Twin Research and Human Genetics

**Supplementary Material**

**Epigenome-Wide DNA Methylation Analysis of Monozygotic Twins Discordant for Diurnal Preference**

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**Supplementary Figure1:** Validation of one of the top-ranked differentially methylated probes (cg10960055) using bisulfite pyrosequencing. The plots show data for cg10960055 across each discordant twin pair. Methylation levels estimated by pyrosequencing confirm eveningness-associated hypomethylation (p = .03). Two twin pairs were removed from analyses because of failed amplification.

|  |  |  |  |
| --- | --- | --- | --- |
| **Primer**  | **Sequence** | **PCR Conditions** |  |
| Forward Primer | AGATGGGGTGTGGAATTAGA | 98oC for 15 min |  |
| Reverse Primer | [btn]CTAAAACAATCTCAAATCTCCAACATATA | 98oC for 30 sec |  |
| Sequencing Primer  | AGTAGGATAATTTTAGAATTTGG | 56oC for 30 sec  | X 40 cycles |
|  |  | 72oC for 30 sec |  |

**Supplementary Table 1**

**Pyrosequencing Assay Details: Primers and Assay Conditions for the Verification of the Top Probe cg10960055.**

**Supplementary Table 2**

**The 100 Top-Ranked DMPs in MZ Twins Discordant for Diurnal Preference**

Ranked by a combination of both mean absolute difference in methylation level (β) and statistical significance. ^Probes with cross-reactivity potential as identified by Price et al., 2013 and Chen et al., 2013. DMPs = differentially methylated positions; MZ = monozygotic; hg19 = Human Genome version 19; GREAT = Genomic Regions Enrichment of Annotations Tool; TSS, transcription start site.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Rank** | **Probe ID** | **P-value** | **Empirical P-value** **(10,000 permutation)** | **Mean Δβ** | **Genomic Coordinate (hg19)**  | **Illumina Gene Annotation** | **Gene Annotation from GREAT** **(Distance from TSS)** | **Flagged Probes^** |
| 1 | cg07409153 | 4.27E-04 | 9.00E-04 | 0.062 | chr2:76839078 |  | *GCFC2 (-900968), LRRTM4 (+910423)* |  |
| 2 | cg23881566 | 7.29E-04 | 1.80E-03 | -0.063 | chr12:119457146 | *SRRM4* | *HSPB8 (-159448), SRRM4 (+37847)* |  |
| 3 | cg06142043 | 1.01E-03 | 1.50E-03 | 0.064 | chr6:8064743 | *MUTED* | *EEF1E1 (+38084), PIP5K1P1 (+78409)* |  |
| 4 | cg02391410 | 1.26E-04 | 1.00E-04 | 0.052 | chr16:59790082 | *LOC644649* | *NONE* |  |
| 5 | cg10960055 | 1.49E-03 | 1.00E-04 | -0.083 | chr6:28664226 |  | *SCAND3 (-109115), TRIM27 (+227541)* |  |
| 6 | cg17121197 | 1.38E-03 | 1.10E-03 | 0.06 | chr12:117353009 | *FBXW8* | *FBXW8 (+4249), TESC (+184241)* |  |
| 7 | cg18407858 | 1.75E-03 | 1.50E-03 | 0.065 | chrX:47074283 | *UBA1* | *CDK16 (-8133), UBA1 (+24085)* |  |
| 8 | cg08470863 | 1.86E-03 | 2.40E-03 | 0.064 | chr3:77524776 | *ROBO2* | *ROBO2 (+435483)* |  |
| 9 | cg24161397 | 1.89E-03 | 1.90E-03 | 0.064 | chr10:135038334 | *KNDC1* | *UTF1 (-5443), KNDC1 (+64364)* |  |
| 10 | cg07557707 | 1.16E-03 | 1.20E-03 | 0.054 | chr19:58549711 | *ZSCAN1* | *ZNF135 (-20895), ZSCAN1 (+4278)* |  |
| 11 | cg20708990 | 7.60E-04 | 1.20E-03 | 0.051 | chr8:114133190 | *CSMD3* | *CSMD3 (+316051)* |  |
| 12 | cg27499941 | 9.42E-04 | 6.00E-04 | -0.051 | chr16:1701910 | *CRAMP1L* | *HN1L (-26367), CRAMP1L (+37270)* |  |
| 13 | cg25412230 | 1.02E-03 | 1.00E-03 | 0.051 | chr6:145385313 |  | *EPM2A (+671677), UTRN (+772441)* |  |
| 14 | cg00347729 | 2.50E-03 | 1.80E-03 | 0.073 | chr11:102651753 | *MMP10* | *MMP10 (-395)* |  |
| 15 | cg22356726 | 1.66E-03 | 1.70E-03 | 0.054 | chr10:91597320 |  | *KIF20B (+135954)* |  |
| 16 | cg10122079 | 6.94E-04 | 4.00E-04 | -0.049 | chr1:38232225 | *EPHA10* | *EPHA10 (-1402)* |  |
| 17 | cg14833747 | 1.67E-03 | 2.00E-03 | 0.053 | chr1:111681818 | *CEPT1* | *CEPT1 (-430)* |  |
| 18 | cg02909789 | 2.87E-03 | 4.00E-03 | 0.073 | chr14:68386026 | *RAD51L1* | *RAD51B (+99531), ZFP36L1 (+876933)* |  |
| 19 | cg11590053 | 8.75E-04 | 3.00E-03 | 0.048 | chr6:41343459 |  | *FOXP4 (-170704), NCR2 (+39932)* | \* |
| 20 | cg12437115 | 2.54E-03 | 2.40E-03 | 0.056 | chr17:39024690 | *KRT12* | *KRT12 (-1229)* |  |
| 21 | cg21808407 | 1.63E-03 | 1.10E-03 | 0.05 | chrX:109557508 | *AMMECR1* | *AMMECR1 (+3871), TMEM164 (+311167)* |  |
| 22 | cg06748956 | 1.22E-03 | 1.60E-03 | 0.048 | chr1:3702204 | *LRRC47* | *LRRC47 (+10863), LOC388588 (+12853)* |  |
| 23 | cg13581779 | 1.31E-03 | 1.90E-03 | 0.048 | chr3:171561201 | *TMEM212* | *TMEM212 (+63)* |  |
| 24 | cg01593385 | 2.44E-03 | 5.40E-03 | 0.054 | chr4:155534149 | *FGG* | *FGG (-248)* |  |
| 25 | cg04811205 | 2.12E-03 | 3.00E-03 | 0.051 | chr2:55563533 | *CCDC88A* | *MTIF2 (-67150), CCDC88A (+83523)* |  |
| 26 | cg13598256 | 1.70E-03 | 1.20E-03 | -0.049 | chr5:140801286 | *PCDHGA4;PCDHGA9;PCDHGA1;PCDHGB1;PCDHGB6;PCDHGB3;PCDHGA11;PCDHGB7;PCDHGA6;PCDHGA8;PCDHGA10;PCDHGA5;PCDHGB4;PCDHGA3;PCDHGA2;PCDHGB2;PCDHGA7;PCDHGB5* | *TAF7 (-100936), PCDHGC5 (-67521)* |  |
| 27 | cg18258482 | 1.99E-03 | 9.00E-03 | 0.05 | chr6:117732471 | *ROS1* | *ROS1 (+14546), VGLL2 (+145751)* |  |
| 28 | cg11530213 | 1.09E-03 | 9.00E-04 | -0.047 | chr8:42037966 | *PLAT* | *PLAT (+27227), AP3M2 (+27503)* |  |
| 29 | cg14361132 | 2.33E-03 | 2.20E-03 | 0.051 | chr2:210288244 | *MAP2* | *MAP2 (-156158)* |  |
| 30 | cg21944138 | 2.36E-03 | 3.10E-03 | -0.051 | chr2:3448742 | *TTC15* | *TRAPPC12 (+65297), ADI1 (+74607)* |  |
| 31 | cg14170358 | 2.60E-03 | 2.70E-03 | -0.052 | chr2:88527345 |  | *THNSL2 (+54688), FOXI3 (+224707)* |  |
| 32 | cg19251857 | 3.24E-03 | 6.70E-03 | 0.056 | chr3:184038723 | *EIF4G1* | *FAM131A (-16552), EIF4G1 (+6441)* |  |
| 33 | cg06875836 | 3.17E-03 | 5.20E-03 | 0.054 | chr5:7888576 | *MTRR* | *MTRR (+19360)* |  |
| 34 | cg18898496 | 1.94E-03 | 1.60E-03 | 0.048 | chr5:20144814 |  | *CDH18 (-156462)* |  |
| 35 | cg16252995 | 2.99E-03 | 2.40E-03 | 0.052 | chr17:79991871 | *RAC3* | *RAC3 (+2340), DCXR (+3701)* |  |
| 36 | cg17851604 | 3.50E-03 | 1.30E-03 | 0.055 | chr2:202753217 | *CDK15* | *FZD7 (-146092), CDK15 (+82066)* |  |
| 37 | cg22736624 | 2.27E-03 | 1.80E-03 | 0.048 | chr1:209365350 |  | *PLXNA2 (-947686), CAMK1G (-391694)* |  |
| 38 | cg05490659 | 1.27E-03 | 7.00E-04 | -0.045 | chr7:27212357 | *HOXA10* | *HOXA9 (-7209), HOXA10 (+1597)* |  |
| 39 | cg04253077 | 2.31E-03 | 1.60E-03 | 0.048 | chr14:81035143 | *C14orf145* | *DIO2 (-357174), CEP128 (+370740)* |  |
| 40 | cg03274794 | 2.89E-03 | 3.60E-03 | 0.05 | chr9:117374075 | *C9orf91* | *C9orf91 (+370)* |  |
| 41 | cg21400851 | 3.71E-03 | 4.50E-03 | 0.054 | chr17:73056681 | *KCTD2* | *SLC16A5 (-27373), KCTD2 (+13403)* |  |
| 42 | cg21944740 | 2.83E-03 | 3.70E-03 | 0.049 | chr5:4644304 |  | *ADAMTS16 (-496138)* |  |
| 43 | cg00103778 | 2.66E-03 | 3.60E-03 | -0.049 | chr20:30196041 |  | *COX4I2 (-29649), ID1 (+2956)* |  |
| 44 | cg26897081 | 3.59E-03 | 4.60E-03 | 0.053 | chr19:54711114 | *RPS9* | *RPS9 (+6389), LILRB3 (+15844)* |  |
| 45 | cg09919392 | 1.81E-03 | 2.90E-03 | -0.046 | chr16:34809677 |  | *NONE* |  |
| 46 | cg06624143 | 2.29E-03 | 2.30E-03 | 0.047 | chr6:2864108 |  | *SERPINB1 (-22028), SERPINB9 (+39436)* |  |
| 47 | cg23774717 | 1.74E-03 | 1.00E-03 | 0.045 | chr10:26856095 | *APBB1IP* | *PDSS1 (-130499), APBB1IP (+128830)* |  |
| 48 | cg03761894 | 2.40E-03 | 3.70E-03 | -0.046 | chrX:71527796 | *CITED1* | *CITED1 (-2033)* |  |
| 49 | cg02921623 | 7.31E-04 | 1.50E-03 | -0.043 | chr10:105250537 |  | *NEURL (-3197)* |  |
| 50 | cg02434703 | 2.78E-03 | 4.50E-03 | 0.047 | chr20:58519170 | *C20orf177* | *PPP1R3D (-3819)* |  |
| 51 | cg05837244 | 6.01E-04 | 1.20E-03 | 0.043 | chrX:135179916 |  | *FHL1 (-49642), SLC9A6 (+112331)* |  |
| 52 | cg20131297 | 2.59E-03 | 3.40E-03 | 0.047 | chr7:155286660 |  | *RBM33 (-150542), EN2 (+35837)* |  |
| 53 | cg19506025 | 4.18E-03 | 6.00E-03 | 0.052 | chr7:2671548 | *TTYH3* | *TTYH3 (-54)* |  |
| 54 | cg06948111 | 4.06E-03 | 5.30E-03 | 0.052 | chr8:64093405 | *YTHDF3* | *YTHDF3 (+12285)* | \* |
| 55 | cg23113318 | 1.32E-03 | 2.20E-03 | 0.044 | chr1:51737867 | *RNF11* | *RNF11 (+35923), TTC39A (+72917)* |  |
| 56 | cg05574272 | 3.57E-03 | 4.00E-03 | -0.048 | chr5:33938213 | *RXFP3* | *RXFP3 (+1723), SLC45A2 (+46566)* |  |
| 57 | cg05840412 | 3.62E-03 | 4.30E-03 | -0.048 | chr13:49145436 |  | *CYSLTR2 (-135516), RCBTB2 (-38121)* |  |
| 58 | cg16632707 | 3.43E-03 | 2.80E-03 | -0.047 | chr10:26931969 | *LOC731789* | *PDSS1 (-54625), APBB1IP (+204704)* | \* |
| 59 | cg08300622 | 8.89E-04 | 1.40E-03 | 0.042 | chrX:18372963 | *SCML2* | *SCML2 (-120)* |  |
| 60 | cg18235662 | 3.01E-03 | 2.20E-03 | 0.046 | chr6:164975487 |  | *NONE* |  |
| 61 | cg00400654 | 1.20E-03 | 2.00E-03 | 0.043 | chr1:1604298 | *LOC728661* | *SLC35E2B (+19944), MMP23B (+36739)* | \* |
| 62 | cg24356544 | 6.23E-04 | 5.00E-04 | -0.042 | chr10:50970863 | *OGDHL* | *OGDHL (-439)* |  |
| 63 | cg09462763 | 2.24E-04 | 4.00E-04 | 0.041 | chr2:1237694 | *SNTG2* | *TPO (-179538), SNTG2 (+291141)* |  |
| 64 | cg06177254 | 1.29E-03 | 1.70E-03 | 0.043 | chr11:77303975 | *AQP11* | *AQP11 (+3296), CLNS1A (+44875)* |  |
| 65 | cg11791289 | 3.00E-04 | 7.00E-04 | 0.041 | chr10:1242192 | *ADARB2* | *IDI1 (-147132), ADARB2 (+537477)* |  |
| 66 | cg16024702 | 3.78E-04 | 1.10E-03 | 0.041 | chr20:62569366 |  | *UCKL1 (+18433), DNAJC5 (+42912)* |  |
| 67 | cg26612420 | 9.34E-04 | 2.00E-03 | 0.042 | chr16:74919680 | *WDR59* | *FA2H (-110952), WDR59 (+99336)* |  |
| 68 | cg14806518 | 6.29E-04 | 2.00E-04 | -0.042 | chr2:503692 |  | *FAM150B (-215385), TMEM18 (+173746)* |  |
| 69 | cg27261446 | 2.19E-03 | 3.00E-04 | 0.044 | chr16:72206863 | *PMFBP1* | *PMFBP1 (-800)* |  |
| 70 | cg16209364 | 3.59E-03 | 6.60E-03 | 0.047 | chr5:138632600 | *MATR3* | *PAIP2 (-44918), MATR3 (+3268)* |  |
| 71 | cg09113046 | 2.80E-04 | 8.00E-04 | -0.041 | chr6:37008627 |  | *PIM1 (-129294), FGD2 (+35205)* | \* |
| 72 | cg13406003 | 5.06E-03 | 7.20E-03 | -0.053 | chr6:127535477 |  | *RNF146 (-52349), RSPO3 (+95430)* |  |
| 73 | cg14148981 | 4.97E-03 | 1.04E-02 | 0.051 | chr14:52708188 |  | *NID2 (-172243), PTGDR (-26242)* |  |
| 74 | cg13690280 | 4.90E-03 | 6.30E-03 | -0.051 | chr9:112562314 | *PALM2;PALM2-AKAP2* | *PALM2-AKAP2 (+19738), TXN (+456605)* |  |
| 75 | cg17971961 | 2.66E-03 | 2.60E-03 | 0.044 | chr1:35937013 | *KIAA0319L* | *KIAA0319L (+86023), ZMYM4 (+202446)* |  |
| 76 | cg25220063 | 1.95E-03 | 1.30E-03 | -0.043 | chr1:247802774 |  | *OR13G1 (+33568), OR2G3 (+33887)* |  |
| 77 | cg00906838 | 2.01E-03 | 2.80E-03 | -0.043 | chr1:34315299 | *CSMD2* | *HMGB4 (-10776), ZSCAN20 (+377068)* | \* |
| 78 | cg24850178 | 3.74E-03 | 5.50E-03 | 0.046 | chrX:106362074 | *RBM41* | *RBM41 (-18)* |  |
| 79 | cg06645033 | 8.70E-04 | 2.10E-03 | -0.042 | chr1:50890678 |  | *DMRTA2 (-1560)* |  |
| 80 | cg20806296 | 6.47E-03 | 5.80E-03 | -0.079 | chr2:138582049 |  | *HNMT (-139758), THSD7B (+833588)* |  |
| 81 | cg22628512 | 6.14E-03 | 6.20E-03 | 0.06 | chr1:200348658 |  | *ZNF281 (+30507), FAM58BP (+166003)* |  |
| 82 | cg11862551 | 3.56E-03 | 6.00E-03 | -0.045 | chr6:29817963 |  | *HLA-A (-92283), HLA-G (+23208)* |  |
| 83 | cg16361249 | 2.05E-03 | 5.20E-03 | 0.043 | chr3:8041501 |  | *LMCD1 (-502009)* |  |
| 84 | cg19787556 | 4.11E-03 | 3.20E-03 | -0.047 | chr12:34514461 |  | *ALG10 (+339246)* | \* |
| 85 | cg07244927 | 4.18E-03 | 5.60E-03 | 0.047 | chr16:62067937 | *CDH8* | *CDH8 (+2801)* |  |
| 86 | cg19689876 | 3.68E-03 | 1.80E-03 | 0.045 | chr19:55477759 | *NLRP2* | *NLRP2 (+1108), GP6 (+71872)* | \* |
| 87 | cg13316720 | 4.40E-03 | 5.20E-03 | 0.047 | chr17:25840984 | *KSR1* | *LGALS9 (-117189), KSR1 (+41949)* |  |
| 88 | cg03786043 | 5.76E-03 | 5.00E-03 | -0.053 | chr12:34752829 |  | *ALG10 (+577614)* |  |
| 89 | cg16375820 | 5.57E-03 | 8.20E-03 | 0.051 | chr5:55289001 | *IL6ST* | *IL6ST (+1819), IL31RA (+141795)* |  |
| 90 | cg07359545 | 6.41E-03 | 9.20E-03 | -0.059 | chr22:19711327 | *GP1BB;SEPT5* | *TBX1 (-32898), GP1BB (+5336)* |  |
| 91 | cg11559192 | 6.79E-03 | 8.30E-03 | 0.072 | chr12:25357592 | *LYRM5* | *LYRM5 (+9443), KRAS (+46261)* |  |
| 92 | cg25590811 | 5.65E-03 | 5.80E-03 | 0.051 | chrX:54662686 |  | *GNL3L (+106043), ITIH6 (+161986)* |  |
| 93 | cg09488203 | 5.42E-03 | 7.70E-03 | -0.05 | chr10:95327884 | *GPR120* | *O3FAR1 (+1463), RBP4 (+33108)* |  |
| 94 | cg19287857 | 5.37E-03 | 3.90E-03 | 0.049 | chr15:39890699 |  | *THBS1 (+17420), GPR176 (+322393)* |  |
| 95 | cg00130181 | 3.21E-03 | 3.50E-03 | 0.044 | chr13:100517033 | *CLYBL* | *ZIC5 (+107144), CLYBL (+258115)* |  |
| 96 | cg00279392 | 1.78E-04 | 9.00E-04 | -0.04 | chr11:57298594 | *TIMM10* | *TIMM10 (-363)* | \* |
| 97 | cg26752701 | 6.19E-03 | 1.60E-03 | -0.054 | chr19:50529485 | *VRK3;ZNF473* | *VRK3 (-681), ZNF473 (+274)* |  |
| 98 | cg14375496 | 3.63E-03 | 5.90E-03 | 0.044 | chr17:440392 | *VPS53* | *RPH3AL (-237760), VPS53 (+177703)* |  |
| 99 | cg17228093 | 3.46E-03 | 7.00E-04 | 0.044 | chr9:37651075 | *FRMPD1* | *FRMPD1 (+24)* |  |
| 100 | cg01109256 | 2.98E-03 | 4.30E-03 | 0.043 | chr20:37100986 | *RALGAPB* | *RALGAPB (-499)* |   |

**Supplementary Table 3**

**The 500 Top-Ranked DMPs in MZ Twins Discordant for Diurnal Preference**

Ranked by a combination of both mean absolute difference in methylation level (β) and statistical significance. ^Probes with cross-reactivity potential as identified by Price et al., 2013 and Chen et al., 2013. DMPs = differentially methylated positions; MZ = monozygotic; GREAT = Genomic Regions Enrichment of Annotations Tool; TSS = transcription start site.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Rank** | **Probe ID** | **P-value** | **Empirical P-value** **(10,000 permutation)** | **Mean Δβ** | **Genomic Coordinate (hg19)**  | ***Illumina Gene Annotation*** | ***Gene Annotation from GREAT (Distance from TSS)*** | **Flagged Probes^** |
| 1 | cg07409153 | 4.27E-04 | 9.00E-04 | 0.062 | chr2:76839078 |  | *GCFC2 (-900968), LRRTM4 (+910423)* |  |
| 2 | cg23881566 | 7.29E-04 | 1.80E-03 | -0.063 | chr12:119457146 | *SRRM4* | *HSPB8 (-159448), SRRM4 (+37847)* |  |
| 3 | cg06142043 | 1.01E-03 | 1.50E-03 | 0.064 | chr6:8064743 | *MUTED* | *EEF1E1 (+38084), PIP5K1P1 (+78409)* |  |
| 4 | cg02391410 | 1.26E-04 | 1.00E-04 | 0.052 | chr16:59790082 | *LOC644649* | *NONE* |  |
| 5 | cg10960055 | 1.49E-03 | 1.00E-04 | -0.083 | chr6:28664226 |  | *SCAND3 (-109115), TRIM27 (+227541)* |  |
| 6 | cg17121197 | 1.38E-03 | 1.10E-03 | 0.06 | chr12:117353009 | *FBXW8* | *FBXW8 (+4249), TESC (+184241)* |  |
| 7 | cg18407858 | 1.75E-03 | 1.50E-03 | 0.065 | chrX:47074283 | *UBA1* | *CDK16 (-8133), UBA1 (+24085)* |  |
| 8 | cg08470863 | 1.86E-03 | 2.40E-03 | 0.064 | chr3:77524776 | *ROBO2* | *ROBO2 (+435483)* |  |
| 9 | cg24161397 | 1.89E-03 | 1.90E-03 | 0.064 | chr10:135038334 | *KNDC1* | *UTF1 (-5443), KNDC1 (+64364)* |  |
| 10 | cg07557707 | 1.16E-03 | 1.20E-03 | 0.054 | chr19:58549711 | *ZSCAN1* | *ZNF135 (-20895), ZSCAN1 (+4278)* |  |
| 11 | cg20708990 | 7.60E-04 | 1.20E-03 | 0.051 | chr8:114133190 | *CSMD3* | *CSMD3 (+316051)* |  |
| 12 | cg27499941 | 9.42E-04 | 6.00E-04 | -0.051 | chr16:1701910 | *CRAMP1L* | *HN1L (-26367), CRAMP1L (+37270)* |  |
| 13 | cg25412230 | 1.02E-03 | 1.00E-03 | 0.051 | chr6:145385313 |  | *EPM2A (+671677), UTRN (+772441)* |  |
| 14 | cg00347729 | 2.50E-03 | 1.80E-03 | 0.073 | chr11:102651753 | *MMP10* | *MMP10 (-395)* |  |
| 15 | cg22356726 | 1.66E-03 | 1.70E-03 | 0.054 | chr10:91597320 |  | *KIF20B (+135954)* |  |
| 16 | cg10122079 | 6.94E-04 | 4.00E-04 | -0.049 | chr1:38232225 | *EPHA10* | *EPHA10 (-1402)* |  |
| 17 | cg14833747 | 1.67E-03 | 2.00E-03 | 0.053 | chr1:111681818 | *CEPT1* | *CEPT1 (-430)* |  |
| 18 | cg02909789 | 2.87E-03 | 4.00E-03 | 0.073 | chr14:68386026 | *RAD51L1* | *RAD51B (+99531), ZFP36L1 (+876933)* |  |
| 19 | cg11590053 | 8.75E-04 | 3.00E-03 | 0.048 | chr6:41343459 |  | *FOXP4 (-170704), NCR2 (+39932)* | \* |
| 20 | cg12437115 | 2.54E-03 | 2.40E-03 | 0.056 | chr17:39024690 | *KRT12* | *KRT12 (-1229)* |  |
| 21 | cg21808407 | 1.63E-03 | 1.10E-03 | 0.05 | chrX:109557508 | *AMMECR1* | *AMMECR1 (+3871), TMEM164 (+311167)* |  |
| 22 | cg06748956 | 1.22E-03 | 1.60E-03 | 0.048 | chr1:3702204 | *LRRC47* | *LRRC47 (+10863), LOC388588 (+12853)* |  |
| 23 | cg13581779 | 1.31E-03 | 1.90E-03 | 0.048 | chr3:171561201 | *TMEM212* | *TMEM212 (+63)* |  |
| 24 | cg01593385 | 2.44E-03 | 5.40E-03 | 0.054 | chr4:155534149 | *FGG* | *FGG (-248)* |  |
| 25 | cg04811205 | 2.12E-03 | 3.00E-03 | 0.051 | chr2:55563533 | *CCDC88A* | *MTIF2 (-67150), CCDC88A (+83523)* |  |
| 26 | cg13598256 | 1.70E-03 | 1.20E-03 | -0.049 | chr5:140801286 | *PCDHGA4;PCDHGA9;PCDHGA1;PCDHGB1;PCDHGB6;PCDHGB3;PCDHGA11;PCDHGB7;PCDHGA6;PCDHGA8;PCDHGA10;PCDHGA5;PCDHGB4;PCDHGA3;PCDHGA2;PCDHGB2;PCDHGA7;PCDHGB5* | *TAF7 (-100936), PCDHGC5 (-67521)* |  |
| 27 | cg18258482 | 1.99E-03 | 9.00E-03 | 0.05 | chr6:117732471 | *ROS1* | *ROS1 (+14546), VGLL2 (+145751)* |  |
| 28 | cg11530213 | 1.09E-03 | 9.00E-04 | -0.047 | chr8:42037966 | *PLAT* | *PLAT (+27227), AP3M2 (+27503)* |  |
| 29 | cg14361132 | 2.33E-03 | 2.20E-03 | 0.051 | chr2:210288244 | *MAP2* | *MAP2 (-156158)* |  |
| 30 | cg21944138 | 2.36E-03 | 3.10E-03 | -0.051 | chr2:3448742 | *TTC15* | *TRAPPC12 (+65297), ADI1 (+74607)* |  |
| 31 | cg14170358 | 2.60E-03 | 2.70E-03 | -0.052 | chr2:88527345 |  | *THNSL2 (+54688), FOXI3 (+224707)* |  |
| 32 | cg19251857 | 3.24E-03 | 6.70E-03 | 0.056 | chr3:184038723 | *EIF4G1* | *FAM131A (-16552), EIF4G1 (+6441)* |  |
| 33 | cg06875836 | 3.17E-03 | 5.20E-03 | 0.054 | chr5:7888576 | *MTRR* | *MTRR (+19360)* |  |
| 34 | cg18898496 | 1.94E-03 | 1.60E-03 | 0.048 | chr5:20144814 |  | *CDH18 (-156462)* |  |
| 35 | cg16252995 | 2.99E-03 | 2.40E-03 | 0.052 | chr17:79991871 | *RAC3* | *RAC3 (+2340), DCXR (+3701)* |  |
| 36 | cg17851604 | 3.50E-03 | 1.30E-03 | 0.055 | chr2:202753217 | *CDK15* | *FZD7 (-146092), CDK15 (+82066)* |  |
| 37 | cg22736624 | 2.27E-03 | 1.80E-03 | 0.048 | chr1:209365350 |  | *PLXNA2 (-947686), CAMK1G (-391694)* |  |
| 38 | cg05490659 | 1.27E-03 | 7.00E-04 | -0.045 | chr7:27212357 | *HOXA10* | *HOXA9 (-7209), HOXA10 (+1597)* |  |
| 39 | cg04253077 | 2.31E-03 | 1.60E-03 | 0.048 | chr14:81035143 | *C14orf145* | *DIO2 (-357174), CEP128 (+370740)* |  |
| 40 | cg03274794 | 2.89E-03 | 3.60E-03 | 0.05 | chr9:117374075 | *C9orf91* | *C9orf91 (+370)* |  |
| 41 | cg21400851 | 3.71E-03 | 4.50E-03 | 0.054 | chr17:73056681 | *KCTD2* | *SLC16A5 (-27373), KCTD2 (+13403)* |  |
| 42 | cg21944740 | 2.83E-03 | 3.70E-03 | 0.049 | chr5:4644304 |  | *ADAMTS16 (-496138)* |  |
| 43 | cg00103778 | 2.66E-03 | 3.60E-03 | -0.049 | chr20:30196041 |  | *COX4I2 (-29649), ID1 (+2956)* |  |
| 44 | cg26897081 | 3.59E-03 | 4.60E-03 | 0.053 | chr19:54711114 | *RPS9* | *RPS9 (+6389), LILRB3 (+15844)* |  |
| 45 | cg09919392 | 1.81E-03 | 2.90E-03 | -0.046 | chr16:34809677 |  | *NONE* |  |
| 46 | cg06624143 | 2.29E-03 | 2.30E-03 | 0.047 | chr6:2864108 |  | *SERPINB1 (-22028), SERPINB9 (+39436)* |  |
| 47 | cg23774717 | 1.74E-03 | 1.00E-03 | 0.045 | chr10:26856095 | *APBB1IP* | *PDSS1 (-130499), APBB1IP (+128830)* |  |
| 48 | cg03761894 | 2.40E-03 | 3.70E-03 | -0.046 | chrX:71527796 | *CITED1* | *CITED1 (-2033)* |  |
| 49 | cg02921623 | 7.31E-04 | 1.50E-03 | -0.043 | chr10:105250537 |  | *NEURL (-3197)* |  |
| 50 | cg02434703 | 2.78E-03 | 4.50E-03 | 0.047 | chr20:58519170 | *C20orf177* | *PPP1R3D (-3819)* |  |
| 51 | cg05837244 | 6.01E-04 | 1.20E-03 | 0.043 | chrX:135179916 |  | *FHL1 (-49642), SLC9A6 (+112331)* |  |
| 52 | cg20131297 | 2.59E-03 | 3.40E-03 | 0.047 | chr7:155286660 |  | *RBM33 (-150542), EN2 (+35837)* |  |
| 53 | cg19506025 | 4.18E-03 | 6.00E-03 | 0.052 | chr7:2671548 | *TTYH3* | *TTYH3 (-54)* |  |
| 54 | cg06948111 | 4.06E-03 | 5.30E-03 | 0.052 | chr8:64093405 | *YTHDF3* | *YTHDF3 (+12285)* | \* |
| 55 | cg23113318 | 1.32E-03 | 2.20E-03 | 0.044 | chr1:51737867 | *RNF11* | *RNF11 (+35923), TTC39A (+72917)* |  |
| 56 | cg05574272 | 3.57E-03 | 4.00E-03 | -0.048 | chr5:33938213 | *RXFP3* | *RXFP3 (+1723), SLC45A2 (+46566)* |  |
| 57 | cg05840412 | 3.62E-03 | 4.30E-03 | -0.048 | chr13:49145436 |  | *CYSLTR2 (-135516), RCBTB2 (-38121)* |  |
| 58 | cg16632707 | 3.43E-03 | 2.80E-03 | -0.047 | chr10:26931969 | *LOC731789* | *PDSS1 (-54625), APBB1IP (+204704)* | \* |
| 59 | cg08300622 | 8.89E-04 | 1.40E-03 | 0.042 | chrX:18372963 | *SCML2* | *SCML2 (-120)* |  |
| 60 | cg18235662 | 3.01E-03 | 2.20E-03 | 0.046 | chr6:164975487 |  | *NONE* |  |
| 61 | cg00400654 | 1.20E-03 | 2.00E-03 | 0.043 | chr1:1604298 | *LOC728661* | *SLC35E2B (+19944), MMP23B (+36739)* | \* |
| 62 | cg24356544 | 6.23E-04 | 5.00E-04 | -0.042 | chr10:50970863 | *OGDHL* | *OGDHL (-439)* |  |
| 63 | cg09462763 | 2.24E-04 | 4.00E-04 | 0.041 | chr2:1237694 | *SNTG2* | *TPO (-179538), SNTG2 (+291141)* |  |
| 64 | cg06177254 | 1.29E-03 | 1.70E-03 | 0.043 | chr11:77303975 | *AQP11* | *AQP11 (+3296), CLNS1A (+44875)* |  |
| 65 | cg11791289 | 3.00E-04 | 7.00E-04 | 0.041 | chr10:1242192 | *ADARB2* | *IDI1 (-147132), ADARB2 (+537477)* |  |
| 66 | cg16024702 | 3.78E-04 | 1.10E-03 | 0.041 | chr20:62569366 |  | *UCKL1 (+18433), DNAJC5 (+42912)* |  |
| 67 | cg26612420 | 9.34E-04 | 2.00E-03 | 0.042 | chr16:74919680 | *WDR59* | *FA2H (-110952), WDR59 (+99336)* |  |
| 68 | cg14806518 | 6.29E-04 | 2.00E-04 | -0.042 | chr2:503692 |  | *FAM150B (-215385), TMEM18 (+173746)* |  |
| 69 | cg27261446 | 2.19E-03 | 3.00E-04 | 0.044 | chr16:72206863 | *PMFBP1* | *PMFBP1 (-800)* |  |
| 70 | cg16209364 | 3.59E-03 | 6.60E-03 | 0.047 | chr5:138632600 | *MATR3* | *PAIP2 (-44918), MATR3 (+3268)* |  |
| 71 | cg09113046 | 2.80E-04 | 8.00E-04 | -0.041 | chr6:37008627 |  | *PIM1 (-129294), FGD2 (+35205)* | \* |
| 72 | cg13406003 | 5.06E-03 | 7.20E-03 | -0.053 | chr6:127535477 |  | *RNF146 (-52349), RSPO3 (+95430)* |  |
| 73 | cg14148981 | 4.97E-03 | 1.04E-02 | 0.051 | chr14:52708188 |  | *NID2 (-172243), PTGDR (-26242)* |  |
| 74 | cg13690280 | 4.90E-03 | 6.30E-03 | -0.051 | chr9:112562314 | *PALM2;PALM2-AKAP2* | *PALM2-AKAP2 (+19738), TXN (+456605)* |  |
| 75 | cg17971961 | 2.66E-03 | 2.60E-03 | 0.044 | chr1:35937013 | *KIAA0319L* | *KIAA0319L (+86023), ZMYM4 (+202446)* |  |
| 76 | cg25220063 | 1.95E-03 | 1.30E-03 | -0.043 | chr1:247802774 |  | *OR13G1 (+33568), OR2G3 (+33887)* |  |
| 77 | cg00906838 | 2.01E-03 | 2.80E-03 | -0.043 | chr1:34315299 | *CSMD2* | *HMGB4 (-10776), ZSCAN20 (+377068)* | \* |
| 78 | cg24850178 | 3.74E-03 | 5.50E-03 | 0.046 | chrX:106362074 | *RBM41* | *RBM41 (-18)* |  |
| 79 | cg06645033 | 8.70E-04 | 2.10E-03 | -0.042 | chr1:50890678 |  | *DMRTA2 (-1560)* |  |
| 80 | cg20806296 | 6.47E-03 | 5.80E-03 | -0.079 | chr2:138582049 |  | *HNMT (-139758), THSD7B (+833588)* |  |
| 81 | cg22628512 | 6.14E-03 | 6.20E-03 | 0.06 | chr1:200348658 |  | *ZNF281 (+30507), FAM58BP (+166003)* |  |
| 82 | cg11862551 | 3.56E-03 | 6.00E-03 | -0.045 | chr6:29817963 |  | *HLA-A (-92283), HLA-G (+23208)* |  |
| 83 | cg16361249 | 2.05E-03 | 5.20E-03 | 0.043 | chr3:8041501 |  | *LMCD1 (-502009)* |  |
| 84 | cg19787556 | 4.11E-03 | 3.20E-03 | -0.047 | chr12:34514461 |  | *ALG10 (+339246)* | \* |
| 85 | cg07244927 | 4.18E-03 | 5.60E-03 | 0.047 | chr16:62067937 | *CDH8* | *CDH8 (+2801)* |  |
| 86 | cg19689876 | 3.68E-03 | 1.80E-03 | 0.045 | chr19:55477759 | *NLRP2* | *NLRP2 (+1108), GP6 (+71872)* | \* |
| 87 | cg13316720 | 4.40E-03 | 5.20E-03 | 0.047 | chr17:25840984 | *KSR1* | *LGALS9 (-117189), KSR1 (+41949)* |  |
| 88 | cg03786043 | 5.76E-03 | 5.00E-03 | -0.053 | chr12:34752829 |  | *ALG10 (+577614)* |  |
| 89 | cg16375820 | 5.57E-03 | 8.20E-03 | 0.051 | chr5:55289001 | *IL6ST* | *IL6ST (+1819), IL31RA (+141795)* |  |
| 90 | cg07359545 | 6.41E-03 | 9.20E-03 | -0.059 | chr22:19711327 | *GP1BB;SEPT5* | *TBX1 (-32898), GP1BB (+5336)* |  |
| 91 | cg11559192 | 6.79E-03 | 8.30E-03 | 0.072 | chr12:25357592 | *LYRM5* | *LYRM5 (+9443), KRAS (+46261)* |  |
| 92 | cg25590811 | 5.65E-03 | 5.80E-03 | 0.051 | chrX:54662686 |  | *GNL3L (+106043), ITIH6 (+161986)* |  |
| 93 | cg09488203 | 5.42E-03 | 7.70E-03 | -0.05 | chr10:95327884 | *GPR120* | *O3FAR1 (+1463), RBP4 (+33108)* |  |
| 94 | cg19287857 | 5.37E-03 | 3.90E-03 | 0.049 | chr15:39890699 |  | *THBS1 (+17420), GPR176 (+322393)* |  |
| 95 | cg00130181 | 3.21E-03 | 3.50E-03 | 0.044 | chr13:100517033 | *CLYBL* | *ZIC5 (+107144), CLYBL (+258115)* |  |
| 96 | cg00279392 | 1.78E-04 | 9.00E-04 | -0.04 | chr11:57298594 | *TIMM10* | *TIMM10 (-363)* | \* |
| 97 | cg26752701 | 6.19E-03 | 1.60E-03 | -0.054 | chr19:50529485 | *VRK3;ZNF473* | *VRK3 (-681), ZNF473 (+274)* |  |
| 98 | cg14375496 | 3.63E-03 | 5.90E-03 | 0.044 | chr17:440392 | *VPS53* | *RPH3AL (-237760), VPS53 (+177703)* |  |
| 99 | cg17228093 | 3.46E-03 | 7.00E-04 | 0.044 | chr9:37651075 | *FRMPD1* | *FRMPD1 (+24)* |  |
| 100 | cg01109256 | 2.98E-03 | 4.30E-03 | 0.043 | chr20:37100986 | *RALGAPB* | *RALGAPB (-499)* |  |
| 101 | cg07937091 | 4.57E-03 | 4.30E-03 | -0.046 | chr7:50078531 | *ZPBP* | *ZPBP (+54328), VWC2 (+265275)* | \* |
| 102 | cg24859602 | 5.34E-03 | 7.60E-03 | -0.048 | chr7:53393696 |  | *NONE* |  |
| 103 | cg01496199 | 3.85E-03 | 4.00E-03 | -0.044 | chr19:39755181 |  | *IL28A (-3975)* | \* |
| 104 | cg00515954 | 5.12E-03 | 1.17E-02 | 0.047 | chr12:99548504 | *ANKS1B* | *APAF1 (+509427), ANKS1B (+829927)* |  |
| 105 | cg19210763 | 5.69E-03 | 6.80E-03 | 0.049 | chr13:110679972 |  | *IRS2 (-241059), COL4A1 (+279523)* |  |
| 106 | cg00754036 | 5.06E-03 | 5.40E-03 | 0.047 | chr1:113569928 |  | *SLC16A1 (-70954), LRIG2 (-45902)* |  |
| 107 | cg18591489 | 1.33E-03 | 1.00E-04 | 0.041 | chr15:35475575 |  | *ZNF770 (-195079)* |  |
| 108 | cg26729913 | 5.20E-03 | 4.50E-03 | -0.047 | chr17:79135071 | *AATK* | *AATK (+4800), BAIAP2 (+126125)* |  |
| 109 | cg12295100 | 3.42E-03 | 4.50E-03 | -0.043 | chrX:101906886 | *GPRASP1* | *GPRASP1 (+593)* |  |
| 110 | cg10582608 | 7.71E-03 | 5.60E-03 | -0.08 | chr6:28664190 |  | *SCAND3 (-109079), TRIM27 (+227577)* |  |
| 111 | cg22901919 | 3.92E-03 | 3.50E-03 | -0.044 | chr4:141317067 | *CLGN* | *CLGN (+31747), SCOC (+52471)* |  |
| 112 | cg14692895 | 2.29E-03 | 3.10E-03 | 0.041 | chr11:32618579 | *EIF3M* | *PRRG4 (-232901), EIF3M (+13189)* |  |
| 113 | cg24576985 | 3.94E-03 | 9.10E-03 | 0.044 | chr2:111932156 |  | *BCL2L11 (+53666), ANAPC1 (+709584)* |  |
| 114 | cg13487476 | 7.12E-03 | 9.10E-03 | 0.056 | chr1:206593025 | *SRGAP2* | *IKBKE (-50560), SRGAP2 (+76826)* |  |
| 115 | cg11075029 | 4.71E-04 | 4.00E-04 | -0.039 | chr15:45492679 | *SHF* | *SHF (+693)* |  |
| 116 | cg05942558 | 2.40E-03 | 2.30E-03 | -0.041 | chr14:85689636 |  | *FLRT2 (-306851)* | \* |
| 117 | cg24416190 | 1.44E-03 | 1.80E-03 | 0.04 | chr4:186007379 |  | *SLC25A4 (-57037), HELT (+67297)* |  |
| 118 | cg08757448 | 5.33E-03 | 6.50E-03 | 0.046 | chr10:104613767 | *C10orf32* | *CYP17A1 (-16478), AS3MT (-15442)* |  |
| 119 | cg07008600 | 6.55E-04 | 2.10E-03 | 0.04 | chr3:33261204 | *SUSD5* | *SUSD5 (-498)* |  |
| 120 | cg06823060 | 6.76E-03 | 7.60E-03 | -0.052 | chr16:81616874 | *CMIP* | *PLCG2 (-196024), CMIP (+138100)* |  |
| 121 | cg07610777 | 4.92E-03 | 5.90E-03 | -0.045 | chr13:20805380 | *GJB6* | *GJB2 (-38267), GJB6 (+1153)* |  |
| 122 | cg03441770 | 8.60E-04 | 3.00E-04 | 0.04 | chr4:81128845 |  | *FGF5 (-58896), PRDM8 (+10189)* |  |
| 123 | cg18144692 | 6.58E-03 | 8.40E-03 | 0.051 | chr8:107095959 |  | *OXR1 (-364192), ZFPM2 (+764813)* |  |
| 124 | cg21728119 | 2.96E-04 | 1.50E-03 | 0.039 | chr13:24533184 |  | *SPATA13 (-201676), C1QTNF9B (-62040)* |  |
| 125 | cg00959635 | 4.89E-03 | 7.30E-03 | -0.045 | chr7:113724153 |  | *FOXP2 (-330898), PPP1R3A (-165072)* |  |
| 126 | cg27216076 | 1.54E-03 | 3.70E-03 | -0.04 | chr10:102779095 | *PDZD7* | *PDZD7 (+11818), LZTS2 (+22232)* |  |
| 127 | cg05036100 | 7.11E-03 | 1.11E-02 | 0.051 | chr7:116821592 | *ST7OT3* | *WNT2 (+141750), ST7 (+228212)* |  |
| 128 | cg23281307 | 5.83E-03 | 5.90E-03 | 0.046 | chr2:202142817 | *CASP8* | *CASP8 (+20064), ALS2CR12 (+79283)* |  |
| 129 | cg25964954 | 6.85E-03 | 6.70E-03 | 0.049 | chr18:12377388 | *AFG3L2* | *AFG3L2 (-114)* | \* |
| 130 | cg26429956 | 3.19E-03 | 3.80E-03 | 0.041 | chr5:140577279 |  | *PCDHB11 (-2068)* |  |
| 131 | cg25647784 | 7.54E-03 | 7.30E-03 | -0.052 | chr17:40934907 | *WNK4* | *WNK4 (+2259), CCDC56 (+15796)* |  |
| 132 | cg10430994 | 5.40E-03 | 3.60E-03 | -0.045 | chr16:72096449 | *HPR* | *HPR (-675)* |  |
| 133 | cg25661792 | 7.19E-03 | 4.10E-03 | 0.05 | chr3:194014530 |  | *CPN2 (+57526), HES1 (+160600)* |  |
| 134 | cg12561945 | 5.71E-03 | 1.09E-02 | 0.045 | chr8:64615707 |  | *BHLHE22 (-877087), YTHDF3 (+534587)* |  |
| 135 | cg16587952 | 5.17E-03 | 3.50E-03 | -0.044 | chr8:73163524 |  | *KCNB2 (-286101), TRPA1 (-175706)* |  |
| 136 | cg25396728 | 4.89E-03 | 5.80E-03 | 0.044 | chr12:248500 | *IQSEC3* | *IQSEC3 (+72452), SLC6A12 (+74870)* |  |
| 137 | cg01566342 | 5.95E-03 | 1.25E-02 | 0.046 | chr5:151774043 | *NMUR2* | *GLRA1 (-469647), NMUR2 (+10796)* |  |
| 138 | cg00570598 | 5.11E-03 | 6.70E-03 | 0.044 | chr11:59740504 |  | *TCN1 (-106464), PLAC1L (-67243)* |  |
| 139 | cg03961800 | 6.33E-03 | 1.40E-03 | 0.046 | chr1:145548835 | *ANKRD35* | *PIAS3 (-27152), ITGA10 (+23846)* |  |
| 140 | cg18635432 | 8.68E-03 | 8.80E-03 | 0.064 | chr14:57968096 |  | *NAA30 (+110826), SLC35F4 (+364495)* |  |
| 141 | cg13880545 | 2.50E-03 | 2.20E-03 | 0.04 | chr9:134755909 | *MED27* | *RAPGEF1 (-170681), MED27 (+199364)* |  |
| 142 | cg16209064 | 2.56E-03 | 3.60E-03 | 0.04 | chr4:187766591 |  | *FAT1 (-121605)* |  |
| 143 | cg20349571 | 7.23E-03 | 1.38E-02 | -0.049 | chr18:77507545 | *CTDP1* | *KCNG2 (-116122), CTDP1 (+67745)* |  |
| 144 | cg21644316 | 1.25E-03 | 1.30E-03 | 0.039 | chr3:113777680 | *QTRTD1* | *QTRTD1 (+2070), DRD3 (+120218)* |  |
| 145 | cg07405257 | 5.90E-03 | 5.50E-03 | 0.045 | chr13:37631087 | *FAM48A* | *FAM48A (+2762), EXOSC8 (+56410)* |  |
| 146 | cg25160605 | 5.88E-03 | 5.90E-03 | 0.045 | chr11:21087846 | *NELL1* | *NELL1 (+396730)* |  |
| 147 | cg10449489 | 1.52E-04 | 1.00E-04 | 0.038 | chr5:148046220 |  | *ADRB2 (-159935), HTR4 (-29597)* |  |
| 148 | cg18556777 | 5.90E-03 | 8.20E-03 | 0.045 | chr15:34781705 |  | *GOLGA8A (-99705), GOLGA8B (+46516)* | \* |
| 149 | cg08204783 | 9.68E-04 | 2.00E-03 | -0.039 | chr19:12624679 | *ZNF709* | *ZNF709 (-29048), ZNF490 (+96943)* |  |
| 150 | cg14040602 | 5.04E-03 | 7.60E-03 | 0.043 | chr2:157557294 |  | *GALNT5 (-557045), GPD2 (+264395)* |  |
| 151 | cg09991056 | 6.26E-04 | 1.20E-03 | -0.038 | chrX:107682966 | *COL4A5; COL4A6* | *COL4A6 (-1309), COL4A5 (-187)* |  |
| 152 | cg24315710 | 8.47E-03 | 1.08E-02 | 0.056 | chr3:130203349 | *COL29A1* | *COL6A6 (-75828), COL6A5 (+138991)* |  |
| 153 | cg04289624 | 4.74E-04 | 2.50E-03 | -0.038 | chr3:47620963 | *CSPG5* | *CSPG5 (-605)* |  |
| 154 | cg21684179 | 6.06E-03 | 9.60E-03 | 0.045 | chr1:110576933 | *FAM40A* | *FAM40A (-307)* |  |
| 155 | cg17445535 | 5.89E-03 | 8.30E-03 | 0.044 | chr12:113343413 | *OAS1* | *OAS1 (-1325)* |  |
| 156 | cg21490597 | 5.65E-03 | 3.50E-03 | 0.044 | chr4:114293738 | *ANK2* | *ANK2 (+322954), CAMK2D (+389344)* |  |
| 157 | cg17211761 | 7.95E-03 | 1.80E-03 | -0.05 | chr17:1096626 |  | *BHLHA9 (-77231), ABR (-13496)* |  |
| 158 | cg18577864 | 4.91E-03 | 4.30E-03 | 0.042 | chr7:107284416 |  | *SLC26A4 (-16663), BCAP29 (+63213)* |  |
| 159 | cg07040338 | 1.81E-03 | 6.00E-03 | -0.039 | chr7:2402133 | *EIF3B* | *CHST12 (-41061), EIF3B (+7660)* |  |
| 160 | cg05283542 | 3.97E-03 | 5.00E-03 | -0.041 | chr3:99357613 | *COL8A1; MIR548G* | *COL8A1 (+160)* |  |
| 161 | cg22101098 | 4.54E-03 | 2.50E-03 | 0.042 | chr6:25830789 | *SLC17A1* | *SLC17A1 (+1497), SLC17A4 (+75863)* |  |
| 162 | cg12673027 | 8.25E-04 | 4.00E-04 | 0.038 | chr6:30306334 | *TRIM39* | *HLA-E (-150848), TRIM39-RPP21 (+9247)* |  |
| 163 | cg14557699 | 8.12E-03 | 1.31E-02 | -0.05 | chr5:140254909 | *PCDHA12;PCDHA7;PCDHA6;PCDHA10;PCDHA4;PCDHA11;PCDHA8;PCDHA1;PCDHA2;PCDHA9;PCDHA5;PCDHA3* | *PCDHAC2 (-90837), ZMAT2 (+174878)* |  |
| 164 | cg07381669 | 7.58E-03 | 1.00E-02 | -0.048 | chr12:125369317 |  | *SCARB1 (-20799), UBC (+30269)* | \* |
| 165 | cg22130205 | 2.78E-04 | 2.00E-04 | -0.038 | chr18:77139296 |  | *NFATC1 (-21029), ATP9B (+309900)* |  |
| 166 | cg08775382 | 9.44E-03 | 1.31E-02 | 0.064 | chr8:143719313 |  | *ARC (-23481), JRK (+32087)* |  |
| 167 | cg15585147 | 3.35E-03 | 2.80E-03 | 0.04 | chr11:18324498 | *HPS5* | *HPS5 (+19222), SAA1 (+36691)* |  |
| 168 | cg20077718 | 1.24E-03 | 3.90E-03 | 0.038 | chr14:22103726 | *OR10G2* | *OR10G2 (-729)* |  |
| 169 | cg17095167 | 6.03E-03 | 8.80E-03 | 0.044 | chr13:21833918 |  | *SKA3 (-83178), ZDHHC20 (+199589)* | \* |
| 170 | cg05511148 | 7.78E-03 | 6.60E-03 | 0.048 | chr4:43277401 |  | *GRXCR1 (+382119)* |  |
| 171 | cg15768203 | 3.66E-03 | 4.10E-03 | 0.04 | chr2:170440722 | *PPIG* | *PPIG (-127)* |  |
| 172 | cg19145082 | 1.86E-03 | 2.20E-03 | 0.039 | chr3:142854187 |  | *CHST2 (+15570), SLC9A9 (+713185)* |  |
| 173 | cg07075118 | 6.57E-03 | 6.50E-03 | -0.045 | chr1:32053005 | *TINAGL1* | *HCRTR1 (-30295), TINAGL1 (+10920)* | \* |
| 174 | cg14587391 | 9.76E-03 | 1.33E-02 | 0.066 | chr15:82051190 |  | *TMC3 (-384773), MEX3B (+287170)* |  |
| 175 | cg22379576 | 8.94E-03 | 1.46E-02 | 0.054 | chr1:173790504 | *CENPL* | *DARS2 (-3292), CENPL (+2765)* |  |
| 176 | cg13665979 | 6.53E-03 | 7.70E-03 | 0.045 | chr19:44620053 | *ZNF225* | *ZNF234 (-25656), ZNF225 (+2506)* |  |
| 177 | cg14749590 | 8.33E-03 | 1.20E-02 | 0.049 | chr3:3147746 | *IL5RA* | *IL5RA (+4311)* |  |
| 178 | cg03900492 | 5.82E-03 | 1.02E-02 | 0.043 | chr7:157345659 | *PTPRN2* | *DNAJB6 (+215950)* |  |
| 179 | cg00794174 | 7.29E-03 | 1.00E-02 | 0.046 | chr12:131196417 |  | *RIMBP2 (-193956), STX2 (+127393)* |  |
| 180 | cg24902250 | 3.81E-03 | 3.60E-03 | 0.04 | chr11:112370538 |  | *NCAM1 (-461430), C11orf34 (-238956)* |  |
| 181 | cg23509641 | 1.03E-03 | 1.50E-03 | -0.038 | chr20:30583001 | *XKR7* | *HCK (-56989), XKR7 (+27197)* |  |
| 182 | cg21417204 | 4.14E-03 | 5.20E-03 | 0.04 | chr18:48609268 | *SMAD4* | *SMAD4 (+52686), MEX3C (+114782)* |  |
| 183 | cg20149840 | 3.58E-03 | 5.70E-03 | 0.04 | chr2:240135077 | *HDAC4* | *HDAC4 (+187565), TWIST2 (+378405)* |  |
| 184 | cg17782317 | 4.62E-03 | 4.90E-03 | 0.041 | chr6:16765484 |  | *ATXN1 (-3764)* |  |
| 185 | cg02018802 | 9.96E-03 | 5.00E-03 | 0.063 | chr2:220362948 | *GMPPA* | *GMPPA (-638)* |  |
| 186 | cg21429107 | 1.87E-03 | 2.00E-03 | -0.038 | chr8:144790317 | *LOC100130274* | *MAPK15 (-8189), ZNF707 (+23696)* |  |
| 187 | cg05020759 | 1.14E-03 | 3.30E-03 | 0.038 | chr8:16240240 |  | *MSR1 (-189941), FGF20 (+619433)* |  |
| 188 | cg21534940 | 8.84E-04 | 6.00E-04 | -0.038 | chr8:133406317 | *KCNQ3* | *HHLA1 (-288806), KCNQ3 (+86686)* |  |
| 189 | cg00116234 | 5.85E-03 | 9.80E-03 | -0.043 | chr9:18474243 | *ADAMTSL1* | *ADAMTSL1 (+165)* |  |
| 190 | cg06906196 | 1.21E-03 | 7.00E-04 | 0.038 | chr5:95985984 |  | *PCSK1 (-217000), CAST (-11922)* |  |
| 191 | cg04027940 | 6.32E-03 | 7.00E-03 | 0.043 | chrX:62975824 | *ARHGEF9* | *SPIN4 (-404607), ARHGEF9 (+29601)* |  |
| 192 | cg10899547 | 1.89E-03 | 2.90E-03 | -0.038 | chr5:179554111 | *RASGEF1C* | *RNF130 (-55003), RASGEF1C (+82018)* |  |
| 193 | cg11070419 | 6.38E-03 | 5.40E-03 | 0.043 | chr1:207277210 | *C4BPA* | *C4BPA (-396)* |  |
| 194 | cg11976616 | 2.79E-03 | 1.80E-03 | 0.039 | chr5:41213172 | *C6* | *C6 (+494)* |  |
| 195 | cg00493242 | 1.02E-02 | 9.90E-03 | 0.063 | chr4:20660098 |  | *PACRGL (-41937), SLIT2 (+404864)* |  |
| 196 | cg18653350 | 2.48E-03 | 2.20E-03 | -0.039 | chr13:24007836 | *SACS* | *SACS (+4)* |  |
| 197 | cg01564818 | 5.95E-03 | 5.30E-03 | -0.042 | chr3:9464436 | *SETD5* | *THUMPD3 (+59720), LHFPL4 (+131049)* |  |
| 198 | cg19399885 | 5.77E-03 | 1.60E-03 | 0.042 | chr2:110373776 | *ANKRD57* | *SEPT10 (-1994)* |  |
| 199 | cg13310292 | 5.16E-03 | 8.70E-03 | 0.041 | chr8:24062331 |  | *STC1 (-350012), ADAM28 (-89248)* |  |
| 200 | cg08633479 | 1.04E-02 | 2.20E-02 | 0.063 | chr19:57630524 | *USP29* | *USP29 (-984)* |  |
| 201 | cg16411668 | 2.67E-03 | 4.10E-03 | -0.039 | chr4:123704747 |  | *FGF2 (-43115), BBS12 (+50891)* |  |
| 202 | cg12194929 | 4.40E-04 | 4.00E-04 | -0.037 | chr8:63776755 | *NKAIN3* | *GGH (+174854), NKAIN3 (+615255)* | \* |
| 203 | cg13464995 | 1.05E-02 | 8.90E-03 | 0.065 | chr6:168454079 |  | *FRMD1 (+25759), KIF25 (+35527)* |  |
| 204 | cg06974388 | 2.45E-03 | 9.00E-04 | 0.038 | chr1:161065862 |  | *NIT1 (-21999), PVRL4 (-6478)* |  |
| 205 | cg21775245 | 9.62E-03 | 1.01E-02 | 0.052 | chr3:129407548 | *TMCC1* | *PLXND1 (-81967), TMCC1 (+191853)* |  |
| 206 | cg26545968 | 1.28E-04 | 1.00E-04 | 0.037 | chrX:69480213 | *P2RY4* | *P2RY4 (-560)* |  |
| 207 | cg08425203 | 7.65E-04 | 2.00E-04 | -0.037 | chr3:128764940 |  | *GP9 (-14704), ACAD9 (+166608)* |  |
| 208 | cg15122327 | 9.55E-03 | 1.44E-02 | 0.051 | chr20:57435146 | *GNAS* | *TH1L (-121164), GNAS (+7111)* |  |
| 209 | cg05453071 | 9.16E-03 | 8.50E-03 | 0.049 | chr4:120472195 | *PDE5A* | *FABP2 (-228880), AX746903 (-76749)* |  |
| 210 | cg19237879 | 1.83E-03 | 1.20E-03 | -0.038 | chr11:9113458 | *SCUBE2* | *SCUBE2 (-309)* |  |
| 211 | cg09574499 | 9.30E-03 | 6.20E-03 | 0.049 | chr7:27168962 | *HOXA4* | *HOXA3 (-9749), HOXA4 (+1436)* |  |
| 212 | cg10665321 | 9.03E-03 | 1.90E-02 | -0.048 | chr19:19221392 | *SLC25A42* | *TMEM161A (+27874), SLC25A42 (+46590)* |  |
| 213 | cg11810961 | 2.64E-03 | 2.60E-03 | -0.038 | chr3:113252149 | *SIDT1* | *SIDT1 (+932)* |  |
| 214 | cg19658776 | 5.41E-03 | 5.10E-03 | 0.041 | chr10:30918548 | *LYZL2* | *LYZL2 (+98)* |  |
| 215 | cg07979034 | 6.52E-03 | 1.28E-02 | -0.042 | chr15:65648490 | *IGDCC3* | *PARP16 (-69473), IGDCC3 (+21887)* |  |
| 216 | cg11696466 | 5.47E-03 | 7.40E-03 | 0.041 | chrX:119510970 | *ATP1B4* | *ATP1B4 (+15031), LAMP2 (+92233)* |  |
| 217 | cg26300597 | 5.65E-03 | 6.30E-03 | 0.041 | chr3:128840676 | *RAB43* | *RAB43 (-30)* |  |
| 218 | cg25575532 | 7.28E-04 | 1.00E-04 | 0.037 | chr4:42270717 |  | *SHISA3 (-129138), SLC30A9 (+278195)* |  |
| 219 | cg18423626 | 6.62E-03 | 7.10E-03 | 0.042 | chr13:47994694 |  | *HTR2A (-523526), SUCLA2 (+580767)* |  |
| 220 | cg01678472 | 1.39E-03 | 1.60E-03 | 0.037 | chr17:73056797 | *KCTD2* | *SLC16A5 (-27257), KCTD2 (+13519)* |  |
| 221 | cg01431873 | 7.44E-03 | 9.20E-03 | 0.043 | chr16:85543657 |  | *KIAA0182 (-103266), KIAA0513 (+482248)* |  |
| 222 | cg14723921 | 9.33E-03 | 7.70E-03 | -0.048 | chr6:5969260 |  | *NRN1 (+38372), FARS2 (+707677)* |  |
| 223 | cg00882611 | 6.70E-03 | 9.00E-03 | 0.042 | chr14:21689119 | *HNRNPC* | *OR5AU1 (-64936), HNRNPC (+48518)* |  |
| 224 | cg20229788 | 1.02E-02 | 9.00E-03 | 0.051 | chr2:27718498 | *FNDC4;GCKR* | *GCKR (-1207), FNDC4 (-373)* |  |
| 225 | cg10286900 | 3.18E-03 | 5.80E-03 | 0.038 | chr13:44540557 |  | *SERP2 (-407420), ENOX1 (-336945)* |  |
| 226 | cg04962528 | 1.12E-02 | 1.35E-02 | -0.063 | chr14:21098715 |  | *RNASE12 (-39734), OR6S1 (+11134)* |  |
| 227 | cg09848114 | 7.62E-03 | 2.41E-02 | 0.043 | chr6:30130698 | *TRIM15* | *TRIM10 (-1988)* |  |
| 228 | cg27085107 | 2.22E-03 | 4.20E-03 | 0.038 | chr5:121184596 |  | *FTMT (-3053)* |  |
| 229 | cg17206150 | 9.49E-04 | 1.30E-03 | 0.037 | chr4:1050934 |  | *FGFRL1 (+45175), RNF212 (+56417)* |  |
| 230 | cg08454344 | 1.16E-02 | 1.92E-02 | 0.069 | chr1:216770605 | *ESRRG* | *USH2A (-173868), ESRRG (+126208)* |  |
| 231 | cg26668075 | 2.35E-03 | 3.30E-03 | -0.038 | chrX:50648473 | *LOC347376* | *SHROOM4 (-91430), BMP15 (-5261)* | \* |
| 232 | cg13471009 | 1.03E-02 | 1.13E-02 | 0.05 | chr6:564609 | *EXOC2* | *EXOC2 (+128499), IRF4 (+172871)* |  |
| 233 | cg17985533 | 7.72E-03 | 5.30E-03 | 0.043 | chr11:2019116 | *H19;MIR675* | *MRPL23 (+50615), IGF2 (+143224)* |  |
| 234 | cg19604896 | 1.08E-02 | 1.15E-02 | 0.053 | chr3:2629864 | *CNTN4* | *CNTN4 (+489315), IL5RA (+522193)* |  |
| 235 | cg24083378 | 1.04E-02 | 8.70E-03 | 0.05 | chr2:169079247 | *STK39* | *STK39 (+24857), B3GALT1 (+404066)* |  |
| 236 | cg19548119 | 3.05E-03 | 5.50E-03 | -0.038 | chr14:19959522 |  | *OR11H2 (+222968), OR11H12 (+581929)* | \* |
| 237 | cg08856601 | 9.69E-03 | 1.17E-02 | -0.047 | chr1:65730351 | *DNAJC6* | *DNAJC6 (-78)* |  |
| 238 | cg13692517 | 7.19E-03 | 6.40E-03 | 0.042 | chr3:61558087 | *PTPRG* | *PTPRG (+10845), FEZF2 (+801102)* |  |
| 239 | cg08573003 | 1.20E-02 | 2.09E-02 | 0.095 | chr7:154888477 |  | *INSIG1 (-201008), HTR5A (+25932)* |  |
| 240 | cg15378486 | 5.45E-05 | 1.00E-04 | -0.036 | chr17:79491582 |  | *FSCN2 (-3834)* |  |
| 241 | cg22166739 | 4.97E-04 | 8.00E-04 | -0.036 | chr11:73694868 | *UCP2* | *UCP2 (-980)* |  |
| 242 | cg00067414 | 7.12E-03 | 1.30E-02 | -0.042 | chr6:151188081 | *MTHFD1L* | *AKAP12 (-373052), MTHFD1L (+1267)* |  |
| 243 | cg25141441 | 4.88E-03 | 4.80E-03 | 0.039 | chr15:60830876 | *RORA* | *NARG2 (-59533), RORA (+88852)* |  |
| 244 | cg13637151 | 9.17E-04 | 5.00E-04 | 0.036 | chr9:134375468 | *BAT2L1* | *POMT1 (-2820)* |  |
| 245 | cg19948549 | 3.03E-03 | 4.70E-03 | 0.038 | chr4:4420530 | *D4S234E* | *D4S234E (+32947), STX18 (+123244)* |  |
| 246 | cg09228536 | 3.42E-03 | 3.30E-03 | 0.038 | chr7:16708976 | *BZW2* | *TSPAN13 (-84374), BZW2 (+23218)* | \* |
| 247 | cg20226327 | 8.35E-03 | 9.20E-03 | -0.043 | chr19:10602960 | *KEAP1* | *KEAP1 (+11093), PDE4A (+71628)* |  |
| 248 | cg00584602 | 4.16E-03 | 7.10E-03 | 0.038 | chr1:109581807 | *WDR47* | *CLCC1 (-75697), TAF13 (+36816)* |  |
| 249 | cg01775245 | 2.73E-04 | 6.00E-04 | 0.036 | chr8:6452110 | *MCPH1* | *AGPAT5 (-113767), ANGPT2 (-31327)* |  |
| 250 | cg12552771 | 1.67E-03 | 3.10E-03 | -0.037 | chr22:29709320 | *RASL10A* | *RASL10A (+2427), GAS2L1 (+6324)* |  |
| 251 | cg08854572 | 9.08E-03 | 1.03E-02 | 0.045 | chr8:117947783 |  | *C8orf85 (-2680)* |  |
| 252 | cg12419932 | 5.94E-03 | 4.30E-03 | -0.04 | chr18:46069846 | *KIAA0427* | *CTIF (+4420), SMAD7 (+407234)* |  |
| 253 | cg03001143 | 1.31E-03 | 1.90E-03 | 0.036 | chr1:170114946 | *METTL11B* | *METTL11B (-241)* |  |
| 254 | cg24216893 | 5.60E-06 | 1.00E-04 | 0.036 | chr2:1426674 | *TPO* | *TPO (+9442), PXDN (+321616)* |  |
| 255 | cg03832293 | 7.23E-03 | 1.11E-02 | 0.041 | chr16:84780698 | *USP10* | *CRISPLD2 (-72888), USP10 (+47144)* |  |
| 256 | cg07574683 | 5.06E-03 | 4.80E-03 | 0.039 | chr11:134585270 |  | *B3GAT1 (-303459)* |  |
| 257 | cg13388253 | 8.62E-03 | 8.50E-03 | 0.043 | chr19:51505507 | *KLK8* | *KLK8 (-543)* |  |
| 258 | cg22650458 | 4.59E-04 | 1.00E-04 | -0.036 | chr7:30188720 | *C7orf41* | *ZNRF2 (-135202), PLEKHA8 (+120744)* |  |
| 259 | cg00603487 | 1.22E-02 | 1.56E-02 | 0.06 | chr16:15187152 | *RRN3* | *NTAN1 (-37320), RRN3 (+1005)* | \* |
| 260 | cg16909341 | 6.58E-03 | 2.30E-03 | 0.041 | chr9:130157113 |  | *SLC2A8 (-2351)* |  |
| 261 | cg21777188 | 6.85E-03 | 2.70E-03 | 0.041 | chr5:140536238 | *PCDHB17* | *PCDHB17 (+659)* |  |
| 262 | cg00305071 | 4.34E-03 | 5.00E-03 | -0.038 | chr1:34504017 | *CSMD2* | *CSMD2 (+126857), HMGB4 (+177942)* |  |
| 263 | cg18812579 | 8.31E-03 | 8.00E-03 | 0.043 | chr11:85906252 |  | *PICALM (-126114), EED (-49553)* | \* |
| 264 | cg22809491 | 1.08E-03 | 9.00E-04 | -0.036 | chr6:166263628 |  | *PDE10A (-188041), T (+318502)* |  |
| 265 | cg14165186 | 3.82E-03 | 5.80E-03 | 0.038 | chr15:86220255 | *AKAP13* | *KLHL25 (+117933), AKAP13 (+296385)* |  |
| 266 | cg10875809 | 2.90E-03 | 5.70E-03 | 0.037 | chr12:7037365 | *ATN1* | *PTPN6 (-18374), ATN1 (+3740)* |  |
| 267 | cg00804237 | 4.45E-03 | 5.20E-03 | 0.038 | chr7:5337292 | *SLC29A4* | *SLC29A4 (+14732), TNRC18 (+125884)* | \* |
| 268 | cg08857351 | 3.71E-03 | 5.10E-03 | -0.038 | chr12:117627450 | *FBXO21* | *FBXO21 (+849)* |  |
| 269 | cg23198559 | 5.11E-03 | 5.30E-03 | 0.039 | chr4:106816209 | *NPNT* | *NPNT (-387)* |  |
| 270 | cg22197934 | 1.10E-02 | 1.11E-02 | 0.049 | chr18:14499446 | *CXADRP3* | *ZNF519 (-366958), ANKRD30B (-248792)* |  |
| 271 | cg23672811 | 9.20E-04 | 1.20E-03 | 0.036 | chr1:87810453 | *LMO4* | *LMO4 (+16303)* |  |
| 272 | cg11458217 | 3.43E-03 | 4.70E-03 | -0.037 | chrX:134125022 | *LOC644538* | *MOSPD1 (-75726), FAM127A (-41310)* |  |
| 273 | cg09634031 | 1.09E-02 | 1.36E-02 | -0.048 | chr11:132948639 | *OPCML* | *OPCML (-135603), SPATA19 (+766752)* |  |
| 274 | cg20461188 | 5.02E-03 | 3.00E-04 | 0.039 | chr10:102322354 |  | *PAX2 (-183113), HIF1AN (+26714)* |  |
| 275 | cg06918955 | 9.23E-03 | 1.94E-02 | 0.044 | chrX:119760024 | *C1GALT1C1* | *C1GALT1C1 (+3980), MCTS1 (+22281)* |  |
| 276 | cg10187559 | 8.35E-03 | 2.20E-02 | 0.042 | chr19:54926277 | *TTYH1* | *TTYH1 (-327)* |  |
| 277 | cg18183247 | 5.09E-03 | 5.30E-03 | 0.039 | chr5:140368417 | *PCDHA7;PCDHA12;PCDHA6;PCDHA10;PCDHA4;PCDHA11;PCDHA2;PCDHA8;PCDHA1;PCDHA9;PCDHA13;PCDHA5;PCDHAC1;PCDHA3* | *PCDHB1 (-62561), PCDHAC2 (+22671)* |  |
| 278 | cg18907770 | 8.38E-03 | 1.07E-02 | 0.042 | chr13:29252261 | *POMP* | *POMP (+19121), SLC46A3 (+40888)* |  |
| 279 | cg23344692 | 9.07E-03 | 9.10E-03 | 0.043 | chr14:102775248 |  | *MOK (-3718)* |  |
| 280 | cg14334584 | 4.64E-04 | 5.00E-04 | 0.036 | chr9:6252007 | *IL33* | *UHRF2 (-161143), IL33 (+36222)* | \* |
| 281 | cg27133230 | 4.65E-03 | 6.60E-03 | -0.038 | chr20:43941404 | *RBPJL* | *MATN4 (-4438)* | \* |
| 282 | cg01400737 | 1.12E-02 | 8.90E-03 | 0.048 | chr5:92179430 |  | *NR2F1 (-739612)* |  |
| 283 | cg00665827 | 3.91E-03 | 3.20E-03 | 0.038 | chr1:7293835 | *CAMTA1* | *VAMP3 (-537493), CAMTA1 (+448452)* |  |
| 284 | cg26714306 | 1.26E-02 | 1.51E-02 | 0.057 | chr10:103543078 | *NPM3* | *NPM3 (+91)* |  |
| 285 | cg07329149 | 9.24E-03 | 8.40E-03 | 0.043 | chr2:201936323 | *NDUFB3;FAM126B* | *NDUFB3 (-138), FAM126B (+68)* |  |
| 286 | cg05995866 | 4.36E-03 | 6.30E-03 | -0.038 | chr5:170764116 |  | *NPM1 (-50591), TLX3 (+27829)* |  |
| 287 | cg10044470 | 1.77E-03 | 2.40E-03 | -0.036 | chr14:104866284 |  | *C14orf180 (-179771), KIF26A (+261225)* |  |
| 288 | cg25496213 | 7.38E-03 | 4.80E-03 | -0.04 | chrX:101854377 | *ARMCX5* | *ARMCX5 (-48), ARMCX5-GPRASP2 (+102)* |  |
| 289 | cg00123057 | 2.45E-03 | 3.10E-03 | -0.036 | chr7:140153199 | *MKRN1* | *MKRN1 (+26169), RAB19 (+49357)* | \* |
| 290 | cg19123107 | 2.26E-03 | 2.10E-03 | -0.036 | chr9:136324577 | *C9orf7* | *C9orf7 (-509)* |  |
| 291 | cg21997746 | 5.99E-03 | 6.50E-03 | 0.039 | chr6:22718216 |  | *PRL (-415135)* |  |
| 292 | cg23999337 | 6.28E-03 | 5.30E-03 | -0.039 | chr8:9045328 |  | *TNKS (-368116), PPP1R3B (-37109)* | \* |
| 293 | cg17644776 | 2.73E-03 | 2.20E-03 | -0.037 | chr2:200775616 | *C2orf69* | *C2orf69 (-362)* |  |
| 294 | cg14219681 | 1.12E-02 | 1.17E-02 | 0.047 | chr14:49973765 |  | *RPS29 (+79328)* |  |
| 295 | cg27168638 | 7.03E-03 | 4.90E-03 | 0.04 | chr10:116622684 | *FAM160B1* | *ABLIM1 (-204627), TRUB1 (-75267)* |  |
| 296 | cg24804144 | 1.26E-02 | 1.90E-02 | -0.052 | chr15:101203595 |  | *ALDH1A3 (-216413), ASB7 (+60841)* |  |
| 297 | cg23795082 | 6.20E-03 | 1.10E-02 | 0.039 | chr4:843318 | *GAK* | *CPLX1 (-23374), GAK (+82855)* |  |
| 298 | cg13797205 | 1.23E-02 | 9.50E-03 | 0.05 | chr3:187391796 |  | *SST (-3596)* |  |
| 299 | cg13924326 | 3.99E-04 | 1.00E-04 | -0.035 | chr9:138670828 | *KCNT1* | *KCNT1 (+76798), CAMSAP1 (+128176)* |  |
| 300 | cg23866412 | 1.10E-03 | 3.00E-03 | -0.036 | chr19:18337365 | *PDE4C* | *RAB3A (-22492), PDE4C (+21644)* |  |
| 301 | cg09732637 | 1.04E-04 | 1.00E-04 | 0.035 | chr7:65576324 |  | *CRCP (-3480)* | \* |
| 302 | cg24001985 | 6.25E-03 | 8.40E-03 | 0.039 | chr15:61434991 | *RORA* | *RORA (-515263), VPS13C (+917672)* | \* |
| 303 | cg12682805 | 7.42E-04 | 8.00E-04 | 0.035 | chr11:57828341 | *OR9Q1* | *OR6Q1 (+29917), OR9I1 (+48791)* |  |
| 304 | cg14623917 | 3.25E-05 | 1.00E-04 | -0.035 | chr6:132271548 | *CTGF* | *CTGF (+969)* |  |
| 305 | cg20295248 | 8.53E-03 | 7.30E-03 | -0.041 | chr20:5485270 | *LOC149837* | *PROKR2 (-190248), GPCPD1 (+106401)* |  |
| 306 | cg16752400 | 9.30E-03 | 1.05E-02 | 0.042 | chr8:66131741 |  | *CYP7B1 (-420394), ARMC1 (+414710)* |  |
| 307 | cg14259326 | 3.12E-03 | 1.10E-03 | 0.037 | chr10:89517565 | *ATAD1* | *ATAD1 (+60351), PAPSS2 (+98090)* |  |
| 308 | cg06809439 | 1.39E-02 | 8.40E-03 | 0.081 | chr17:21416949 |  | *MTRNR2L1 (-605487), KCNJ18 (+108502)* |  |
| 309 | cg25454928 | 1.07E-02 | 1.15E-02 | 0.045 | chr4:166299786 | *CPE* | *CPE (-310)* |  |
| 310 | cg21396956 | 5.58E-03 | 6.20E-03 | 0.038 | chr18:56340167 | *MALT1* | *ZNF532 (-189893), MALT1 (+1550)* |  |
| 311 | cg10511988 | 1.13E-02 | 1.74E-02 | 0.046 | chr10:118891706 | *VAX1* | *KIAA1598 (-126619), VAX1 (+6105)* |  |
| 312 | cg08109505 | 1.02E-02 | 6.60E-03 | 0.044 | chr7:140098078 | *SLC37A3* | *SLC37A3 (+232)* |  |
| 313 | cg10503840 | 1.20E-02 | 1.62E-02 | 0.048 | chr1:147373572 | *GJA8* | *GJA8 (-1373)* |  |
| 314 | cg05235525 | 3.48E-03 | 3.70E-03 | -0.037 | chr14:102687624 | *WDR20* | *HSP90AA1 (-81539), MOK (+83906)* |  |
| 315 | cg22551163 | 8.86E-03 | 9.90E-03 | 0.042 | chr12:132241134 | *SFRS8* | *MMP17 (-71806), SFSWAP (+45500)* |  |
| 316 | cg00273543 | 9.44E-03 | 1.39E-02 | 0.042 | chr13:103055487 | *FGF14* | *FGF14 (-1364)* |  |
| 317 | cg10202975 | 1.35E-02 | 6.80E-03 | 0.057 | chr5:96070916 | *CAST* | *ERAP1 (+72975), CAST (+73010)* |  |
| 318 | cg02803996 | 5.60E-04 | 8.00E-04 | -0.035 | chr6:28499379 | *GPX5* | *GPX5 (+5591), SCAND3 (+55732)* |  |
| 319 | cg13198793 | 5.35E-03 | 5.20E-03 | 0.038 | chr6:131705123 |  | *ARG1 (-189220), AKAP7 (+248298)* |  |
| 320 | cg14112555 | 3.75E-03 | 3.80E-03 | -0.037 | chr6:135799233 | *AHI1* | *AHI1 (+19669), MYB (+296781)* | \* |
| 321 | cg13238876 | 7.19E-03 | 1.07E-02 | 0.039 | chr10:114605001 |  | *TCF7L2 (-105007), VTI1A (+398246)* |  |
| 322 | cg23289779 | 1.05E-02 | 1.27E-02 | 0.044 | chr8:26720681 | *ADRA1A* | *ADRA1A (+2240), DPYSL2 (+348973)* |  |
| 323 | cg19933965 | 9.58E-03 | 1.49E-02 | 0.042 | chr3:172858969 | *SPATA16* | *SPATA16 (+88)* |  |
| 324 | cg21145140 | 3.31E-03 | 4.00E-03 | -0.036 | chr5:110409467 | *TSLP* | *WDR36 (-18402), TSLP (+2078)* |  |
| 325 | cg21517904 | 7.80E-03 | 1.03E-02 | -0.04 | chr22:19747026 | *TBX1* | *TBX1 (+2801), GNB1L (+95435)* |  |
| 326 | cg10119257 | 2.53E-03 | 5.20E-03 | 0.036 | chr18:43548144 | *KIAA1632* | *EPG5 (-840)* |  |
| 327 | cg00139092 | 8.50E-03 | 1.07E-02 | -0.041 | chr7:128530129 | *KCP* | *KCP (+20643), ATP6V1F (+27273)* |  |
| 328 | cg00688681 | 6.32E-03 | 7.20E-03 | -0.038 | chrX:53030043 |  | *GPR173 (-48462), FAM156A (-5393)* |  |
| 329 | cg26276301 | 2.83E-03 | 2.30E-03 | 0.036 | chr5:74303397 |  | *GCNT4 (+23326), NSA2 (+240295)* |  |
| 330 | cg10359944 | 7.18E-03 | 1.19E-02 | -0.039 | chr12:99289499 | *ANKS1B* | *APAF1 (+250422)* |  |
| 331 | cg07209550 | 1.18E-03 | 6.00E-04 | 0.035 | chr5:79070077 | *CMYA5* | *CMYA5 (+84419), MTX3 (+217010)* |  |
| 332 | cg27058052 | 5.98E-03 | 2.00E-03 | 0.038 | chr19:54177231 | *MIR498* | *DPRX (+41922), NLRP12 (+150416)* |  |
| 333 | cg01561869 | 1.19E-02 | 1.38E-02 | -0.046 | chr5:140725147 | *PCDHGA2* | *PCDHGC5 (-143660), TAF7 (-24797)* |  |
| 334 | cg07016682 | 8.87E-03 | 1.37E-02 | -0.041 | chr1:2343349 | *PEX10* | *PEX10 (+660)* |  |
| 335 | cg14027907 | 7.72E-03 | 9.70E-03 | -0.039 | chr19:44905830 | *ZNF285A* | *ZFP112 (-44975), ZNF229 (+46834)* | \* |
| 336 | cg13679899 | 2.89E-03 | 4.40E-03 | 0.036 | chr7:155100517 | *INSIG1* | *EN2 (-150306), INSIG1 (+11032)* |  |
| 337 | cg15123817 | 9.32E-04 | 5.00E-04 | -0.035 | chr13:33160504 | *PDS5B* | *PDS5B (-59)* |  |
| 338 | cg09797516 | 6.16E-03 | 5.60E-03 | -0.038 | chrX:106746101 |  | *NUP62CL (-296432), KIAA1817 (-97533)* |  |
| 339 | cg09328611 | 1.06E-02 | 6.40E-03 | -0.043 | chr13:19183105 |  | *TUBA3C (+572886)* | \* |
| 340 | cg01462668 | 1.01E-02 | 4.60E-03 | -0.042 | chr4:96292858 | *UNC5C* | *UNC5C (+177502), BMPR1B (+613731)* |  |
| 341 | cg07875786 | 2.17E-03 | 4.30E-03 | -0.035 | chr5:92918927 | *NR2F1* | *NR2F1 (-115)* |  |
| 342 | cg02682050 | 1.47E-03 | 1.00E-03 | -0.035 | chr4:7591767 | *SORCS2* | *PSAPL1 (-155068), AFAP1 (+349885)* |  |
| 343 | cg06888209 | 9.11E-03 | 1.29E-02 | 0.041 | chr2:237702580 |  | *COPS8 (-291503), CXCR7 (+224201)* |  |
| 344 | cg23034437 | 1.33E-02 | 2.02E-02 | 0.049 | chr10:92912529 | *NUDT9P1* | *ANKRD1 (-231498), PCGF5 (-67839)* |  |
| 345 | cg18916060 | 6.93E-03 | 8.50E-03 | 0.039 | chr14:57266029 |  | *OTX2 (+11154), C14orf101 (+219519)* |  |
| 346 | cg18102337 | 8.56E-03 | 8.10E-03 | -0.04 | chr6:32064810 | *TNXB* | *TNXB (+12340), CYP21A2 (+58718)* |  |
| 347 | cg03577250 | 6.65E-03 | 8.20E-03 | 0.038 | chr20:31261994 | *LOC284805* | *C20orf203 (-22212), COMMD7 (+69819)* | \* |
| 348 | cg20668765 | 1.22E-02 | 9.90E-03 | 0.046 | chr3:194403234 |  | *LSG1 (-10029), XXYLT1 (+588660)* |  |
| 349 | cg10673318 | 1.13E-02 | 1.65E-02 | -0.044 | chr7:155276097 |  | *RBM33 (-161105), EN2 (+25274)* |  |
| 350 | cg24464012 | 6.73E-03 | 1.11E-02 | -0.038 | chr2:239709369 |  | *TWIST2 (-47303), ASB1 (+373744)* |  |
| 351 | cg27454316 | 1.44E-02 | 1.55E-02 | 0.058 | chr4:4482158 | *STX18* | *STX18 (+61616), D4S234E (+94575)* |  |
| 352 | cg14155501 | 2.59E-03 | 3.40E-03 | 0.036 | chr9:99264127 | *CDC14B* | *HABP4 (+51714), CDC14B (+117984)* |  |
| 353 | cg25734421 | 1.01E-02 | 7.90E-03 | 0.042 | chr1:210501368 | *HHAT* | *HHAT (-227)* |  |
| 354 | cg20056949 | 1.24E-02 | 1.31E-02 | 0.046 | chr4:139609965 |  | *SLC7A11 (-446463), CCRN4L (-326977)* |  |
| 355 | cg24286165 | 1.29E-02 | 8.70E-03 | 0.047 | chr11:32458966 | *WIT1* | *WT1 (-1886)* |  |
| 356 | cg10690467 | 9.64E-04 | 6.00E-04 | 0.035 | chr12:70047752 | *BEST3* | *LRRC10 (-42811), BEST3 (+45443)* |  |
| 357 | cg05373339 | 1.39E-02 | 1.50E-02 | -0.051 | chr22:31364302 | *TUG1;MORC2* | *MORC2 (-116)* |  |
| 358 | cg21626163 | 4.76E-03 | 5.60E-03 | -0.037 | chr5:70882722 | *MCCC2* | *MCCC2 (-392)* |  |
| 359 | cg25377483 | 1.27E-02 | 1.30E-02 | 0.046 | chr5:73978496 |  | *HEXB (-2472)* |  |
| 360 | cg00951395 | 3.16E-03 | 4.30E-03 | -0.036 | chr1:232941775 | *KIAA1383* | *SIPA1L2 (-290533), NTPCR (-144594)* |  |
| 361 | cg07223266 | 9.41E-04 | 2.80E-03 | -0.034 | chr16:33961872 |  | *BC068290 (+177362)* | \* |
| 362 | cg07459334 | 1.25E-02 | 1.22E-02 | -0.045 | chr7:36020705 |  | *EEPD1 (-172130), SEPT7 (+180110)* | \* |
| 363 | cg01438012 | 1.30E-02 | 1.61E-02 | 0.047 | chr7:39690982 | *RALA* | *CDK13 (-298976), RALA (+27831)* |  |
| 364 | cg22089701 | 2.82E-03 | 7.10E-03 | 0.035 | chr11:124253666 | *OR8B2* | *OR8B2 (-428)* |  |
| 365 | cg08818829 | 1.39E-02 | 1.89E-02 | 0.049 | chr5:13810279 | *DNAH5* | *DNAH5 (+134309)* |  |
| 366 | cg09013953 | 7.76E-03 | 6.80E-03 | 0.039 | chr2:187868045 |  | *ZSWIM2 (-154149), CALCRL (+444975)* | \* |
| 367 | cg04984825 | 8.02E-03 | 6.70E-03 | -0.039 | chr12:45460140 | *RACGAP1P* | *ANO6 (-149629), DBX2 (-15259)* | \* |
| 368 | cg05029100 | 5.45E-03 | 8.00E-03 | 0.037 | chr5:126054138 |  | *LMNB1 (-58176), PHAX (+117532)* |  |
| 369 | cg00228355 | 1.11E-02 | 1.04E-02 | -0.042 | chr17:47164856 |  | *B4GALNT2 (-45472), IGF2BP1 (+90083)* | \* |
| 370 | cg18105675 | 7.25E-03 | 6.60E-03 | -0.038 | chr2:3642400 | *COLEC11* | *COLEC11 (-236)* |  |
| 371 | cg10167891 | 3.37E-03 | 2.70E-03 | -0.036 | chr6:74007703 | *C6orf147* | *KHDC1 (-34797), DPPA5 (+56295)* |  |
| 372 | cg15537254 | 7.99E-03 | 7.50E-03 | -0.039 | chr20:30073399 | *NCRNA00028* | *HM13 (-28841), REM1 (+10295)* |  |
| 373 | cg08264572 | 4.02E-03 | 1.02E-02 | 0.036 | chr7:57078300 |  | *CHCHD2 (-904114), ZNF479 (+129270)* |  |
| 374 | cg05304057 | 1.50E-03 | 1.20E-03 | 0.035 | chr11:18141625 | *MRGPRX3* | *MRGPRX3 (-876)* | \* |
| 375 | cg02602300 | 1.54E-02 | 1.82E-02 | 0.061 | chrX:153199713 | *NAA10* | *NAA10 (+754)* |  |
| 376 | cg01806721 | 9.47E-03 | 8.80E-03 | 0.04 | chr7:44786724 |  | *ZMIZ2 (-1805)* |  |
| 377 | cg06398181 | 4.41E-03 | 5.30E-03 | 0.036 | chr18:74536226 | *ZNF236* | *ZNF236 (+111)* |  |
| 378 | cg22674082 | 1.17E-02 | 1.09E-02 | 0.043 | chr2:98585733 | *TMEM131* | *TMEM131 (+26620), ZAP70 (+255703)* |  |
| 379 | cg04359250 | 1.23E-02 | 7.00E-03 | 0.044 | chr5:149865150 |  | *RPS14 (-35832), NDST1 (-22523)* |  |
| 380 | cg18416585 | 1.21E-02 | 1.57E-02 | 0.044 | chr4:62756100 | *LPHN3* | *LPHN3 (+393262)* |  |
| 381 | cg12691334 | 1.07E-02 | 1.16E-02 | -0.041 | chr11:68610186 | *CPT1A* | *CPT1A (-788)* |  |
| 382 | cg27595512 | 1.03E-02 | 1.05E-02 | -0.041 | chr8:20162045 |  | *LZTS1 (-49243)* |  |
| 383 | cg14924866 | 1.19E-02 | 1.80E-02 | 0.043 | chr3:170910597 | *TNIK* | *SLC2A2 (-165830), TNIK (+267599)* |  |
| 384 | cg02372225 | 1.51E-03 | 1.90E-03 | 0.034 | chr2:86251438 | *LOC90784* | *ST3GAL5 (-135282), POLR1A (+81839)* | \* |
| 385 | cg10941566 | 1.02E-02 | 9.10E-03 | -0.041 | chr22:30117148 | *CABP7* | *CABP7 (+805)* |  |
| 386 | cg17286074 | 5.80E-03 | 9.10E-03 | 0.037 | chr1:3315497 | *PRDM16* | *ARHGEF16 (-55649), PRDM16 (+329756)* |  |
| 387 | cg03897125 | 3.91E-03 | 5.40E-03 | -0.036 | chr10:73767359 | *CHST3* | *CHST3 (+43240), SPOCK2 (+81171)* |  |
| 388 | cg25938287 | 1.47E-02 | 1.69E-02 | 0.051 | chr5:167988974 | *MIR103-1* | *PANK3 (+17639), FBLL1 (+32393)* |  |
| 389 | cg04374190 | 2.32E-03 | 2.00E-04 | -0.035 | chr3:145736022 |  | *PLOD2 (+143259)* | \* |
| 390 | cg05468458 | 8.47E-03 | 9.30E-03 | 0.039 | chr5:171059363 |  | *FGF18 (+212697), FBXW11 (+374513)* |  |
| 391 | cg09785377 | 8.10E-03 | 8.20E-03 | 0.038 | chr15:60644157 | *ANXA2* | *ANXA2 (+46027), FOXB1 (+347737)* |  |
| 392 | cg13672444 | 8.20E-03 | 1.38E-02 | 0.039 | chr12:16049851 | *STRAP* | *DERA (-14334), STRAP (+14564)* |  |
| 393 | cg13979305 | 7.51E-04 | 1.10E-03 | -0.034 | chr4:2421218 | *ZFYVE28* | *ZFYVE28 (-849)* |  |
| 394 | cg25865120 | 4.65E-03 | 5.20E-03 | 0.036 | chr15:48625058 | *DUT* | *DUT (+1438), FBN1 (+312926)* |  |
| 395 | cg12223997 | 9.45E-03 | 1.05E-02 | -0.039 | chr11:9159596 |  | *SCUBE2 (-46447), DENND5A (+127276)* |  |
| 396 | cg26741746 | 8.32E-03 | 9.80E-03 | 0.038 | chr6:134871919 |  | *SGK1 (-232724), ALDH8A1 (+399340)* |  |
| 397 | cg17786388 | 1.13E-02 | 8.40E-03 | 0.042 | chr3:30647968 | *TGFBR2* | *TGFBR2 (-25)* |  |
| 398 | cg01144436 | 9.26E-03 | 1.08E-02 | 0.039 | chr11:17743946 |  | *KCNC1 (-13548), MYOD1 (+2837)* |  |
| 399 | cg09509089 | 6.26E-03 | 1.06E-02 | 0.037 | chr5:132333918 | *ZCCHC10* | *AFF4 (-34565), ZCCHC10 (+28321)* |  |
| 400 | cg07704959 | 1.19E-02 | 8.60E-03 | 0.042 | chr3:40471662 |  | *RPL14 (-27138), ENTPD3 (+42990)* |  |
| 401 | cg12827555 | 8.01E-04 | 2.10E-03 | -0.034 | chr14:74706031 | *VSX2* | *VSX2 (-143)* |  |
| 402 | cg01407881 | 5.88E-04 | 5.00E-04 | -0.034 | chr22:50719161 | *PLXNB2* | *MAPK11 (-10383), PLXNB2 (+26839)* |  |
| 403 | cg03800141 | 9.07E-03 | 1.18E-02 | 0.039 | chr4:123003407 |  | *TRPC3 (-130499), KIAA1109 (-88350)* |  |
| 404 | cg13334518 | 1.57E-02 | 2.72E-02 | 0.053 | chr9:40792399 | *ZNF658* | *ZNF658 (-288)* | \* |
| 405 | cg08241330 | 1.60E-03 | 4.80E-03 | -0.034 | chr16:8806663 | *ABAT* | *ABAT (+38220), TMEM186 (+84841)* |  |
| 406 | cg17339202 | 1.97E-03 | 1.00E-04 | -0.034 | chr1:33160900 | *SYNC* | *SYNC (+7460), RBBP4 (+44152)* |  |
| 407 | cg21808635 | 1.50E-02 | 1.99E-02 | 0.049 | chr7:55225133 | *EGFR* | *LANCL2 (-208007), EGFR (+138409)* |  |
| 408 | cg19583880 | 1.41E-02 | 1.38E-02 | 0.046 | chr1:27143747 |  | *ZDHHC18 (-9453), PIGV (+29294)* |  |
| 409 | cg02493740 | 2.58E-03 | 2.60E-03 | -0.035 | chr2:85810744 | *VAMP5* | *VAMP5 (-786)* |  |
| 410 | cg25507885 | 7.63E-03 | 6.80E-03 | -0.038 | chr21:15436260 |  | *LIPI (+142993), POTED (+453763)* |  |
| 411 | cg17655624 | 1.18E-03 | 6.40E-03 | 0.034 | chr12:54785320 | *ZNF385A* | *ZNF385A (-238)* |  |
| 412 | cg02009694 | 1.22E-02 | 1.41E-02 | -0.042 | chr9:130713760 | *FAM102A* | *DPM2 (-12998), NAIF1 (+115838)* |  |
| 413 | cg14428391 | 1.66E-02 | 2.90E-02 | 0.068 | chr2:217442832 |  | *IGFBP2 (-55294), RPL37A (+79313)* |  |
| 414 | cg23574243 | 8.33E-03 | 6.20E-03 | 0.038 | chr14:60555474 |  | *C14orf135 (-3154)* |  |
| 415 | cg11671308 | 1.07E-02 | 9.70E-03 | -0.04 | chr15:66261007 | *MEGF11* | *RAB11A (+99211), MEGF11 (+285067)* |  |
| 416 | cg18926108 | 5.02E-03 | 4.00E-03 | -0.036 | chr5:140773059 | *PCDHGA4;PCDHGA6;PCDHGA1;PCDHGA5;PCDHGB1;PCDHGB4;PCDHGA3;PCDHGA2;PCDHGA8;PCDHGA7;PCDHGB2;PCDHGB3* | *PCDHGC5 (-95748), TAF7 (-72709)* | \* |
| 417 | cg20214328 | 2.59E-03 | 2.20E-03 | -0.034 | chr19:39378302 | *SIRT2* | *RINL (-9384), SIRT2 (+12199)* |  |
| 418 | cg13384409 | 1.24E-02 | 1.66E-02 | -0.042 | chr7:2414466 | *EIF3B* | *CHST12 (-28728), EIF3B (+19993)* |  |
| 419 | cg02109405 | 8.66E-05 | 1.00E-04 | -0.033 | chr2:91671535 |  | *ACTR3BP2 (-457623)* | \* |
| 420 | cg02537310 | 1.20E-02 | 1.62E-02 | -0.041 | chr15:31284617 | *MTMR10* | *MTMR10 (-811)* |  |
| 421 | cg03236180 | 5.13E-03 | 6.50E-03 | -0.036 | chr10:52383929 | *SGMS1* | *SGMS1 (-193)* |  |
| 422 | cg22948201 | 1.33E-02 | 1.57E-02 | -0.043 | chrX:106696043 |  | *NUP62CL (-246374), KIAA1817 (-147591)* |  |
| 423 | cg19005519 | 1.09E-02 | 1.28E-02 | 0.04 | chr15:22647968 |  | *GOLGA6L1 (-88277), OR4N3P (+234507)* | \* |
| 424 | cg08823287 | 8.02E-03 | 1.28E-02 | 0.037 | chr3:149049903 | *TM4SF18* | *CP (-110072), TM4SF18 (+1355)* |  |
| 425 | cg25327888 | 1.44E-02 | 1.39E-02 | -0.046 | chr10:18689440 | *CACNB2* | *NSUN6 (+251109), CACNB2 (+259835)* |  |
| 426 | cg00261621 | 5.70E-03 | 8.50E-03 | -0.036 | chr16:1068700 |  | *SSTR5 (-54055), SOX8 (+36893)* | \* |
| 427 | cg06131666 | 1.57E-02 | 1.48E-02 | -0.049 | chrX:18373515 | *SCML2* | *SCML2 (-672)* |  |
| 428 | cg11821702 | 1.60E-02 | 1.47E-02 | 0.051 | chr9:5891258 | *MLANA* | *MLANA (+350)* |  |
| 429 | cg21831467 | 9.00E-03 | 1.27E-02 | 0.038 | chr13:29397818 |  | *MTUS2 (-200929), SLC46A3 (-104669)* |  |
| 430 | cg11597902 | 1.52E-02 | 3.13E-02 | -0.047 | chr17:75096239 |  | *SEC14L1 (-40765), MGAT5B (+231442)* |  |
| 431 | cg13705076 | 1.19E-02 | 1.40E-02 | 0.041 | chr3:76733555 |  | *ZNF717 (-899301), ROBO2 (-355738)* |  |
| 432 | cg00673730 | 4.76E-03 | 6.00E-03 | -0.035 | chr8:37642849 |  | *GPR124 (-11551), PROSC (+22749)* |  |
| 433 | cg05865011 | 2.55E-04 | 1.00E-04 | -0.033 | chr17:72969374 | *C17orf28* | *C17orf28 (-475)* |  |
| 434 | cg00063909 | 1.46E-02 | 1.40E-02 | 0.046 | chr2:64877006 | *SERTAD2* | *SERTAD2 (+4039), AFTPH (+125568)* |  |
| 435 | cg04272682 | 1.29E-02 | 1.16E-02 | -0.042 | chr14:70315994 |  | *SLC10A1 (-51989), SMOC1 (-30119)* |  |
| 436 | cg05955831 | 1.70E-02 | 2.40E-02 | 0.06 | chr15:77568977 | *SGK269* | *TSPAN3 (-205408), PEAK1 (+143468)* |  |
| 437 | cg17109042 | 1.61E-02 | 1.91E-02 | -0.05 | chr12:99139387 | *ANKS1B* | *APAF1 (+100310)* |  |
| 438 | cg12506468 | 1.43E-02 | 1.82E-02 | 0.045 | chrX:33147978 | *DMD* | *DMD (+81694)* |  |
| 439 | cg04943586 | 1.09E-02 | 1.16E-02 | -0.04 | chr12:106993938 | *RFX4* | *RFX4 (-976)* |  |
| 440 | cg23801782 | 4.14E-03 | 1.70E-03 | 0.035 | chr18:66471057 | *CCDC102B* | *DOK6 (-597226), TMX3 (-88705)* |  |
| 441 | cg26787863 | 1.05E-02 | 1.42E-02 | -0.039 | chr1:204286467 | *PLEKHA6* | *GOLT1A (-103248), PPP1R15B (+94476)* |  |
| 442 | cg00348891 | 1.64E-03 | 5.00E-04 | 0.034 | chr13:46251914 |  | *SPERT (-24531), COG3 (+212885)* |  |
| 443 | cg19319317 | 1.66E-02 | 1.88E-02 | 0.053 | chr1:21763975 |  | *NBPF3 (-2655)* | \* |
| 444 | cg08252384 | 4.44E-03 | 5.10E-03 | -0.035 | chr5:175541958 | *FAM153B* | *THOC3 (-146414), KIAA1191 (+246850)* | \* |
| 445 | cg06160606 | 1.60E-02 | 1.79E-02 | 0.049 | chr1:66831593 | *PDE4B* | *SGIP1 (-168231), PDE4B (+572738)* |  |
| 446 | cg10296238 | 1.74E-02 | 2.65E-02 | 0.061 | chr21:47605174 | *C21orf56* | *C21orf56 (-802)* |  |
| 447 | cg03954048 | 1.15E-02 | 1.40E-02 | 0.04 | chr2:98858571 | *VWA3B* | *TMEM131 (-246218), CNGA3 (-104046)* |  |
| 448 | cg17843066 | 5.67E-03 | 6.60E-03 | 0.036 | chr1:84761826 |  | *DNASE2B (-102388), PRKACB (+151875)* |  |
| 449 | cg23850904 | 6.07E-03 | 7.50E-03 | 0.036 | chr19:40730628 | *CNTD2* | *TTC9B (-6323), CNTD2 (+1968)* |  |
| 450 | cg01327767 | 1.56E-03 | 3.10E-03 | 0.034 | chrX:70400600 |  | *GJB1 (-34461), NLGN3 (+35920)* |  |
| 451 | cg11222665 | 1.33E-03 | 1.00E-03 | 0.034 | chr1:1343355 | *MRPL20* | *MRPL20 (-663)* |  |
| 452 | cg07928083 | 7.83E-03 | 1.01E-02 | -0.037 | chr15:60295312 | *FOXB1* | *FOXB1 (-1108)* |  |
| 453 | cg11323117 | 9.76E-03 | 1.33E-02 | 0.038 | chr4:37962012 | *PTTG2;TBC1D1* | *PTTG2 (-43)* |  |
| 454 | cg12808565 | 5.19E-03 | 7.30E-03 | 0.035 | chr10:729259 | *DIP2C* | *DIP2C (+6348), ZMYND11 (+503326)* |  |
| 455 | cg10863922 | 9.88E-03 | 9.20E-03 | 0.038 | chr6:2892150 | *SERPINB9* | *SERPINB1 (-50070), SERPINB9 (+11394)* |  |
| 456 | cg24792692 | 6.52E-03 | 1.13E-02 | 0.036 | chr5:10229929 | *FAM173B* | *TAS2R1 (-599467), FAM173B (+20084)* |  |
| 457 | cg11251554 | 1.78E-02 | 1.55E-02 | 0.067 | chr19:54204562 | *MIR518B* | *DPRX (+69253), NLRP12 (+123085)* |  |
| 458 | cg03178983 | 1.07E-02 | 2.35E-02 | -0.039 | chr16:85855552 |  | *IRF8 (-77221), COX4I1 (+22380)* |  |
| 459 | cg19687152 | 1.21E-02 | 1.33E-02 | 0.04 | chr14:102968497 | *TECPR2* | *RCOR1 (-90498), TECPR2 (+139198)* |  |
| 460 | cg04598760 | 1.33E-02 | 1.45E-02 | 0.042 | chrX:103083533 | *RAB9B* | *RAB9B (+3678), PLP1 (+51780)* |  |
| 461 | cg08842287 | 1.77E-02 | 1.55E-02 | 0.061 | chr16:3747018 | *TRAP1* | *TRAP1 (+20579), DNASE1 (+44079)* |  |
| 462 | cg10919176 | 1.38E-02 | 1.53E-02 | 0.043 | chr8:110346552 | *NUDCD1;ENY2* | *ENY2 (+1)* |  |
| 463 | cg11046169 | 7.53E-03 | 1.03E-02 | 0.036 | chr4:25383077 | *ANAPC4* | *SLC34A2 (-274357), ANAPC4 (+4230)* | \* |
| 464 | cg27130359 | 2.33E-03 | 5.30E-03 | -0.034 | chr8:96085994 |  | *PLEKHF2 (-59954), C8orf38 (+48781)* |  |
| 465 | cg02454982 | 1.09E-02 | 1.18E-02 | 0.039 | chr1:3689201 | *LOC388588* | *LOC388588 (-150)* | \* |
| 466 | cg18993470 | 7.37E-03 | 5.10E-03 | 0.036 | chr2:60782726 |  | *BCL11A (-2094)* |  |
| 467 | cg15575967 | 6.41E-03 | 3.30E-03 | 0.036 | chr1:33648734 | *TRIM62* | *TRIM62 (-1064)* |  |
| 468 | cg27005715 | 4.41E-03 | 4.10E-03 | -0.035 | chr7:106691399 | *PRKAR2B* | *HBP1 (-118006), PRKAR2B (+6222)* | \* |
| 469 | cg24077401 | 8.90E-03 | 4.50E-03 | -0.037 | chr19:40372977 | *FCGBP* | *FBL (-35924), FCGBP (+67555)* | \* |
| 470 | cg05046371 | 5.02E-03 | 5.90E-03 | 0.035 | chr7:2770788 | *GNA12* | *AMZ1 (+51626), GNA12 (+113170)* |  |
| 471 | cg13887424 | 1.47E-02 | 1.78E-02 | 0.044 | chr15:25094139 | *SNRPN* | *SNRPN (-7558), C15orf2 (+173599)* |  |
| 472 | cg22855325 | 2.37E-03 | 4.60E-03 | 0.034 | chr11:19368277 |  | *NAV2 (-366603), E2F8 (-105771)* |  |
| 473 | cg05337019 | 2.78E-03 | 6.30E-03 | -0.034 | chr1:16062361 | *SLC25A34* | *SLC25A34 (-447)* |  |
| 474 | cg09487078 | 3.08E-03 | 5.00E-03 | -0.034 | chr6:167525398 | *CCR6* | *CCR6 (+104)* |  |
| 475 | cg14822195 | 1.65E-02 | 1.47E-02 | 0.048 | chr7:134218694 | *AKR1B10* | *AKR1B15 (-15154), AKR1B10 (+6351)* |  |
| 476 | cg22077197 | 1.78E-02 | 1.79E-02 | 0.057 | chr2:240143833 | *HDAC4* | *HDAC4 (+178809), TWIST2 (+387161)* |  |
| 477 | cg13353337 | 1.57E-02 | 1.99E-02 | 0.046 | chr22:21336550 | *LZTR1* | *LZTR1 (-7)* |  |
| 478 | cg08800461 | 1.50E-02 | 1.69E-02 | 0.044 | chr2:168570439 |  | *B3GALT1 (-104742), XIRP2 (+825443)* |  |
| 479 | cg08785784 | 1.00E-02 | 9.20E-03 | -0.038 | chr16:50913892 |  | *CYLD (+137932), SALL1 (+271290)* |  |
| 480 | cg01054253 | 1.47E-02 | 1.52E-02 | -0.043 | chr1:31643038 |  | *PUM1 (-104475), NKAIN1 (+69695)* |  |
| 481 | cg26500144 | 2.64E-03 | 2.70E-03 | -0.034 | chr6:36646390 | *CDKN1A* | *CDKN1A (+2154), CPNE5 (+160829)* |  |
| 482 | cg00885843 | 1.09E-02 | 1.23E-02 | -0.039 | chr2:131058072 |  | *TUBA3E (-102039), CCDC115 (+41849)* |  |
| 483 | cg18847904 | 8.98E-03 | 1.48E-02 | 0.037 | chr5:1779178 |  | *LPCAT1 (-255103), MRPL36 (+20777)* |  |
| 484 | cg07012076 | 1.68E-02 | 2.09E-02 | 0.049 | chr11:55797626 | *OR5AS1* | *OR5AS1 (-268)* |  |
| 485 | cg16284279 | 1.08E-02 | 1.39E-02 | 0.039 | chr6:77743952 |  | *IMPG1 (-961618), HTR1B (+429167)* |  |
| 486 | cg13541457 | 1.22E-02 | 1.02E-02 | -0.04 | chr9:126894120 |  | *NEK6 (-126075), LHX2 (+120232)* | \* |
| 487 | cg10735211 | 1.22E-03 | 1.50E-03 | -0.033 | chr4:4310922 | *ZNF509* | *D4S234E (-76661), ZBTB49 (+18999)* | \* |
| 488 | cg04371950 | 8.88E-03 | 9.70E-03 | -0.037 | chr22:45602057 | *C22orf9* | *UPK3A (-78810), NUP50 (+42332)* | \* |
| 489 | cg14977433 | 1.80E-02 | 2.16E-02 | -0.056 | chr4:134941108 |  | *PABPC4L (+181794), PCDH10 (+870639)* |  |
| 490 | cg08818195 | 1.01E-02 | 1.07E-02 | 0.038 | chr12:133066505 | *FBRSL1* | *GALNT9 (-160601), P2RX2 (-128897)* |  |
| 491 | cg08855504 | 1.31E-02 | 5.80E-03 | 0.041 | chr4:52924627 | *SPATA18* | *SPATA18 (+7035), USP46 (+600874)* |  |
| 492 | cg27158862 | 2.40E-03 | 2.00E-03 | 0.034 | chr4:109332849 |  | *LEF1 (-242738), RPL34 (-208872)* |  |
| 493 | cg18115428 | 7.95E-03 | 7.80E-03 | -0.036 | chr1:234039978 | *SLC35F3* | *SLC35F3 (-700)* |  |
| 494 | cg25736204 | 1.47E-03 | 2.40E-03 | -0.033 | chrX:133931285 | *FAM122B* | *PLAC1 (-138773), MOSPD1 (+118011)* |  |
| 495 | cg09100271 | 1.51E-02 | 1.37E-02 | -0.044 | chr8:48675911 |  | *CEBPD (-25186), PRKDC (+196831)* |  |
| 496 | cg08236623 | 1.66E-02 | 1.85E-02 | 0.047 | chr13:98126882 |  | *IPO5 (-479046), RAP2A (+40408)* |  |
| 497 | cg17737967 | 5.07E-03 | 6.80E-03 | 0.035 | chr19:12758716 | *MAN2B1* | *MAN2B1 (+18874), ZNF791 (+36985)* |  |
| 498 | cg09923855 | 1.24E-02 | 1.30E-02 | 0.04 | chrX:135579466 | *HTATSF1* | *HTATSF1 (-204)* |  |
| 499 | cg09507120 | 1.22E-02 | 1.04E-02 | 0.04 | chr9:138853424 | *UBAC1* | *UBAC1 (-199)* |  |
| 500 | cg20782215 | 1.29E-02 | 1.01E-02 | 0.04 | chr11:59342127 | *OSBP* | *OSBP (+41489), OR4D9 (+59742)* |   |