184 | F5   |
| rs10465577 | 1.96E-193 | F5   |
| rs10489170 | 4.48E-194 | F5   |
| rs10489172 | 5.82E-195 | F5   |
| rs10489173 | 3.13E-193 | F5   |
| rs10489174 | 3.34E-193 | F5   |
| rs10489175 | 4.29E-195 | F5   |
| rs10489176 | 3.54E-193 | F5   |
| rs10489177 | 5.28E-194 | F5   |
| rs10489179 | 8.58E-195 | F5   |
| rs10489180 | 8.66E-194 | F5   |
| rs10046696 | 1.43E-63  | MSR1 |
| rs10086239 | 3.36E-64  | MSR1 |
| rs10086281 | 3.94E-60  | MSR1 |
| rs10086744 | 9.33E-65  | MSR1 |
| rs10086945 | 4.91E-65  | MSR1 |
| rs10087035 | 5.31E-58  | MSR1 |
| rs10087431 | 1.99E-63  | MSR1 |
| rs10087975 | 2.05E-63  | MSR1 |
| rs10088332 | 3.19E-65  | MSR1 |
| rs10088456 | 3.16E-65  | MSR1 |
| rs10088599 | 7.94E-64  | MSR1 |
| rs10088735 | 8.09E-63  | MSR1 |
| rs10088792 | 3.65E-52  | MSR1 |
| rs10089369 | 6.21E-65  | MSR1 |
| rs10089419 | 3.83E-64  | MSR1 |
| rs10089515 | 1.35E-64  | MSR1 |

|            |          |      |
|------------|----------|------|
| rs10089993 | 5.05E-64 | MSR1 |
| rs10090330 | 7.23E-65 | MSR1 |
| rs10090333 | 1.60E-61 | MSR1 |
| rs10091296 | 2.81E-64 | MSR1 |
| rs10091356 | 9.78E-65 | MSR1 |
| rs10091618 | 4.33E-64 | MSR1 |
| rs10092182 | 6.79E-65 | MSR1 |
| rs1009307  | 8.16E-63 | MSR1 |
| rs10093075 | 3.01E-64 | MSR1 |
| rs1009308  | 1.19E-57 | MSR1 |
| rs10093626 | 3.82E-59 | MSR1 |
| rs10093681 | 4.34E-64 | MSR1 |
| rs10093893 | 1.60E-63 | MSR1 |
| rs10094036 | 1.99E-63 | MSR1 |
| rs10094335 | 3.13E-62 | MSR1 |
| rs10094611 | 1.01E-63 | MSR1 |
| rs10094727 | 3.79E-62 | MSR1 |
| rs10095023 | 4.07E-57 | MSR1 |
| rs10095510 | 5.54E-52 | MSR1 |
| rs10096072 | 1.66E-63 | MSR1 |
| rs10096600 | 2.94E-65 | MSR1 |
| rs10097138 | 8.43E-65 | MSR1 |
| rs10097239 | 1.80E-63 | MSR1 |
| rs10098072 | 8.15E-64 | MSR1 |
| rs10098364 | 6.43E-58 | MSR1 |
| rs10098429 | 2.20E-61 | MSR1 |
| rs10098551 | 1.59E-63 | MSR1 |
| rs10099016 | 1.13E-63 | MSR1 |
| rs10099038 | 1.63E-64 | MSR1 |
| rs10099042 | 6.23E-64 | MSR1 |
| rs10099315 | 2.91E-63 | MSR1 |
| rs10099575 | 2.71E-64 | MSR1 |
| rs10099815 | 2.81E-65 | MSR1 |
| rs10099900 | 2.83E-65 | MSR1 |



**Supplementary Table 6 Protein-protein interactions identified by the STRING Database.**

| node1 | node2    | node1_string_id      | node2_string_id      | phylogenetic_cooccurrence | homology | experimentally_determined_interaction | database_annotated | combined_score |
|-------|----------|----------------------|----------------------|---------------------------|----------|---------------------------------------|--------------------|----------------|
| F11   | PROC     | 9606.ENSP00000384957 | 9606.ENSP00000234071 | 0.351                     | 0.695    | 0.078                                 | 0.9                | 0.913          |
| F11   | KLKB1    | 9606.ENSP00000384957 | 9606.ENSP00000264690 | 0.436                     | 0.963    | 0                                     | 0.65               | 0.655          |
| F11   | KNG1     | 9606.ENSP00000384957 | 9606.ENSP00000265023 | 0                         | 0        | 0.473                                 | 0.65               | 0.807          |
| F11   | F2       | 9606.ENSP00000384957 | 9606.ENSP00000308541 | 0.282                     | 0.611    | 0.213                                 | 0.9                | 0.925          |
| F11   | SERPINE2 | 9606.ENSP00000384957 | 9606.ENSP00000415786 | 0                         | 0        | 0.12                                  | 0.9                | 0.908          |
| F2    | PROC     | 9606.ENSP00000308541 | 9606.ENSP00000234071 | 0.4                       | 0.741    | 0.835                                 | 0.9                | 0.984          |
| F2    | KNG1     | 9606.ENSP00000308541 | 9606.ENSP00000265023 | 0                         | 0        | 0.225                                 | 0.5                | 0.596          |
| F2    | SERPINE2 | 9606.ENSP00000308541 | 9606.ENSP00000415786 | 0                         | 0        | 0.696                                 | 0.6                | 0.873          |
| F2    | F5       | 9606.ENSP00000308541 | 9606.ENSP00000356771 | 0                         | 0        | 0.478                                 | 0.9                | 0.945          |
| F5    | PROC     | 9606.ENSP00000356771 | 9606.ENSP00000234071 | 0                         | 0        | 0.237                                 | 0.9                | 0.92           |
| F5    | SERPINE2 | 9606.ENSP00000356771 | 9606.ENSP00000415786 | 0                         | 0        | 0.113                                 | 0.9                | 0.907          |
| KLKB1 | KNG1     | 9606.ENSP00000264690 | 9606.ENSP00000265023 | 0                         | 0        | 0.877                                 | 0.9                | 0.987          |
| PROC  | SERPINA1 | 9606.ENSP00000234071 | 9606.ENSP00000416066 | 0                         | 0        | 0.12                                  | 0.8                | 0.816          |

Supplementary Table 7 Enrichment pathways among the 20 potential proteins from the PWAS of VTE.

| Enrichment pathways                      | ID                                       | Description                              | GeneRatio | BgRatio   | pvalue     | p.adjust   | qvalue     | geneID                             | Count |
|------------------------------------------|------------------------------------------|------------------------------------------|-----------|-----------|------------|------------|------------|------------------------------------|-------|
| KEGG_COMPLEMENT_AND_COAGULATION_CASCADES | KEGG_COMPLEMENT_AND_COAGULATION_CASCADES | KEGG_COMPLEMENT_AND_COAGULATION_CASCADES | 44754     | 69/5245   | 3.7588E-11 | 9.397E-10  | 8.7046E-10 | F2/F11/KLKB1/PROC/KNG1/SERPINA1/F5 | 7     |
| GOBP_NEGATIVE_REGULATION_OF_COAGULATION  | GOBP_NEGATIVE_REGULATION_OF_COAGULATION  | GOBP_NEGATIVE_REGULATION_OF_COAGULATION  | 44732     | 52/17872  | 1.6918E-11 | 2.4658E-09 | 1.5805E-09 | F2/F11/KLKB1/PROC/KNG1/SERPINE2    | 6     |
| GOBP_REGULATION_OF_COAGULATION           | GOBP_REGULATION_OF_COAGULATION           | GOBP_REGULATION_OF_COAGULATION           | 44732     | 71/17872  | 1.175E-10  | 1.3701E-08 | 8.7819E-09 | F2/F11/KLKB1/PROC/KNG1/SERPINE2    | 6     |
| GOBP_PLATELET_ACTIVATION                 | GOBP_PLATELET_ACTIVATION                 | GOBP_PLATELET_ACTIVATION                 | 44701     | 131/17872 | 2.7815E-07 | 1.4742E-05 | 9.449E-06  | F2/PLCG2/PLEK/GP6/SERPINE2         | 5     |
| GOBP_HUMORAL_IMMUNE_RESPONSE             | GOBP_HUMORAL_IMMUNE_RESPONSE             | GOBP_HUMORAL_IMMUNE_RESPONSE             | 44612     | 312/17872 | 0.04693881 | 0.12124703 | 0.07771544 | F2/RARRES2                         | 2     |

**Supplementary Table 8: Lowest p-values for association between SNPs within 1 Mb of each of the 20 causal proteins using summary statistics from the GWAS.**

| <b>Gene</b>      | <b>Lowest GWAS p</b> |
|------------------|----------------------|
| <i>F2</i>        | 1.83E-34             |
| <i>F11</i>       | 4.94E-37             |
| <i>ABO</i>       | 2.53E-100            |
| <i>PLCG2</i>     | 3.29E-09             |
| <i>LRP4</i>      | 1.83E-34             |
| <i>PLEK</i>      | 1.89E-08             |
| <i>KLKB1</i>     | 4.94E-37             |
| <i>PROC</i>      | 5.83E-07             |
| <i>KNG1</i>      | 1.63E-04             |
| <i>THBS2</i>     | 7.10E-06             |
| <i>SERPINA1</i>  | 1.03E-04             |
| <i>RARRES2</i>   | 2.89E-04             |
| <i>CEL</i>       | 2.53E-100            |
| <i>GP6</i>       | 5.20E-05             |
| <i>SERPINE2</i>  | 1.18E-04             |
| <i>SERPINA10</i> | 1.03E-04             |
| <i>OBP2B</i>     | 2.53E-100            |
| <i>EFEMP1</i>    | 1.98E-04             |
| <i>F5</i>        | 6.04E-194            |
| <i>MSR1</i>      | 4.05E-04             |