

SUPPLEMENTAL MATERIAL for:

Repeat Measures of DNA Methylation in an Inception Cohort of Firefighters

Authors:

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SUPPLEMENTAL TABLES

Supplemental Table S1. All Significantly Differentially Methylated CpG Sites when comparing baseline and follow-up samples from new recruits (q-value<0.05)

| Probe ID | Genomic Location ^a | Gene Name | Estimate (SE) ^b | p-value | q-value | CpG site associated with smoking: current vs. never? ^c | CpG site associated with smoking: former vs. never? ^c | Near CpG Island? ^d | Annotation Relative to Nearest Gene ^e |
|------------|-------------------------------|------------------|----------------------------|----------|---------|---|--|-------------------------------|--|
| cg13798302 | chr4: 100870323 | <i>LOC256880</i> | -0.014 (0.002) | 1.62E-08 | 0.01 | no | no | North Shore | within 1500 bp of TSS within gene body |
| cg10874300 | chr5: 67588385 | <i>PIK3R1</i> | -0.066 (0.011) | 4.36E-08 | 0.01 | not tested | not tested | South Shelf | |
| cg12668515 | chr9: 113861165 | NA | -0.044 (0.007) | 7.36E-08 | 0.01 | not tested | not tested | Open Sea | |
| cg16668826 | chr17: 12448991 | NA | 0.027 (0.005) | 8.93E-08 | 0.01 | not tested | not tested | Open Sea | |
| cg17636707 | chr10: 30970470 | NA | 0.015 (0.002) | 1.09E-07 | 0.01 | no | no | Open Sea | |
| cg18105361 | chr5: 135536668 | NA | -0.044 (0.007) | 1.06E-07 | 0.01 | no | no | Open Sea | |
| cg05423480 | chr15: 65189594 | NA | -0.031 (0.005) | 1.65E-07 | 0.02 | not tested | not tested | Open Sea | |
| cg07280206 | chr16: 56554249 | <i>BBS2</i> | -0.063 (0.01) | 1.61E-07 | 0.02 | no | no | South Shore | within 1500 bp of TSS |
| cg02923300 | chrX: 68759322 | NA | 0.037 (0.006) | 2.87E-07 | 0.02 | no | no | South Shore | |
| cg04853543 | chr17: 77974147 | <i>TBC1D16</i> | 0.032 (0.006) | 2.61E-07 | 0.02 | not tested | not tested | Open Sea | within gene body |
| cg16216305 | chr3: 127842716 | <i>RUVBL1</i> | -0.002 (0) | 3.06E-07 | 0.02 | no | no | in CpG Island | within 200 bp of TSS |
| cg27608911 | chr3: 115341429 | <i>GAP43</i> | 0.026 (0.005) | 2.48E-07 | 0.02 | no | no | Open Sea | within 1500 bp of TSS within gene body |
| cg25945533 | chr19: 40883570 | <i>PLD3</i> | 0.023 (0.004) | 3.57E-07 | 0.02 | not tested | not tested | North Shelf | within gene body |
| cg15010903 | chr17: 76850256 | <i>TIMP2</i> | -0.046 (0.008) | 3.90E-07 | 0.02 | no | no | North Shore | 3'UTR |
| cg01152629 | chr19: 4705838 | <i>DPP9</i> | 0.023 (0.004) | 4.44E-07 | 0.02 | not tested | not tested | Open Sea | within gene body |
| cg00156769 | chr1: 183498596 | <i>SMG7</i> | 0.015 (0.003) | 1.04E-06 | 0.02 | not tested | not tested | Open Sea | within gene body |
| cg01092213 | chr7: 48127925 | <i>UPP1</i> | -0.035 (0.006) | 5.99E-07 | 0.02 | no | no | North Shore | within 1500 bp of TSS |
| cg01739831 | chr16: 89922539 | <i>SPIRE2</i> | 0.029 (0.005) | 9.26E-07 | 0.02 | no | no | South Shore | within gene body |

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|------------|---------------------|------------------|----------------|----------|------|------------|------------|------------------|------------------------------|
| cg03740864 | chr10: 120660492 | NA | -0.054 (0.01) | 8.46E-07 | 0.02 | not tested | not tested | Open Sea | |
| cg03923285 | chr16: 412168 | NA | -0.046 (0.008) | 9.40E-07 | 0.02 | no | no | South Shore | |
| cg04497992 | chr16: 616212 | <i>NHLRC4</i> | -0.042 (0.008) | 8.60E-07 | 0.02 | no | no | South Shore | within 1500 bp of TSS |
| cg05463966 | chr11: 67803951 | <i>NDUFS8</i> | -0.037 (0.007) | 1.06E-06 | 0.02 | no | no | North Shelf | within gene body |
| cg05632631 | chr16: 24099614 | <i>PRKCB</i> | 0.017 (0.003) | 1.08E-06 | 0.02 | no | no | Open Sea | within gene body |
| cg12784120 | chr17: 41847254 | <i>DUSP3</i> | 0.022 (0.004) | 5.08E-07 | 0.02 | no | no | Open Sea | within gene body |
| cg16001875 | chr3: 47019411 | <i>CCDC12</i> | 0.029 (0.005) | 6.90E-07 | 0.02 | not tested | not tested | North Shore | within 1500 bp of TSS |
| cg16353975 | chr12: 88531040 | <i>CEP290</i> | 0.017 (0.003) | 1.02E-06 | 0.02 | not tested | not tested | Open Sea | within gene body |
| cg18676539 | chr8: 144575488 | <i>ZC3H3</i> | 0.025 (0.005) | 9.87E-07 | 0.02 | not tested | not tested | Open Sea | within gene body |
| cg19721787 | chr1: 32670695 | <i>IQCC</i> | 0.035 (0.007) | 8.30E-07 | 0.02 | yes | no | in CpG Island | within 1500 bp of TSS |
| cg19815791 | chr17: 76343835 | NA | 0.027 (0.005) | 1.00E-06 | 0.02 | not tested | not tested | Open Sea | |
| cg21457856 | chr3: 148367697 | NA | -0.022 (0.004) | 1.13E-06 | 0.02 | no | no | Open Sea | |
| cg22216159 | chr3: 109746788 | NA | -0.046 (0.009) | 1.05E-06 | 0.02 | not tested | not tested | Open Sea | |
| cg22385591 | chr13: 72778607 | NA | -0.036 (0.007) | 1.14E-06 | 0.02 | not tested | not tested | Open Sea | |
| cg23477670 | chr8: 27114746 | <i>STMN4</i> | -0.045 (0.008) | 9.73E-07 | 0.02 | not tested | not tested | Open Sea | 5'UTR within gene body |
| cg23532197 | chr10: 11908666 | <i>C10orf47</i> | -0.033 (0.006) | 8.80E-07 | 0.02 | no | no | North Shelf | |
| cg23865100 | chr3: 184344968 | NA | -0.044 (0.008) | 6.20E-07 | 0.02 | not tested | not tested | Open Sea | |
| cg24067133 | chr11: 79613887 | NA | -0.046 (0.009) | 7.29E-07 | 0.02 | not tested | not tested | Open Sea | |
| cg25529557 | chr6: 112145775 | <i>FYN</i> | -0.044 (0.008) | 1.07E-06 | 0.02 | not tested | not tested | Open Sea | 5'UTR within gene body |
| cg25983854 | chr22: 47257568 | <i>TBC1D22A</i> | 0.018 (0.003) | 1.03E-06 | 0.02 | no | no | South Shore | within gene body |
| cg02359589 | chr17: 8045663 | <i>PER1</i> | 0.03 (0.006) | 1.19E-06 | 0.02 | no | no | Open Sea | within gene body |
| cg13783035 | chr22: 46154632 | <i>ATXN10</i> | 0.009 (0.002) | 1.22E-06 | 0.02 | not tested | not tested | Open Sea | within gene body |
| cg12369388 | chr2: 47094435 | NA | 0.02 (0.004) | 1.33E-06 | 0.02 | not tested | not tested | Open Sea | |
| cg15086037 | chr2: 40823629 | NA | 0.012 (0.002) | 1.31E-06 | 0.02 | not tested | not tested | Open Sea | |
| cg00555389 | chr2: 178261381 | <i>AGPS</i> | -0.04 (0.008) | 1.42E-06 | 0.03 | not tested | not tested | South Shelf | within gene body |
| cg02029108 | chr7: 98609251 | <i>TRRAP</i> | 0.026 (0.005) | 1.65E-06 | 0.03 | not tested | not tested | South Shore | within gene body |
| cg02708501 | chr17: 4350829 | <i>SPNS3</i> | 0.016 (0.003) | 1.50E-06 | 0.03 | not tested | not tested | Open Sea | within gene body |
| cg03779244 | chrX: 56771607 | <i>LINC01420</i> | -0.085 (0.016) | 1.60E-06 | 0.03 | not tested | not tested | Open Sea | within gene body |

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|------------|------------------|----------------|----------------|----------|------|------------|------------|------------------------|-----------------------|
| cg09417137 | chr3: 9811912 | <i>CAMK1</i> | -0.035 (0.007) | 1.65E-06 | 0.03 | not tested | not tested | South Shore | within 1500 bp of TSS |
| cg13166622 | chr3: 150904863 | <i>MED12L</i> | -0.081 (0.016) | 1.64E-06 | 0.03 | not tested | not tested | Open Sea | within gene body |
| cg15728672 | chr8: 89189971 | <i>MMP16</i> | -0.059 (0.011) | 1.64E-06 | 0.03 | not tested | not tested | Open Sea | within gene body |
| cg17214079 | chr17: 37719431 | NA | 0.015 (0.003) | 1.62E-06 | 0.03 | not tested | not tested | Open Sea | |
| cg10992198 | chr19: 36552038 | <i>WDR62</i> | 0.03 (0.006) | 1.72E-06 | 0.03 | not tested | not tested | Open Sea | within gene body |
| cg00137860 | chr22: 26249504 | <i>MYO18B</i> | -0.04 (0.008) | 1.77E-06 | 0.03 | not tested | not tested | Open Sea | within gene body |
| cg10764756 | chr11: 126337070 | <i>KIRREL3</i> | 0.031 (0.006) | 1.82E-06 | 0.03 | not tested | not tested | Open Sea in CpG Island | within gene body |
| cg16688112 | chr16: 88922774 | <i>GALNS</i> | -0.029 (0.006) | 1.82E-06 | 0.03 | yes | no | Island | within gene body |
| cg00625110 | chr16: 53741731 | <i>FTO</i> | 0.069 (0.014) | 3.35E-06 | 0.03 | no | no | South Shelf | within gene body |
| cg00949337 | chr20: 61181680 | NA | 0.022 (0.004) | 2.65E-06 | 0.03 | not tested | not tested | South Shelf | |
| cg01622399 | chr11: 134387905 | NA | -0.04 (0.008) | 3.55E-06 | 0.03 | not tested | not tested | Open Sea in CpG Island | |
| cg01862160 | chr9: 135456402 | NA | -0.035 (0.007) | 3.25E-06 | 0.03 | no | no | Island | |
| cg02098857 | chr17: 27441752 | <i>MYO18A</i> | 0.028 (0.005) | 1.99E-06 | 0.03 | not tested | not tested | Open Sea | within gene body |
| cg02319637 | chrX: 68525486 | NA | -0.046 (0.009) | 2.43E-06 | 0.03 | not tested | not tested | North Shore | |
| cg02996608 | chr1: 23256885 | NA | -0.027 (0.005) | 3.05E-06 | 0.03 | not tested | not tested | Open Sea | |
| cg03776062 | chr17: 76390494 | <i>PGS1</i> | 0.009 (0.002) | 3.68E-06 | 0.03 | not tested | not tested | Open Sea | within gene body |
| cg03897241 | chr7: 1808115 | NA | 0.013 (0.003) | 2.03E-06 | 0.03 | no | no | North Shore | |
| cg04639736 | chr4: 142481583 | NA | -0.034 (0.007) | 2.81E-06 | 0.03 | not tested | not tested | Open Sea | |
| cg04694057 | chr12: 49763589 | <i>SPATS2</i> | -0.041 (0.008) | 3.35E-06 | 0.03 | not tested | not tested | South Shelf | 5'UTR |
| cg04974344 | chr4: 132420800 | NA | -0.04 (0.008) | 2.64E-06 | 0.03 | not tested | not tested | Open Sea | |
| cg05419854 | chr17: 19398395 | NA | 0.023 (0.005) | 3.38E-06 | 0.03 | no | no | Open Sea | |
| cg05541640 | chr3: 52008740 | <i>ABHD14B</i> | -0.036 (0.007) | 3.33E-06 | 0.03 | yes | no | North Shore | within 200 bp of TSS |
| cg05753918 | chr7: 14899040 | NA | -0.065 (0.013) | 2.32E-06 | 0.03 | not tested | not tested | Open Sea | |
| cg06044060 | chr9: 135880142 | NA | -0.029 (0.006) | 3.30E-06 | 0.03 | not tested | not tested | Open Sea | |
| cg06492744 | chr11: 65406254 | <i>SIPA1</i> | -0.005 (0.001) | 3.72E-06 | 0.03 | no | no | North Shelf | 5'UTR |
| cg07499197 | chr19: 47921090 | <i>MEIS3</i> | -0.032 (0.006) | 2.80E-06 | 0.03 | not tested | not tested | North Shore | within gene body |
| cg07664312 | chr12: 18433550 | <i>PIK3C2G</i> | 0.019 (0.004) | 3.48E-06 | 0.03 | no | no | Open Sea | 5'UTR |
| cg08448786 | chr10: 82258519 | <i>TSPAN14</i> | -0.035 (0.007) | 3.77E-06 | 0.03 | not tested | not tested | Open Sea | within gene body |
| cg08766380 | chr17: 31107923 | <i>MYO1D</i> | -0.039 (0.008) | 3.80E-06 | 0.03 | not tested | not tested | Open Sea | within gene body |

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| cg09951898 | chr4: 104022073 | <i>BDH2</i> | 0.015 (0.003) | 3.02E-06 | 0.03 | not tested | not tested | Open Sea | within 1500 bp of TSS |
| cg10353689 | chr2: 70792316 | NA | 0.019 (0.004) | 2.34E-06 | 0.03 | not tested | not tested | Open Sea | |
| cg10778736 | chr15: 45406362 | <i>DUOX2</i> | -0.029 (0.006) | 2.90E-06 | 0.03 | no | no | North Shore | within 200 bp of TSS |
| cg11764115 | chr19: 11660189 | <i>CNN1</i> | 0.024 (0.005) | 2.03E-06 | 0.03 | no | no | North Shore | within gene body |
| cg11796181 | chr5: 142422241 | <i>ARHGAP26</i> | 0.013 (0.003) | 3.11E-06 | 0.03 | no | no | Open Sea | within gene body |
| cg11985186 | chr1: 54964993 | NA | -0.031 (0.006) | 2.91E-06 | 0.03 | not tested | not tested | North Shore | |
| cg12248652 | chr12: 132703589 | <i>GALNT9</i> | -0.056 (0.011) | 3.64E-06 | 0.03 | no | no | Open Sea | within gene body |
| cg12384419 | chr2: 202685659 | <i>CDK15</i> | -0.021 (0.004) | 1.98E-06 | 0.03 | not tested | not tested | Open Sea | within gene body |
| cg12709085 | chr19: 35502231 | <i>GRAMD1A</i> | -0.035 (0.007) | 2.86E-06 | 0.03 | not tested | not tested | Open Sea | within gene body |
| cg13092901 | chr22: 50965373 | <i>TYMP</i> | -0.032 (0.006) | 2.89E-06 | 0.03 | yes | yes | Open Sea | in CpG Island |
| cg14412992 | chr5: 125706935 | <i>GRAMD3</i> | 0.033 (0.007) | 3.47E-06 | 0.03 | not tested | not tested | Open Sea | within gene body |
| cg14705319 | chr5: 176938148 | <i>DOK3</i> | -0.038 (0.008) | 3.26E-06 | 0.03 | no | no | Open Sea | within 1500 bp of TSS |
| cg15155209 | chr3: 14502277 | <i>SLC6A6</i> | 0.022 (0.004) | 3.14E-06 | 0.03 | no | no | Open Sea | within gene body |
| cg15168816 | chr6: 17282533 | <i>RBM24</i> | -0.031 (0.006) | 3.83E-06 | 0.03 | no | no | South Shore | within 1500 bp of TSS |
| cg15281614 | chr1: 160345932 | NA | -0.042 (0.008) | 2.76E-06 | 0.03 | not tested | not tested | Open Sea | |
| cg15734764 | chr10: 134266555 | NA | -0.029 (0.006) | 2.25E-06 | 0.03 | no | no | North Shore | |
| cg16262572 | chr2: 122479703 | <i>NIFK-AS1</i> | -0.052 (0.01) | 2.53E-06 | 0.03 | not tested | not tested | Open Sea | within gene body |
| cg17353568 | chr10: 76661092 | <i>KAT6B</i> | -0.043 (0.009) | 3.33E-06 | 0.03 | not tested | not tested | Open Sea | within gene body |
| cg17410093 | chr2: 232650620 | <i>COPS7B</i> | 0.023 (0.005) | 1.90E-06 | 0.03 | not tested | not tested | North Shore | within 1500 bp of TSS |
| cg17777792 | chr1: 226285808 | NA | -0.036 (0.007) | 3.05E-06 | 0.03 | not tested | not tested | Open Sea | |
| cg18032827 | chr1: 185227307 | <i>SWT1</i> | 0.027 (0.005) | 3.34E-06 | 0.03 | not tested | not tested | Open Sea | within gene body |
| cg18164926 | chr11: 62600230 | <i>STX5</i> | -0.041 (0.008) | 2.23E-06 | 0.03 | not tested | not tested | South Shore | within 1500 bp of TSS |
| cg18661379 | chr10: 104393081 | <i>SUFU</i> | -0.029 (0.006) | 2.89E-06 | 0.03 | no | no | Open Sea | 3'UTR |
| cg18956104 | chr12: 119621039 | <i>HSPB8</i> | -0.059 (0.012) | 3.68E-06 | 0.03 | not tested | not tested | Open Sea | within gene body |
| cg19465330 | chr11: 61084101 | <i>DDB1</i> | 0.023 (0.005) | 3.81E-06 | 0.03 | not tested | not tested | Open Sea | within gene body |

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|------------|------------------|----------------|----------------|----------|------|------------|------------|------------------------|-----------------------|
| cg19842279 | chr17: 39554246 | <i>KRT31</i> | -0.024 (0.005) | 3.69E-06 | 0.03 | not tested | not tested | Open Sea | within 1500 bp of TSS |
| cg19882915 | chr8: 102451058 | NA | 0.024 (0.005) | 3.44E-06 | 0.03 | no | no | Open Sea | |
| cg21146224 | chr9: 13492139 | NA | -0.032 (0.006) | 3.06E-06 | 0.03 | not tested | not tested | Open Sea | |
| cg21289437 | chr13: 112692270 | NA | 0.025 (0.005) | 3.55E-06 | 0.03 | no | no | South Shore | |
| cg21611056 | chr20: 3776172 | <i>CDC25B</i> | -0.038 (0.007) | 2.73E-06 | 0.03 | not tested | not tested | North Shore | within 1500 bp of TSS |
| cg21723874 | chr19: 51531123 | <i>KLK11</i> | 0.036 (0.007) | 2.84E-06 | 0.03 | not tested | not tested | Open Sea | 5'UTR |
| cg22071573 | chr19: 8506975 | NA | 0.026 (0.005) | 2.99E-06 | 0.03 | not tested | not tested | North Shelf | |
| cg24144259 | chr5: 88875631 | NA | -0.042 (0.008) | 3.65E-06 | 0.03 | not tested | not tested | Open Sea | |
| cg24924295 | chr17: 999104 | <i>ABR</i> | -0.029 (0.006) | 3.54E-06 | 0.03 | not tested | not tested | Open Sea | within gene body |
| cg26128821 | chr19: 19511134 | <i>GATAD2A</i> | 0.026 (0.005) | 2.83E-06 | 0.03 | not tested | not tested | Open Sea | 5'UTR |
| cg26859666 | chr1: 167883298 | <i>ADCY10</i> | 0.011 (0.002) | 3.29E-06 | 0.03 | no | no | Open Sea in CpG Island | within 1st exon |
| cg27380788 | chr16: 4526765 | <i>HMOX2</i> | 0.003 (0.001) | 3.85E-06 | 0.03 | no | no | Open Sea | 5'UTR |
| cg27639525 | chr1: 25029378 | NA | 0.021 (0.004) | 2.89E-06 | 0.03 | not tested | not tested | Open Sea in CpG Island | |
| cg00187535 | chr19: 7747028 | <i>TRAPPC5</i> | -0.038 (0.008) | 3.92E-06 | 0.03 | no | no | Open Sea | 5'UTR |
| cg25502462 | chrX: 48620142 | <i>GLOD5</i> | 0.027 (0.005) | 4.03E-06 | 0.03 | no | no | Open Sea | within 200 bp of TSS |
| cg07241925 | chr4: 1294566 | <i>MAEA</i> | -0.029 (0.006) | 4.07E-06 | 0.03 | no | no | Open Sea | within gene body |
| cg03914662 | chr11: 65910130 | <i>PACS1</i> | -0.035 (0.007) | 4.23E-06 | 0.03 | not tested | not tested | Open Sea | within gene body |
| cg07589116 | chr11: 123450089 | <i>GRAMD1B</i> | 0.024 (0.005) | 4.21E-06 | 0.03 | not tested | not tested | South Shore | within gene body |
| cg13087441 | chr1: 3277000 | <i>PRDM16</i> | 0.027 (0.006) | 4.22E-06 | 0.03 | no | no | South Shore | within gene body |
| cg24851859 | chr5: 27532684 | NA | -0.047 (0.009) | 4.14E-06 | 0.03 | yes | no | Open Sea | |
| cg06230410 | chr19: 19457887 | <i>MAU2</i> | 0.016 (0.003) | 4.33E-06 | 0.03 | not tested | not tested | Open Sea | within gene body |
| cg12354960 | chr1: 156816460 | <i>NTRK1</i> | 0.02 (0.004) | 4.34E-06 | 0.03 | not tested | not tested | South Shore | within gene body |
| cg18062128 | chr2: 97501603 | NA | 0.02 (0.004) | 4.35E-06 | 0.03 | no | no | North Shelf | |
| cg10015051 | chr16: 65102943 | <i>CDH11</i> | 0.019 (0.004) | 4.50E-06 | 0.03 | no | no | Open Sea | 5'UTR |
| cg11360415 | chr17: 1059336 | <i>ABR</i> | 0.022 (0.005) | 4.61E-06 | 0.03 | not tested | not tested | Open Sea | within gene body |
| cg11835575 | chr1: 3447205 | <i>MEGF6</i> | -0.03 (0.006) | 4.59E-06 | 0.03 | not tested | not tested | North Shore | within gene body |
| cg12018852 | chr7: 138777233 | <i>ZC3HAV1</i> | -0.052 (0.01) | 4.63E-06 | 0.03 | not tested | not tested | Open Sea | within gene body |

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| cg16327381 | chr3: 119498036 | <i>NR1I2</i> | 0.031 (0.006) | 4.63E-06 | 0.03 | no | no | Open Sea | within 1500 bp of TSS |
| cg23222095 | chr12: 27934956 | <i>KLHL42</i> | 0.012 (0.003) | 4.51E-06 | 0.03 | not tested | not tested | South Shore | within gene body |
| cg24418298 | chr7: 2752273 | <i>AMZ1</i> | 0.024 (0.005) | 4.61E-06 | 0.03 | no | no | Open Sea | within gene body |
| cg27423238 | chr16: 1420171 | <i>UNKL</i> | 0.024 (0.005) | 4.51E-06 | 0.03 | no | no | in CpG Island | within gene body |
| cg03762984 | chr11: 29355671 | NA | -0.081 (0.016) | 4.70E-06 | 0.03 | not tested | not tested | Open Sea | |
| cg03922340 | chr3: 49397232 | <i>GPX1</i> | -0.035 (0.007) | 4.70E-06 | 0.03 | not tested | not tested | South Shore | within 1500 bp of TSS |
| cg02121135 | chr14: 24858912 | NA | -0.073 (0.015) | 4.82E-06 | 0.03 | not tested | not tested | Open Sea | |
| cg02984966 | chr18: 21266734 | NA | -0.032 (0.007) | 4.89E-06 | 0.03 | no | no | North Shelf | |
| cg13212159 | chr17: 38075554 | <i>GSDMB</i> | 0.022 (0.004) | 4.90E-06 | 0.03 | no | no | Open Sea | within 1500 bp of TSS |
| cg06692153 | chr22: 38137445 | <i>TRIOBP</i> | -0.028 (0.006) | 4.95E-06 | 0.03 | not tested | not tested | Open Sea | within gene body |
| cg11339587 | chr19: 30298341 | NA | 0.024 (0.005) | 5.02E-06 | 0.03 | no | no | North Shelf | |
| cg15468600 | chr7: 101633200 | <i>CUX1</i> | 0.026 (0.005) | 5.04E-06 | 0.03 | not tested | not tested | Open Sea | within gene body |
| cg03197505 | chr19: 17597999 | <i>SLC27A1</i> | 0.022 (0.004) | 5.08E-06 | 0.03 | no | no | in CpG Island | within gene body |
| cg09044656 | chr12: 130184851 | <i>TMEM132D</i> | 0.03 (0.006) | 5.26E-06 | 0.03 | no | no | in CpG Island | within gene body |
| cg16416987 | chr1: 155177561 | <i>THBS3</i> | -0.033 (0.007) | 5.18E-06 | 0.03 | no | no | North Shore | within gene body |
| cg21368996 | chr2: 201593511 | <i>AOX2P</i> | -0.029 (0.006) | 5.26E-06 | 0.03 | not tested | not tested | Open Sea | within gene body |
| cg25296103 | chr2: 145268533 | <i>ZEB2</i> | -0.06 (0.012) | 5.25E-06 | 0.03 | no | no | Open Sea | within gene body |
| cg16802508 | chr11: 67070738 | <i>SSH3</i> | -0.032 (0.006) | 5.36E-06 | 0.03 | no | no | North Shore | within 200 bp of TSS |
| cg03541759 | chr5: 72794079 | <i>BTF3</i> | -0.004 (0.001) | 5.41E-06 | 0.03 | no | no | in CpG Island | within 200 bp of TSS |
| cg07488549 | chr10: 106052976 | <i>GSTO2</i> | -0.042 (0.008) | 5.52E-06 | 0.03 | not tested | not tested | Open Sea | within gene body |
| cg17654217 | chr7: 100282651 | <i>GIGYF1</i> | 0.021 (0.004) | 5.50E-06 | 0.03 | no | no | North Shelf | within gene body |
| cg16238149 | chr13: 111173329 | NA | -0.031 (0.006) | 5.62E-06 | 0.03 | no | no | Open Sea | |
| cg03933550 | chr18: 55906325 | <i>NEDD4L</i> | -0.048 (0.01) | 5.78E-06 | 0.03 | not tested | not tested | Open Sea | within gene body |
| cg07872794 | chr5: 117897957 | <i>HRAT56</i> | 0.015 (0.003) | 5.90E-06 | 0.03 | not tested | not tested | Open Sea | within 200 bp of TSS |
| cg11887996 | chr12: 120559003 | NA | -0.027 (0.006) | 5.85E-06 | 0.03 | no | no | South Shelf | |

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|------------|------------------|-----------------|----------------|----------|------|------------|------------|------------------------|----------------------------|
| cg13170967 | chr5: 38695390 | <i>OSMR-AS1</i> | -0.036 (0.007) | 5.84E-06 | 0.03 | not tested | not tested | Open Sea | within gene body |
| cg13304430 | chr9: 139414185 | <i>MIR4673</i> | 0.01 (0.002) | 5.88E-06 | 0.03 | not tested | not tested | South Shore | within 200 bp of TSS |
| cg18742528 | chr6: 13053520 | <i>PHACTR1</i> | -0.055 (0.011) | 5.83E-06 | 0.03 | not tested | not tested | Open Sea | within gene body |
| cg00841090 | chr17: 2651101 | NA | -0.027 (0.006) | 5.98E-06 | 0.03 | no | no | North Shore | |
| cg06551987 | chr21: 28563103 | NA | 0.018 (0.004) | 6.01E-06 | 0.03 | not tested | not tested | Open Sea in CpG Island | |
| cg02956806 | chr9: 140174741 | <i>C9orf167</i> | 0.031 (0.006) | 6.13E-06 | 0.03 | no | no | Open Sea | 3'UTR within gene body |
| cg03083251 | chr7: 135408513 | <i>SLC13A4</i> | -0.076 (0.016) | 6.70E-06 | 0.03 | not tested | not tested | Open Sea | |
| cg03432196 | chr18: 9643805 | NA | -0.063 (0.013) | 6.43E-06 | 0.03 | not tested | not tested | Open Sea | |
| cg04483304 | chr15: 68933603 | <i>CORO2B</i> | 0.021 (0.004) | 6.61E-06 | 0.03 | not tested | not tested | Open Sea | 5'UTR within gene body |
| cg04571417 | chr16: 11224056 | <i>CLEC16A</i> | 0.021 (0.004) | 6.73E-06 | 0.03 | not tested | not tested | Open Sea | |
| cg06016751 | chr12: 6442329 | <i>TNFRSF1A</i> | -0.034 (0.007) | 6.53E-06 | 0.03 | not tested | not tested | South Shelf | ExonBnd within gene body |
| cg06285037 | chr7: 131233012 | <i>PODXL</i> | 0.021 (0.004) | 6.53E-06 | 0.03 | not tested | not tested | Open Sea in CpG Island | |
| cg10884953 | chr19: 2579745 | <i>GNG7</i> | -0.031 (0.006) | 6.65E-06 | 0.03 | no | no | Open Sea | 5'UTR |
| cg11362074 | chr19: 2706834 | NA | -0.035 (0.007) | 6.82E-06 | 0.03 | no | no | South Shelf | |
| cg14611112 | chr9: 139643351 | <i>LCN6</i> | -0.053 (0.011) | 6.49E-06 | 0.03 | no | no | South Shelf | within 1500 bp of TSS |
| cg14678981 | chr16: 57662244 | <i>ADGRG1</i> | -0.026 (0.005) | 6.81E-06 | 0.03 | not tested | not tested | Open Sea | within 1st exon |
| cg15105253 | chr14: 100063248 | <i>CCDC85C</i> | 0.014 (0.003) | 6.66E-06 | 0.03 | not tested | not tested | Open Sea in CpG Island | within gene body |
| cg15198739 | chr22: 26908541 | <i>TFIP11</i> | -0.003 (0.001) | 6.32E-06 | 0.03 | no | no | Open Sea | within 200 bp of TSS |
| cg15300024 | chr2: 113487167 | NA | -0.029 (0.006) | 6.53E-06 | 0.03 | not tested | not tested | Open Sea | |
| cg20253556 | chr10: 30712431 | NA | -0.028 (0.006) | 6.43E-06 | 0.03 | not tested | not tested | Open Sea | |
| cg21346966 | chr2: 238341793 | NA | -0.022 (0.005) | 6.15E-06 | 0.03 | no | no | Open Sea | |
| cg24105728 | chr6: 13007033 | <i>PHACTR1</i> | -0.054 (0.011) | 6.61E-06 | 0.03 | not tested | not tested | Open Sea | within gene body |
| cg24668049 | chr16: 88614791 | NA | -0.036 (0.007) | 6.32E-06 | 0.03 | not tested | not tested | Open Sea | |
| cg25229577 | chr3: 58367583 | <i>PXK</i> | 0.062 (0.013) | 6.81E-06 | 0.03 | not tested | not tested | Open Sea | 5'UTR within 200 bp of TSS |
| cg26833538 | chr11: 67777715 | <i>ALDH3B1</i> | -0.03 (0.006) | 6.29E-06 | 0.03 | yes | no | Open Sea | |
| cg05166976 | chr2: 242842459 | NA | 0.022 (0.005) | 6.95E-06 | 0.03 | no | no | North Shore | |
| cg16054275 | chr1: 169556022 | <i>F5</i> | -0.038 (0.008) | 6.91E-06 | 0.03 | no | no | Open Sea | within 1500 bp of TSS |
| cg19677181 | chr5: 153211415 | NA | -0.042 (0.009) | 6.91E-06 | 0.03 | not tested | not tested | Open Sea | |
| cg16594092 | chr5: 169911303 | <i>KCNIP1</i> | -0.028 (0.006) | 7.09E-06 | 0.03 | not tested | not tested | Open Sea | within gene body |

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|------------|--|-----------------|----------------|----------|------|------------|------------|---------------------------------|--------------------------|
| cg21455534 | chr6: 170101504 chr13: 110124427 | <i>C6orf120</i> | 0.009 (0.002) | 7.11E-06 | 0.03 | no | no | North Shore | within 1500 bp of TSS |
| cg01387115 | | NA | -0.024 (0.005) | 7.23E-06 | 0.03 | not tested | not tested | Open Sea | |
| cg13418283 | chr20: 61439240 chr12: 131273144 | <i>OGFR</i> | 0.025 (0.005) | 7.32E-06 | 0.03 | not tested | not tested | North Shelf | within gene body |
| cg05410283 | | NA | 0.014 (0.003) | 7.52E-06 | 0.03 | no | no | Open Sea | |
| cg16903817 | chr2: 114655480 | <i>ACTR3</i> | -0.09 (0.019) | 7.62E-06 | 0.03 | not tested | not tested | Open Sea | 5'UTR |
| cg10967759 | chr10: 73555025 | <i>CDH23</i> | -0.071 (0.015) | 7.81E-06 | 0.03 | not tested | not tested | Open Sea | within 1500 bp of TSS |
| cg23926670 | chr12: 28121938 | <i>PTHLH</i> | 0.044 (0.009) | 7.77E-06 | 0.03 | no | no | North Shore | within gene body |
| cg10175261 | chr20: 56419097 | NA | 0.02 (0.004) | 7.90E-06 | 0.03 | not tested | not tested | Open Sea | |
| cg02928345 | chr1: 224411698 | NA | -0.065 (0.014) | 8.08E-06 | 0.03 | no | no | Open Sea | |
| cg06753606 | chr17: 40337708 | <i>HCRT</i> | 0.021 (0.004) | 8.02E-06 | 0.03 | not tested | not tested | South Shore | within 1500 bp of TSS |
| cg18066598 | chr8: 64992450 | NA | -0.046 (0.009) | 8.05E-06 | 0.03 | no | no | Open Sea | |
| cg16265542 | chr1: 152814831 chr10: 108337483 | <i>LCE6A</i> | -0.058 (0.012) | 8.23E-06 | 0.03 | no | no | Open Sea | within 1500 bp of TSS |
| cg26914953 | | <i>SORCS1</i> | -0.031 (0.006) | 8.21E-06 | 0.03 | not tested | not tested | Open Sea | within gene body |
| cg00599564 | chr6: 29943209 | <i>HCG9</i> | -0.025 (0.005) | 8.35E-06 | 0.03 | no | no | North Shore | within gene body |
| cg07551022 | chr1: 205760086 | <i>SLC41A1</i> | 0.01 (0.002) | 8.52E-06 | 0.03 | no | no | Open Sea | 3'UTR |
| cg18667648 | chr11: 6626577 | <i>ILK</i> | -0.034 (0.007) | 8.35E-06 | 0.03 | not tested | not tested | South Shore | 5'UTR |
| cg21857190 | chr2: 217913299 | NA | -0.019 (0.004) | 8.53E-06 | 0.03 | no | no | Open Sea | |
| cg22867941 | chr4: 1225044 | <i>CTBP1</i> | 0.032 (0.007) | 8.50E-06 | 0.03 | not tested | not tested | South Shore in CpG Island | within gene body |
| cg23098305 | chr1: 228112951 | <i>WNT9A</i> | 0.034 (0.007) | 8.37E-06 | 0.03 | no | no | | within gene body |
| cg25303556 | chr22: 39348639 | NA | -0.034 (0.007) | 8.46E-06 | 0.03 | not tested | not tested | Open Sea | |
| cg03515346 | chr4: 1645766 | <i>FAM53A</i> | 0.016 (0.003) | 8.82E-06 | 0.03 | not tested | not tested | North Shore | within gene body |
| cg08295857 | chr16: 88096588 | <i>BANP</i> | 0.032 (0.007) | 9.00E-06 | 0.03 | no | no | Open Sea | within gene body |
| cg13387425 | chr12: 54402050 | <i>HOXC8</i> | -0.032 (0.007) | 8.99E-06 | 0.03 | not tested | not tested | North Shore | within 1500 bp of TSS |
| cg14099540 | chr9: 136018794 | <i>RALGDS</i> | -0.032 (0.007) | 9.00E-06 | 0.03 | no | no | North Shore | within gene body |
| cg22306344 | chr3: 49966773 | <i>MON1A</i> | 0.01 (0.002) | 9.02E-06 | 0.03 | no | no | North Shore | within gene body |
| cg11138095 | chr13: 49794053 | <i>MLNR</i> | -0.033 (0.007) | 9.08E-06 | 0.03 | no | no | North Shore | within 1500 bp of TSS |

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|------------|-----------------|---------------------|----------------|----------|------|------------|------------|---------------|-----------------------|
| cg25181302 | chr17: 74570181 | <i>ST6GALNAC2</i> | 0.02 (0.004) | 9.19E-06 | 0.03 | not tested | not tested | Open Sea | within gene body |
| cg00325383 | chr6: 85404488 | <i>LOC102724201</i> | -0.057 (0.012) | 9.43E-06 | 0.03 | not tested | not tested | Open Sea | within gene body |
| cg11073382 | chr4: 120898808 | NA | -0.04 (0.008) | 9.47E-06 | 0.03 | no | no | Open Sea | |
| cg11644454 | chr1: 172417035 | <i>C1orf105</i> | -0.036 (0.007) | 9.45E-06 | 0.03 | not tested | not tested | South Shelf | within gene body |
| cg18411043 | chr1: 31221135 | <i>LAPTM5</i> | -0.024 (0.005) | 9.36E-06 | 0.03 | no | no | Open Sea | within gene body |
| cg20118823 | chr19: 1612208 | <i>TCF3</i> | 0.025 (0.005) | 9.33E-06 | 0.03 | no | no | North Shelf | within gene body |
| cg02383650 | chr11: 3050362 | <i>CARS</i> | 0.019 (0.004) | 9.61E-06 | 0.03 | not tested | not tested | Open Sea | within gene body |
| cg02428178 | chr15: 49104237 | <i>CEP152</i> | -0.053 (0.011) | 9.69E-06 | 0.03 | no | no | South Shore | within 1500 bp of TSS |
| cg04255090 | chr16: 85343936 | NA | -0.03 (0.006) | 9.72E-06 | 0.03 | not tested | not tested | Open Sea | |
| cg11175192 | chr2: 219724918 | <i>WNT6</i> | -0.034 (0.007) | 9.57E-06 | 0.03 | no | no | in CpG Island | within gene body |
| cg17357892 | chr21: 44914774 | NA | -0.036 (0.008) | 9.72E-06 | 0.03 | not tested | not tested | Open Sea | |
| cg24935208 | chr3: 89097455 | NA | -0.031 (0.007) | 9.77E-06 | 0.03 | no | no | Open Sea | |
| cg10702418 | chr7: 157090031 | NA | -0.049 (0.01) | 9.91E-06 | 0.03 | no | no | North Shelf | |
| cg12587260 | chr14: 73703163 | <i>PAPLN</i> | -0.038 (0.008) | 9.87E-06 | 0.03 | not tested | not tested | North Shore | within 1500 bp of TSS |
| cg13979872 | chr19: 44327981 | NA | 0.017 (0.004) | 9.85E-06 | 0.03 | no | no | South Shelf | |
| cg12202498 | chr3: 15482605 | <i>EAF1</i> | -0.026 (0.005) | 9.97E-06 | 0.03 | not tested | not tested | Open Sea | 3'UTR |
| cg21907521 | chr19: 49255510 | <i>FUT1</i> | -0.029 (0.006) | 1.01E-05 | 0.03 | not tested | not tested | South Shore | 5'UTR |
| cg25579675 | chr14: 23846906 | <i>CMTM5</i> | -0.03 (0.006) | 1.03E-05 | 0.03 | no | no | Open Sea | within gene body |
| cg07100050 | chr10: 21390114 | <i>NEBL</i> | -0.047 (0.01) | 1.04E-05 | 0.03 | not tested | not tested | Open Sea | within gene body |
| cg08141463 | chr3: 119310381 | NA | 0.013 (0.003) | 1.07E-05 | 0.03 | no | no | Open Sea | |
| cg11369971 | chr12: 15337635 | <i>REERG</i> | -0.035 (0.007) | 1.07E-05 | 0.03 | not tested | not tested | Open Sea | within gene body |
| cg13766864 | chr11: 74172851 | <i>KCNE3</i> | -0.048 (0.01) | 1.05E-05 | 0.03 | no | no | Open Sea | 5'UTR |
| cg16551513 | chr8: 134261857 | <i>NDRG1</i> | -0.043 (0.009) | 1.07E-05 | 0.03 | not tested | not tested | Open Sea | within gene body |
| cg22599985 | chr12: 51420538 | <i>SLC11A2</i> | -0.027 (0.006) | 1.06E-05 | 0.03 | not tested | not tested | South Shore | within 1500 bp of TSS |
| cg23199873 | chr7: 93090748 | <i>CALCR</i> | -0.045 (0.009) | 1.06E-05 | 0.03 | not tested | not tested | Open Sea | within gene body |
| cg24214000 | chr22: 50282386 | <i>ZBED4</i> | 0.021 (0.004) | 1.04E-05 | 0.03 | no | no | South Shelf | 3'UTR |
| cg24954207 | chr3: 128217091 | NA | -0.039 (0.008) | 1.07E-05 | 0.03 | no | no | South Shore | |
| cg11835347 | chr1: 113248232 | <i>RHOC</i> | -0.054 (0.011) | 1.09E-05 | 0.04 | yes | no | North Shore | 5'UTR |
| cg14457284 | chr9: 135852984 | <i>GFI1B</i> | -0.04 (0.008) | 1.09E-05 | 0.04 | no | no | Open Sea | within 1500 bp of TSS |

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|------------|------------------|-----------------|----------------|----------|------|------------|------------|---------------------------|-----------------------|
| cg03498271 | chr5: 38427885 | <i>EGFLAM</i> | -0.055 (0.012) | 1.12E-05 | 0.04 | not tested | not tested | Open Sea | within gene body |
| cg15228983 | chr19: 42582914 | <i>ZNF574</i> | 0.026 (0.005) | 1.12E-05 | 0.04 | no | no | North Shore | within gene body |
| cg07164136 | chr10: 108393920 | <i>SORCS1</i> | -0.025 (0.005) | 1.13E-05 | 0.04 | no | no | Open Sea in CpG Island | within gene body |
| cg10043090 | chr11: 1536810 | <i>HCCA2</i> | -0.047 (0.01) | 1.14E-05 | 0.04 | no | no | Island | within gene body |
| cg09554514 | chr4: 186693893 | <i>SORBS2</i> | -0.036 (0.008) | 1.16E-05 | 0.04 | not tested | not tested | Open Sea | 5'UTR |
| cg11482105 | chr1: 56241150 | NA | -0.033 (0.007) | 1.17E-05 | 0.04 | not tested | not tested | Open Sea | |
| cg13019856 | chr2: 70945292 | <i>ADD2</i> | -0.042 (0.009) | 1.17E-05 | 0.04 | not tested | not tested | Open Sea | 5'UTR |
| cg20907456 | chr11: 57405372 | NA | -0.029 (0.006) | 1.17E-05 | 0.04 | yes | no | Open Sea | |
| cg13846358 | chr9: 135115582 | <i>NTNG2</i> | 0.032 (0.007) | 1.18E-05 | 0.04 | no | no | North Shore | within gene body |
| cg00216061 | chr16: 88547579 | <i>ZFPM1</i> | 0.025 (0.005) | 1.19E-05 | 0.04 | no | no | Open Sea | within gene body |
| cg14174894 | chr19: 42557118 | <i>GRIK5</i> | 0.023 (0.005) | 1.19E-05 | 0.04 | not tested | not tested | Open Sea | within gene body |
| cg03388769 | chr5: 60622671 | NA | 0.032 (0.007) | 1.22E-05 | 0.04 | not tested | not tested | North Shelf | |
| cg13697368 | chr17: 7833663 | <i>TRAPPC1</i> | 0.02 (0.004) | 1.21E-05 | 0.04 | no | no | North Shore | 3'UTR |
| cg26877588 | chr18: 61455379 | <i>SERPINB7</i> | 0.019 (0.004) | 1.21E-05 | 0.04 | no | no | Open Sea | within gene body |
| cg08188318 | chr6: 34984953 | <i>ANKS1A</i> | -0.093 (0.02) | 1.24E-05 | 0.04 | no | no | Open Sea | within gene body |
| cg12474404 | chr14: 102814892 | <i>CINP</i> | 0.022 (0.005) | 1.24E-05 | 0.04 | not tested | not tested | Open Sea | 3'UTR |
| cg12840850 | chr20: 62407352 | <i>ZBTB46</i> | 0.021 (0.005) | 1.24E-05 | 0.04 | no | no | South Shore in CpG Island | within gene body |
| cg27250841 | chr18: 47813745 | <i>CXXC1</i> | -0.012 (0.003) | 1.24E-05 | 0.04 | no | no | Island | within gene body |
| cg00535807 | chr9: 5186210 | <i>INSL6</i> | 0.015 (0.003) | 1.31E-05 | 0.04 | not tested | not tested | South Shore | within 1500 bp of TSS |
| cg00718684 | chr6: 31692026 | <i>C6orf25</i> | 0.041 (0.009) | 1.33E-05 | 0.04 | no | no | South Shore | within gene body |
| cg01078446 | chr12: 115113212 | <i>TBX3</i> | -0.05 (0.01) | 1.31E-05 | 0.04 | no | no | South Shore | within gene body |
| cg01327863 | chr11: 64878267 | <i>TM7SF2</i> | -0.028 (0.006) | 1.30E-05 | 0.04 | not tested | not tested | North Shore | within 1500 bp of TSS |
| cg01461514 | chr7: 55177182 | <i>EGFR</i> | -0.044 (0.009) | 1.26E-05 | 0.04 | no | no | Open Sea | within gene body |
| cg04009045 | chr2: 74804817 | <i>M1AP</i> | -0.027 (0.006) | 1.27E-05 | 0.04 | not tested | not tested | Open Sea | within gene body |
| cg04179940 | chr20: 33871836 | <i>EIF6</i> | -0.032 (0.007) | 1.34E-05 | 0.04 | yes | no | North Shore | within gene body |
| cg06042828 | chr16: 68058281 | <i>DDX28</i> | -0.022 (0.005) | 1.34E-05 | 0.04 | no | no | South Shore | within 1500 bp of TSS |

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|------------|------------------|---------------------|----------------|----------|------|------------|------------|-------------|-----------------------|
| cg07520586 | chr17: 2861947 | <i>RAP1GAP2</i> | 0.022 (0.005) | 1.32E-05 | 0.04 | not tested | not tested | Open Sea | within gene body |
| cg08356805 | chr16: 88979098 | <i>CBFA2T3</i> | 0.023 (0.005) | 1.29E-05 | 0.04 | no | no | South Shelf | 5'UTR |
| cg08509749 | chr13: 65884209 | NA | 0.028 (0.006) | 1.34E-05 | 0.04 | no | no | Open Sea | |
| cg09396490 | chr9: 126372395 | <i>DENND1A</i> | 0.02 (0.004) | 1.34E-05 | 0.04 | not tested | not tested | Open Sea | within gene body |
| cg10271993 | chr8: 110593242 | <i>SYBU</i> | -0.034 (0.007) | 1.32E-05 | 0.04 | not tested | not tested | Open Sea | within gene body |
| cg14561649 | chr2: 240044446 | <i>HDAC4</i> | 0.025 (0.005) | 1.31E-05 | 0.04 | not tested | not tested | North Shore | within gene body |
| cg15547507 | chr2: 232557565 | NA | 0.023 (0.005) | 1.28E-05 | 0.04 | not tested | not tested | Open Sea | |
| cg16049584 | chr10: 93735638 | <i>BTAF1</i> | 0.011 (0.002) | 1.31E-05 | 0.04 | not tested | not tested | Open Sea | within gene body |
| cg18670934 | chr8: 128512692 | NA | 0.013 (0.003) | 1.32E-05 | 0.04 | not tested | not tested | Open Sea | |
| cg19890584 | chr13: 100024488 | <i>UBAC2</i> | -0.04 (0.008) | 1.31E-05 | 0.04 | not tested | not tested | Open Sea | within gene body |
| cg20538322 | chr12: 114851913 | NA | 0.028 (0.006) | 1.29E-05 | 0.04 | no | no | North Shore | |
| cg06297541 | chr16: 22384949 | <i>CDR2</i> | -0.053 (0.011) | 1.35E-05 | 0.04 | no | no | North Shore | within gene body |
| cg01593812 | chr21: 35312645 | <i>LINC00649</i> | -0.033 (0.007) | 1.36E-05 | 0.04 | not tested | not tested | Open Sea | within gene body |
| cg04270823 | chr20: 62687554 | <i>TCEA2</i> | -0.044 (0.009) | 1.36E-05 | 0.04 | not tested | not tested | North Shore | within 1500 bp of TSS |
| cg10835711 | chr8: 77618141 | <i>ZFHX4</i> | 0.031 (0.007) | 1.37E-05 | 0.04 | no | no | Open Sea | within gene body |
| cg12983664 | chr13: 110441015 | NA | -0.047 (0.01) | 1.38E-05 | 0.04 | not tested | not tested | South Shore | |
| cg14018648 | chr17: 7083015 | <i>ASGR1</i> | -0.03 (0.006) | 1.40E-05 | 0.04 | no | no | Open Sea | within 200 bp of TSS |
| cg19933810 | chr16: 1386290 | <i>BAIAP3</i> | -0.031 (0.007) | 1.41E-05 | 0.04 | not tested | not tested | South Shore | 5'UTR |
| cg23383111 | chr15: 51742890 | <i>DMXL2</i> | 0.018 (0.004) | 1.41E-05 | 0.04 | not tested | not tested | Open Sea | within gene body |
| cg24418941 | chr19: 2062522 | NA | 0.028 (0.006) | 1.40E-05 | 0.04 | yes | no | South Shore | |
| cg21019063 | chr15: 98065112 | <i>LOC101927286</i> | -0.048 (0.01) | 1.42E-05 | 0.04 | not tested | not tested | Open Sea | within 200 bp of TSS |
| cg08548535 | chr4: 155661052 | NA | 0.014 (0.003) | 1.43E-05 | 0.04 | no | no | North Shore | |
| cg08813149 | chr1: 192736213 | NA | -0.016 (0.004) | 1.43E-05 | 0.04 | not tested | not tested | Open Sea | |
| cg13805711 | chr4: 6374101 | <i>PPP2R2C</i> | 0.024 (0.005) | 1.44E-05 | 0.04 | not tested | not tested | Open Sea | within gene body |
| cg04339947 | chr11: 61443052 | NA | 0.028 (0.006) | 1.46E-05 | 0.04 | no | no | Open Sea | |
| cg06980173 | chr1: 154376344 | <i>IL6R</i> | -0.047 (0.01) | 1.47E-05 | 0.04 | yes | no | North Shore | within 1500 bp of TSS |
| cg07169009 | chr20: 1607919 | NA | 0.026 (0.006) | 1.47E-05 | 0.04 | not tested | not tested | Open Sea | |
| cg14187236 | chr17: 49205442 | NA | 0.022 (0.005) | 1.47E-05 | 0.04 | not tested | not tested | Open Sea | |

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| cg10075503 | chr19: 752097 | <i>MISP</i> | 0.018 (0.004) | 1.49E-05 | 0.04 | not tested | not tested | Open Sea | 5'UTR |
| cg10635343 | chr5: 39378426 | <i>DAB2</i> | 0.009 (0.002) | 1.49E-05 | 0.04 | not tested | not tested | Open Sea | within gene body |
| cg12122387 | chr8: 17756185 | NA | -0.041 (0.008) | 1.49E-05 | 0.04 | not tested | not tested | Open Sea | |
| cg00764771 | chr7: 150086034 | <i>ZNF775</i> | -0.047 (0.01) | 1.55E-05 | 0.04 | not tested | not tested | Open Sea | within gene body |
| cg03627489 | chr16: 51341199 | NA | -0.033 (0.007) | 1.54E-05 | 0.04 | no | no | Open Sea | |
| cg04474832 | chr3: 52008487 | <i>ABHD14B</i> | -0.032 (0.007) | 1.51E-05 | 0.04 | no | no | North Shore | within 1st exon |
| cg04959662 | chr2: 109941286 | <i>SH3RF3</i> | 0.009 (0.002) | 1.57E-05 | 0.04 | not tested | not tested | Open Sea | within gene body |
| cg08879394 | chr7: 111162222 | <i>IMMP2L</i> | 0.013 (0.003) | 1.53E-05 | 0.04 | not tested | not tested | Open Sea | 5'UTR |
| cg08971940 | chr10: 36214839 | NA | 0.016 (0.003) | 1.54E-05 | 0.04 | no | no | Open Sea | |
| cg09295164 | chr11: 85904644 | NA | -0.006 (0.001) | 1.58E-05 | 0.04 | not tested | not tested | Open Sea | |
| cg11474135 | chr4: 113933301 | <i>ANK2</i> | -0.047 (0.01) | 1.51E-05 | 0.04 | no | no | Open Sea | within gene body |
| cg14155327 | chr4: 87235054 | <i>MAPK10</i> | -0.04 (0.009) | 1.57E-05 | 0.04 | no | no | Open Sea | 5'UTR |
| cg14323608 | chr19: 13873961 | <i>MRI1</i> | 0.028 (0.006) | 1.57E-05 | 0.04 | no | no | North Shore | within 1500 bp of TSS |
| cg17433369 | chr9: 129938408 | <i>RALGPS1</i> | -0.014 (0.003) | 1.57E-05 | 0.04 | not tested | not tested | Open Sea | within gene body |
| cg21156439 | chr9: 94716496 | NA | 0.051 (0.011) | 1.57E-05 | 0.04 | no | no | South Shelf | |
| cg23222717 | chr6: 46462509 | NA | 0.027 (0.006) | 1.52E-05 | 0.04 | no | no | South Shelf | |
| cg26918607 | chr2: 216312473 | NA | -0.039 (0.008) | 1.56E-05 | 0.04 | not tested | not tested | Open Sea | |
| cg27260887 | chr12: 52435577 | <i>NR4A1</i> | -0.029 (0.006) | 1.51E-05 | 0.04 | not tested | not tested | South Shelf | within gene body |
| cg07775790 | chr5: 169145735 | <i>DOCK2</i> | 0.009 (0.002) | 1.58E-05 | 0.04 | not tested | not tested | Open Sea | within gene body |
| cg27418500 | chr2: 123758682 | NA | 0.021 (0.005) | 1.59E-05 | 0.04 | no | no | Open Sea | |
| cg01089519 | chr11: 46686440 | <i>ATG13</i> | 0.02 (0.004) | 1.62E-05 | 0.04 | not tested | not tested | Open Sea | within gene body |
| cg01154210 | chr21: 27493310 | <i>APP</i> | 0.102 (0.022) | 1.63E-05 | 0.04 | not tested | not tested | Open Sea | 5'UTR |
| cg02719154 | chr4: 111533823 | NA | -0.033 (0.007) | 1.62E-05 | 0.04 | no | no | South Shore | |
| cg10504000 | chr11: 2402391 | <i>CD81</i> | -0.04 (0.009) | 1.63E-05 | 0.04 | no | no | South Shelf | within gene body |
| cg11937241 | chr4: 135122152 | <i>PABPC4L</i> | 0.028 (0.006) | 1.63E-05 | 0.04 | no | no | Open Sea | within gene body |
| cg20500791 | chr7: 50420285 | <i>IKZF1</i> | -0.042 (0.009) | 1.61E-05 | 0.04 | not tested | not tested | Open Sea | within gene body |
| cg12380764 | chr1: 206971195 | <i>IL19</i> | -0.039 (0.008) | 1.65E-05 | 0.04 | no | no | Open Sea | within 1500 bp of TSS |
| cg02098967 | chr2: 241990667 | <i>SNED1</i> | 0.023 (0.005) | 1.66E-05 | 0.04 | not tested | not tested | North Shore | within gene body |
| cg04946588 | chr7: 86271783 | <i>GRM3</i> | -0.052 (0.011) | 1.66E-05 | 0.04 | not tested | not tested | Open Sea | within 1500 bp of TSS |

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| cg00082998 | chr19: 4008627 | <i>PIAS4</i> | -0.027 (0.006) | 1.69E-05 | 0.04 | not tested | not tested | South Shore | within gene body |
| cg01761595 | chr8: 9821723 | NA | -0.069 (0.015) | 1.70E-05 | 0.04 | no | no | Open Sea | |
| cg02884943 | chr10: 72725905 | NA | -0.059 (0.013) | 1.71E-05 | 0.04 | not tested | not tested | Open Sea | |
| cg04953061 | chr14: 53620393 | <i>DDHD1</i> | -0.028 (0.006) | 1.73E-05 | 0.04 | no | no | South Shore | within 1500 bp of TSS |
| cg05703302 | chr1: 16279468 | <i>ZBTB17</i> | -0.03 (0.006) | 1.71E-05 | 0.04 | not tested | not tested | Open Sea | 5'UTR |
| cg09199598 | chr17: 3461480 | <i>TRPV3</i> | 0.022 (0.005) | 1.68E-05 | 0.04 | no | no | Open Sea | within 200 bp of TSS |
| cg11895950 | chrX: 44732372 | <i>KDM6A</i> | 0.002 (0) | 1.72E-05 | 0.04 | no | no | Island | within 200 bp of TSS |
| cg14112754 | chr3: 194118613 | <i>GP5</i> | -0.039 (0.008) | 1.70E-05 | 0.04 | no | no | Island | within gene body |
| cg16170878 | chr13: 49659276 | <i>FNDC3A</i> | -0.035 (0.008) | 1.70E-05 | 0.04 | not tested | not tested | Open Sea | within gene body |
| cg18018385 | chr10: 101964284 | <i>CHUK</i> | 0.016 (0.004) | 1.72E-05 | 0.04 | not tested | not tested | Open Sea | within gene body |
| cg26338757 | chr10: 88428295 | <i>LDB3</i> | -0.037 (0.008) | 1.70E-05 | 0.04 | no | no | Open Sea | within 200 bp of TSS |
| cg26915384 | chr16: 27896619 | <i>GSG1L</i> | -0.01 (0.002) | 1.71E-05 | 0.04 | no | no | Open Sea | within gene body |
| cg06835772 | chr16: 85296220 | NA | -0.035 (0.008) | 1.76E-05 | 0.04 | yes | no | Open Sea | |
| cg14827165 | chr19: 17221420 | <i>MYO9B</i> | -0.025 (0.005) | 1.76E-05 | 0.04 | not tested | not tested | Open Sea | within gene body |
| cg20170309 | chr16: 50753273 | <i>NOD2</i> | 0.021 (0.005) | 1.76E-05 | 0.04 | not tested | not tested | Open Sea | within gene body |
| cg11170796 | chr19: 1650224 | <i>TCF3</i> | 0.024 (0.005) | 1.78E-05 | 0.04 | no | no | South Shelf | within gene body |
| cg02202721 | chr1: 156865043 | <i>PEAR1</i> | -0.033 (0.007) | 1.79E-05 | 0.04 | not tested | not tested | South Shore | 5'UTR |
| cg14425843 | chr7: 92729833 | <i>SAMD9</i> | 0.012 (0.003) | 1.79E-05 | 0.04 | no | no | Open Sea | 3'UTR |
| cg08319238 | chr19: 45312525 | <i>BCAM</i> | -0.025 (0.005) | 1.82E-05 | 0.04 | no | no | Open Sea | within gene body |
| cg11673291 | chr1: 36787145 | NA | -0.035 (0.008) | 1.81E-05 | 0.04 | no | no | South Shore | |
| cg22665096 | chr12: 42102842 | NA | -0.02 (0.004) | 1.82E-05 | 0.04 | no | no | Island | |
| cg24437293 | chr19: 2065374 | NA | 0.027 (0.006) | 1.83E-05 | 0.04 | no | no | Open Sea | |
| cg22191973 | chr18: 55292558 | NA | 0.021 (0.005) | 1.84E-05 | 0.04 | no | no | South Shore | |
| cg17885233 | chr3: 132450221 | <i>NPHP3-AS1</i> | -0.051 (0.011) | 1.84E-05 | 0.04 | not tested | not tested | South Shelf | within gene body |
| cg14396995 | chr7: 42278089 | <i>GLI3</i> | 0.06 (0.013) | 1.86E-05 | 0.04 | no | no | Open Sea | within 1500 bp of TSS |
| cg04157263 | chr17: 37752991 | NA | -0.027 (0.006) | 1.87E-05 | 0.04 | no | no | South Shore | |
| cg07131742 | chr11: 66112880 | <i>B3GNT1</i> | -0.041 (0.009) | 1.89E-05 | 0.04 | no | no | Island | |
| cg12423902 | chr6: 30159309 | <i>TRIM26</i> | 0.013 (0.003) | 1.89E-05 | 0.04 | no | no | North Shore | 3'UTR |
| | | | | | | | | Open Sea | within gene body |

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| cg13962771 | chr5: 140048068 | <i>WDR55</i> | 0.019 (0.004) | 1.90E-05 | 0.04 | not tested | not tested | South Shelf | within gene body |
| cg03917515 | chr16: 53465339 | NA | 0.017 (0.004) | 1.91E-05 | 0.04 | no | no | North Shelf | |
| cg04552136 | chr22: 50656153 | <i>TUBGCP6</i> | 0.02 (0.004) | 1.91E-05 | 0.04 | no | no | North Shore | 3'UTR |
| cg05454781 | chr1: 10651344 | <i>PEX14</i> | -0.034 (0.007) | 1.91E-05 | 0.04 | not tested | not tested | Open Sea | within gene body |
| cg10142738 | chr11: 19757625 | <i>NAV2</i> | -0.035 (0.008) | 1.93E-05 | 0.04 | not tested | not tested | Open Sea | within gene body |
| cg15472784 | chr1: 3663531 | <i>KIAA0495</i> | -0.003 (0.001) | 1.93E-05 | 0.04 | no | no | in CpG Island | within 1st exon |
| cg21801962 | chr1: 57602295 | <i>DAB1</i> | 0.02 (0.004) | 1.94E-05 | 0.04 | not tested | not tested | Open Sea | ExonBnd |
| cg01530448 | chr21: 36319162 | <i>RUNX1</i> | 0.011 (0.003) | 1.94E-05 | 0.04 | not tested | not tested | Open Sea | within gene body |
| cg06596521 | chr3: 126263868 | <i>C3orf22</i> | -0.042 (0.009) | 1.95E-05 | 0.04 | not tested | not tested | South Shelf | within gene body |
| cg12836643 | chr22: 39129370 | <i>GTPBP1</i> | -0.03 (0.007) | 1.95E-05 | 0.04 | yes | yes | Open Sea | 3'UTR |
| cg18073938 | chr4: 100789493 | <i>DAPP1</i> | -0.032 (0.007) | 1.97E-05 | 0.04 | not tested | not tested | Open Sea | 3'UTR |
| cg21034201 | chr18: 33160855 | NA | -0.021 (0.005) | 1.96E-05 | 0.04 | not tested | not tested | North Shore | |
| cg21844291 | chr2: 11097873 | NA | -0.029 (0.006) | 1.98E-05 | 0.04 | no | no | North Shelf | |
| cg10058373 | chr10: 120766572 | NA | -0.032 (0.007) | 2.00E-05 | 0.04 | not tested | not tested | Open Sea | |
| cg27056175 | chr8: 141556352 | <i>EIF2C2</i> | 0.006 (0.001) | 2.01E-05 | 0.04 | no | no | North Shelf | within gene body |
| cg00102795 | chr10: 3151915 | <i>PFKP</i> | 0.017 (0.004) | 2.05E-05 | 0.04 | not tested | not tested | South Shelf | within gene body |
| cg15909006 | chr16: 2086421 | <i>SLC9A3R2</i> | 0.026 (0.006) | 2.06E-05 | 0.04 | no | no | in CpG Island | within gene body |
| cg21886561 | chr12: 53730326 | <i>SP7</i> | -0.024 (0.005) | 2.07E-05 | 0.04 | not tested | not tested | Open Sea | 5'UTR |
| cg15187175 | chr13: 94176949 | <i>GPC6</i> | 0.021 (0.005) | 2.08E-05 | 0.04 | no | no | Open Sea | within gene body |
| cg00441550 | chr20: 29955998 | <i>DEFB118</i> | -0.06 (0.013) | 2.21E-05 | 0.04 | not tested | not tested | Open Sea | within 1500 bp of TSS |
| cg01052743 | chr8: 128747083 | <i>MYC</i> | 0.006 (0.001) | 2.47E-05 | 0.04 | no | no | North Shore | within 1500 bp of TSS |
| cg01260075 | chr17: 28620354 | <i>BLMH</i> | 0.015 (0.003) | 2.31E-05 | 0.04 | not tested | not tested | South Shore | within 1500 bp of TSS |
| cg02147126 | chr19: 827715 | <i>AZU1</i> | -0.031 (0.007) | 2.35E-05 | 0.04 | no | no | Open Sea | within 200 bp of TSS |
| cg02956226 | chr17: 4917032 | <i>KIF1C</i> | 0.016 (0.004) | 2.19E-05 | 0.04 | not tested | not tested | Open Sea | ExonBnd |
| cg03435866 | chr2: 30452607 | NA | 0.009 (0.002) | 2.28E-05 | 0.04 | no | no | North Shore | |
| cg03520471 | chr3: 97753623 | <i>GABRR3</i> | -0.054 (0.012) | 2.30E-05 | 0.04 | no | no | Open Sea | within gene body |
| cg03678999 | chr1: 1912135 | <i>CFAP74</i> | 0.023 (0.005) | 2.47E-05 | 0.04 | not tested | not tested | in CpG Island | within gene body |

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| cg04708601 | chr6: 101880078 | <i>GRIK2</i> | -0.051 (0.011) | 2.19E-05 | 0.04 | no | no | Open Sea | within gene body |
| cg05002615 | chr7: 68326108 | NA | 0.005 (0.001) | 2.22E-05 | 0.04 | no | no | Open Sea | |
| cg05233535 | chr12: 6497969 | <i>LTBR</i> | 0.015 (0.003) | 2.42E-05 | 0.04 | not tested | not tested | Open Sea | within gene body |
| cg05293706 | chr2: 219194675 | <i>PNKD</i> | -0.036 (0.008) | 2.24E-05 | 0.04 | not tested | not tested | Open Sea | within gene body |
| cg05370277 | chr4: 10006097 | <i>SLC2A9</i> | 0.019 (0.004) | 2.12E-05 | 0.04 | not tested | not tested | Open Sea | within gene body |
| cg05516255 | chr15: 75652110 | <i>MAN2C1</i> | 0.023 (0.005) | 2.38E-05 | 0.04 | not tested | not tested | South Shelf | within gene body |
| cg05712904 | chr19: 2692137 | <i>GNG7</i> | 0.023 (0.005) | 2.46E-05 | 0.04 | not tested | not tested | Open Sea | 5'UTR |
| cg05731156 | chr16: 30418364 | <i>ZNF771</i> | -0.01 (0.002) | 2.28E-05 | 0.04 | no | no | North Shore | within 1500 bp of TSS |
| cg05797982 | chr5: 71764958 | <i>ZNF366</i> | -0.041 (0.009) | 2.19E-05 | 0.04 | not tested | not tested | Open Sea | 5'UTR |
| cg05990312 | chr17: 19628421 | NA | -0.036 (0.008) | 2.37E-05 | 0.04 | no | no | South Shore | |
| cg07064050 | chr19: 19165011 | <i>ARMC6</i> | 0.025 (0.006) | 2.18E-05 | 0.04 | no | no | Open Sea | within gene body |
| cg07126444 | chr14: 75608010 | <i>TMED10</i> | -0.047 (0.01) | 2.34E-05 | 0.04 | not tested | not tested | Open Sea | within gene body |
| cg07511317 | chr14: 104159997 | <i>KLC1</i> | 0.014 (0.003) | 2.47E-05 | 0.04 | no | no | Open Sea | within gene body |
| cg08257567 | chr3: 46009762 | <i>FYCO1</i> | 0.019 (0.004) | 2.41E-05 | 0.04 | not tested | not tested | Open Sea | within gene body |
| cg08343999 | chr21: 43635188 | <i>ABCG1</i> | 0.019 (0.004) | 2.26E-05 | 0.04 | not tested | not tested | North Shelf | within 1500 bp of TSS |
| cg08743392 | chr20: 33543028 | <i>GSS</i> | -0.027 (0.006) | 2.41E-05 | 0.04 | no | no | North Shore | 5'UTR |
| cg08811516 | chr13: 35043968 | <i>LINC00457</i> | -0.04 (0.009) | 2.40E-05 | 0.04 | not tested | not tested | Open Sea | within gene body |
| cg09023892 | chr22: 38072101 | <i>LGALS1</i> | -0.033 (0.007) | 2.47E-05 | 0.04 | not tested | not tested | North Shore | within gene body |
| cg09060489 | chr1: 27874526 | <i>AHDC1</i> | 0.025 (0.006) | 2.46E-05 | 0.04 | no | no | in CpG Island | within gene body |
| cg09953898 | chr2: 8935087 | <i>KIDINS220</i> | -0.044 (0.01) | 2.28E-05 | 0.04 | not tested | not tested | Open Sea | within gene body |
| cg10370599 | chr16: 22825158 | <i>HS3ST2</i> | -0.004 (0.001) | 2.40E-05 | 0.04 | no | no | in CpG Island | within 1500 bp of TSS |
| cg11599849 | chr1: 48809125 | <i>SPATA6</i> | 0.016 (0.003) | 2.28E-05 | 0.04 | not tested | not tested | Open Sea | within gene body |
| cg11980819 | chr19: 4302579 | <i>TMIGD2</i> | -0.026 (0.006) | 2.22E-05 | 0.04 | yes | no | North Shore | within 200 bp of TSS |
| cg12063619 | chr13: 92868702 | <i>GPC5</i> | -0.046 (0.01) | 2.45E-05 | 0.04 | not tested | not tested | Open Sea | within gene body |
| cg12249789 | chr21: 45203404 | NA | 0.036 (0.008) | 2.42E-05 | 0.04 | yes | no | North Shelf | |
| cg12568707 | chr19: 19042904 | <i>HOMER3</i> | 0.021 (0.005) | 2.31E-05 | 0.04 | no | no | in CpG Island | within gene body |

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| cg12973855 | chr15: 59816483 | NA | -0.038 (0.008) | 2.13E-05 | 0.04 | not tested | not tested | Open Sea | |
| cg13657983 | chr5: 73405407 | NA | 0.021 (0.005) | 2.39E-05 | 0.04 | not tested | not tested | Open Sea | |
| cg14153927 | chr19: 46846465 | <i>HIF3A</i> | -0.032 (0.007) | 2.29E-05 | 0.04 | no | no | North Shelf | 3'UTR within 1500 bp of TSS |
| cg14374920 | chr11: 57996779 | <i>OR10Q1</i> | 0.011 (0.003) | 2.46E-05 | 0.04 | not tested | not tested | Open Sea | |
| cg15059075 | chr19: 30264378 | NA | 0.023 (0.005) | 2.33E-05 | 0.04 | not tested | not tested | Open Sea | |
| cg15235434 | chr1: 171197048 | NA | 0.015 (0.003) | 2.42E-05 | 0.04 | not tested | not tested | Open Sea | |
| cg15701979 | chr4: 20554680 | <i>SLIT2</i> | 0.024 (0.005) | 2.46E-05 | 0.04 | not tested | not tested | Open Sea | within gene body |
| cg16145176 | chr21: 25596030 | NA | -0.06 (0.013) | 2.32E-05 | 0.04 | not tested | not tested | Open Sea | |
| cg16350196 | chr4: 137426420 | NA | -0.052 (0.011) | 2.36E-05 | 0.04 | not tested | not tested | Open Sea | |
| cg16524284 | chr19: 33353338 | <i>SLC7A9</i> | 0.027 (0.006) | 2.15E-05 | 0.04 | no | no | South Shelf | within gene body |
| cg16713094 | chr9: 99450648 | NA | 0.021 (0.005) | 2.14E-05 | 0.04 | not tested | not tested | South Shore | |
| cg18713358 | chr11: 67038249 | <i>ADRBK1</i> | -0.028 (0.006) | 2.26E-05 | 0.04 | not tested | not tested | South Shelf | within gene body |
| cg19190900 | chr2: 37553621 | NA | 0.053 (0.012) | 2.23E-05 | 0.04 | no | no | South Shore | |
| cg19194448 | chr2: 178976361 | <i>RBM45</i> | 0.012 (0.003) | 2.09E-05 | 0.04 | no | no | North Shore | within 1500 bp of TSS |
| cg20142271 | chr4: 81106287 | <i>PRDM8</i> | -0.005 (0.001) | 2.30E-05 | 0.04 | no | no | South Shore | within 200 bp of TSS within gene body |
| cg20637770 | chr1: 212872225 | <i>BATF3</i> | -0.027 (0.006) | 2.36E-05 | 0.04 | not tested | not tested | North Shore | |
| cg20736045 | chr8: 146270290 | NA | -0.039 (0.009) | 2.44E-05 | 0.04 | not tested | not tested | Open Sea | |
| cg21016438 | chr1: 109843435 | <i>MYBPHL</i> | -0.031 (0.007) | 2.44E-05 | 0.04 | not tested | not tested | Open Sea | within gene body |
| cg21165486 | chr1: 165606857 | <i>MGST3</i> | -0.034 (0.008) | 2.10E-05 | 0.04 | not tested | not tested | Open Sea | 5'UTR |
| cg21386863 | chr2: 150977022 | NA | -0.04 (0.009) | 2.23E-05 | 0.04 | no | no | Open Sea | |
| cg21637741 | chr8: 69834365 | <i>LINC01592</i> | -0.052 (0.011) | 2.40E-05 | 0.04 | not tested | not tested | Open Sea | within gene body |
| cg21721331 | chr1: 157670877 | <i>FCRL3</i> | -0.061 (0.013) | 2.13E-05 | 0.04 | not tested | not tested | Open Sea | within 1500 bp of TSS |
| cg21806273 | chr1: 247578953 | <i>NLRP3</i> | -0.042 (0.009) | 2.26E-05 | 0.04 | no | no | Open Sea | within 1500 bp of TSS |
| cg22059430 | chr7: 128346474 | NA | 0.014 (0.003) | 2.14E-05 | 0.04 | not tested | not tested | Open Sea | |
| cg22549504 | chr19: 17448937 | <i>GTPBP3</i> | 0.001 (0) | 2.29E-05 | 0.04 | no | no | in CpG Island | within gene body within 200 bp of TSS |
| cg22574288 | chr9: 22646113 | <i>LINC01239</i> | -0.049 (0.011) | 2.34E-05 | 0.04 | not tested | not tested | Open Sea | |
| cg22589055 | chr8: 86973512 | NA | -0.037 (0.008) | 2.27E-05 | 0.04 | not tested | not tested | Open Sea | |
| cg22686259 | chr16: 57984539 | <i>CNGB1</i> | -0.034 (0.008) | 2.43E-05 | 0.04 | not tested | not tested | Open Sea | within gene body |
| cg23024158 | chr10: 78011952 | <i>C10orf11</i> | -0.051 (0.011) | 2.36E-05 | 0.04 | yes | no | Open Sea | within gene body |

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| cg25038337 | chr8: 141551653 | <i>AGO2</i> | -0.017 (0.004) | 2.42E-05 | 0.04 | not tested | not tested | Open Sea | within gene body |
| cg25133376 | chr7: 73392981 | NA | -0.026 (0.006) | 2.25E-05 | 0.04 | no | no | Open Sea | |
| cg25467652 | chr1: 11795976 | <i>AGTRAP</i> | -0.034 (0.007) | 2.29E-05 | 0.04 | no | no | Open Sea in CpG Island | within 200 bp of TSS within gene body |
| cg26617588 | chr10: 73398446 | <i>CDH23</i> | -0.027 (0.006) | 2.18E-05 | 0.04 | not tested | not tested | Open Sea in CpG Island | within gene body |
| cg27496793 | chr2: 46926433 | <i>SOCS5</i> | 0.029 (0.006) | 2.21E-05 | 0.04 | no | no | Open Sea in CpG Island | 5'UTR within 1st exon |
| cg14483291 | chr11: 17569007 | <i>OTOG</i> | -0.042 (0.009) | 2.49E-05 | 0.04 | not tested | not tested | South Shelf in CpG Island | within gene body |
| cg16661234 | chr17: 10541620 | <i>MYH3</i> | -0.003 (0.001) | 2.49E-05 | 0.04 | no | no | Open Sea | within gene body |
| cg00596184 | chr16: 69350052 | <i>VPS4A</i> | 0.029 (0.006) | 2.59E-05 | 0.04 | no | no | Open Sea | within gene body |
| cg01002322 | chr2: 6872536 | <i>LINC00487</i> | -0.045 (0.01) | 2.56E-05 | 0.04 | not tested | not tested | Open Sea | within gene body |
| cg01004862 | chr16: 67249478 | <i>LRRC29</i> | 0.021 (0.005) | 2.58E-05 | 0.04 | not tested | not tested | Open Sea | 5'UTR |
| cg02395812 | chr14: 105955879 | <i>C14orf80</i> | -0.036 (0.008) | 2.59E-05 | 0.04 | no | no | North Shore | within 1500 bp of TSS within gene body |
| cg03333101 | chr19: 12954349 | <i>MAST1</i> | 0.023 (0.005) | 2.60E-05 | 0.04 | yes | no | North Shelf | |
| cg03665051 | chr22: 37569910 | NA | -0.032 (0.007) | 2.55E-05 | 0.04 | not tested | not tested | Open Sea | |
| cg03882382 | chr19: 4540065 | <i>LRG1</i> | -0.036 (0.008) | 2.57E-05 | 0.04 | no | no | North Shelf | within 200 bp of TSS within gene body |
| cg06390790 | chr17: 3654836 | <i>ITGAE</i> | 0.025 (0.006) | 2.58E-05 | 0.04 | yes | no | North Shelf | within gene body |
| cg07460883 | chr11: 65378788 | <i>MAP3K11</i> | -0.025 (0.006) | 2.54E-05 | 0.04 | not tested | not tested | South Shelf in CpG Island | within gene body |
| cg08839210 | chr17: 27045048 | <i>RAB34</i> | -0.027 (0.006) | 2.51E-05 | 0.04 | yes | no | Open Sea | within 200 bp of TSS within gene body |
| cg10126398 | chr1: 162825937 | <i>C1orf110</i> | 0.022 (0.005) | 2.51E-05 | 0.04 | no | no | Open Sea | |
| cg11933019 | chr11: 99291687 | <i>CNTN5</i> | -0.04 (0.009) | 2.57E-05 | 0.04 | no | no | Open Sea | 5'UTR |
| cg15992232 | chr20: 59524596 | NA | 0.021 (0.005) | 2.60E-05 | 0.04 | not tested | not tested | Open Sea | |
| cg16103159 | chr22: 26561575 | NA | -0.049 (0.011) | 2.56E-05 | 0.04 | no | no | North Shelf | |
| cg16344173 | chr7: 2158623 | <i>MAD1L1</i> | 0.028 (0.006) | 2.53E-05 | 0.04 | no | no | South Shelf | within gene body |
| cg18359017 | chr11: 5538958 | <i>UBQLNL</i> | -0.039 (0.009) | 2.56E-05 | 0.04 | not tested | not tested | Open Sea | within 1500 bp of TSS |
| cg20141502 | chr16: 28922391 | <i>RABEP2</i> | 0.018 (0.004) | 2.52E-05 | 0.04 | not tested | not tested | Open Sea | ExonBnd |
| cg26387796 | chr7: 150147927 | <i>GIMAP8</i> | -0.011 (0.002) | 2.60E-05 | 0.04 | no | no | Open Sea in CpG Island | within 200 bp of TSS within gene body |
| cg01940336 | chr19: 47935484 | <i>SLC8A2</i> | 0.022 (0.005) | 2.62E-05 | 0.04 | no | no | Open Sea in CpG Island | within gene body |

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|------------|---------------------|------------------|----------------|----------|------|------------|------------|---------------------------------|---|
| cg26610808 | chr10: 102046685 | <i>BLOC1S2</i> | -0.039 (0.009) | 2.62E-05 | 0.04 | yes | no | South Shore | within 1500 bp of TSS |
| cg20788793 | chr20: 3773402 | NA | 0.008 (0.002) | 2.63E-05 | 0.04 | no | no | North Shelf in CpG Island | |
| cg03839949 | chr3: 128210541 | <i>GATA2</i> | -0.023 (0.005) | 2.66E-05 | 0.04 | no | no | | 5'UTR within 1st exon |
| cg23241914 | chr1: 161193393 | <i>APOA2</i> | 0.019 (0.004) | 2.66E-05 | 0.04 | no | no | Open Sea | within 1st exon |
| cg25944620 | chr10: 75401315 | <i>MYOZ1</i> | 0.019 (0.004) | 2.66E-05 | 0.04 | no | no | Open Sea | |
| cg08473663 | chr17: 26695438 | <i>SEBOX</i> | 0.016 (0.004) | 2.67E-05 | 0.04 | no | no | North Shelf | within 1500 bp of TSS within gene body |
| cg15591386 | chr1: 76265299 | <i>MSH4</i> | -0.054 (0.012) | 2.67E-05 | 0.04 | no | no | South Shelf | |
| cg10387848 | chr18: 29757472 | NA | -0.036 (0.008) | 2.69E-05 | 0.04 | not tested | not tested | Open Sea | |
| cg14426913 | chr6: 6956252 | NA | 0.026 (0.006) | 2.69E-05 | 0.04 | no | no | Open Sea | |
| cg02938807 | chr14: 63785523 | <i>GPHB5</i> | -0.069 (0.015) | 2.72E-05 | 0.04 | no | no | Open Sea | within 1500 bp of TSS |
| cg04572631 | chr3: 158565194 | NA | -0.028 (0.006) | 2.72E-05 | 0.04 | not tested | not tested | Open Sea | |
| cg08491668 | chr6: 32935236 | <i>BRD2</i> | -0.03 (0.007) | 2.72E-05 | 0.04 | no | no | North Shore | within 1500 bp of TSS |
| cg09917488 | chr19: 39635460 | <i>PAK4</i> | -0.027 (0.006) | 2.72E-05 | 0.04 | not tested | not tested | Open Sea | 5'UTR |
| cg10420626 | chr6: 43741154 | <i>VEGFA</i> | -0.057 (0.013) | 2.72E-05 | 0.04 | not tested | not tested | South Shore | 5'UTR within gene body |
| cg15850010 | chr1: 170690670 | <i>PRRX1</i> | -0.03 (0.007) | 2.73E-05 | 0.04 | not tested | not tested | Open Sea | within 200 bp of TSS within gene body |
| cg12463158 | chr7: 150902745 | <i>IQCA1L</i> | 0.014 (0.003) | 2.75E-05 | 0.04 | not tested | not tested | South Shore | |
| cg00612202 | chr7: 926974 | <i>C7orf20</i> | 0.024 (0.005) | 2.79E-05 | 0.04 | no | no | North Shelf | within gene body |
| cg00666124 | chr2: 54756403 | <i>RPL23AP32</i> | 0.011 (0.002) | 2.86E-05 | 0.04 | no | no | Open Sea | within gene body |
| cg00770158 | chr3: 57134628 | <i>IL17RD</i> | -0.027 (0.006) | 2.98E-05 | 0.04 | no | no | South Shelf | within gene body |
| cg01035334 | chr11: 117883077 | NA | -0.033 (0.008) | 3.15E-05 | 0.04 | not tested | not tested | Open Sea | |
| cg01598569 | chr11: 130500748 | NA | -0.026 (0.006) | 3.05E-05 | 0.04 | not tested | not tested | Open Sea | |
| cg01619618 | chr1: 23610607 | <i>LINC01355</i> | -0.024 (0.005) | 3.13E-05 | 0.04 | not tested | not tested | Open Sea | within gene body |
| cg01658960 | chr12: 132690570 | <i>GALNT9</i> | -0.04 (0.009) | 2.80E-05 | 0.04 | no | no | in CpG Island | within gene body |
| cg02053339 | chr22: 43088726 | <i>A4GALT</i> | 0.028 (0.006) | 2.86E-05 | 0.04 | no | no | North Shore | 3'UTR |
| cg02078604 | chr1: 8797440 | <i>RERE</i> | -0.042 (0.009) | 3.01E-05 | 0.04 | not tested | not tested | Open Sea | 5'UTR |
| cg02081718 | chr6: 88300968 | <i>RARS2</i> | 0.014 (0.003) | 3.14E-05 | 0.04 | not tested | not tested | South Shore | within 1500 bp of TSS |

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|------------|------------------|-------------------|----------------|----------|------|------------|------------|------------------------|-----------------------|
| cg03140624 | chr1: 235931377 | <i>LYST</i> | -0.049 (0.011) | 3.09E-05 | 0.04 | no | no | Open Sea | within gene body |
| cg03529447 | chr9: 133274183 | <i>HMCN2</i> | 0.019 (0.004) | 3.13E-05 | 0.04 | not tested | not tested | Open Sea | within gene body |
| cg03638795 | chr11: 416499 | <i>SIGIRR</i> | -0.04 (0.009) | 3.06E-05 | 0.04 | yes | yes | Open Sea in CpG Island | 5'UTR |
| cg03665908 | chr19: 17631991 | <i>PGLS</i> | 0.03 (0.007) | 3.07E-05 | 0.04 | no | no | Open Sea in CpG Island | 3'UTR |
| cg04262465 | chr14: 101405693 | <i>SNORD113-6</i> | -0.039 (0.009) | 2.91E-05 | 0.04 | no | no | Open Sea | within 200 bp of TSS |
| cg04528240 | chr4: 56504657 | NA | -0.017 (0.004) | 3.15E-05 | 0.04 | no | no | South Shelf | |
| cg04609640 | chr1: 45254092 | <i>BEST4</i> | -0.035 (0.008) | 3.15E-05 | 0.04 | no | no | South Shore | within 1500 bp of TSS |
| cg04728045 | chr11: 111298336 | NA | -0.048 (0.011) | 2.90E-05 | 0.04 | not tested | not tested | Open Sea | |
| cg04742397 | chr14: 95986554 | NA | -0.034 (0.008) | 2.82E-05 | 0.04 | yes | no | South Shelf | |
| cg05094137 | chr16: 53125208 | <i>CHD9</i> | -0.028 (0.006) | 3.14E-05 | 0.04 | no | no | Open Sea | 5'UTR |
| cg05256584 | chr2: 40452795 | <i>SLC8A1</i> | 0.021 (0.005) | 3.03E-05 | 0.04 | no | no | Open Sea | within gene body |
| cg06525670 | chr13: 30528708 | NA | -0.041 (0.009) | 2.93E-05 | 0.04 | no | no | Open Sea | |
| cg06823863 | chr16: 19296692 | <i>LOC728276</i> | 0.013 (0.003) | 2.88E-05 | 0.04 | no | no | Open Sea | within 1500 bp of TSS |
| cg06887251 | chr5: 67576008 | <i>PIK3R1</i> | -0.054 (0.012) | 2.83E-05 | 0.04 | not tested | not tested | Open Sea | within gene body |
| cg06923291 | chr12: 90456743 | NA | -0.038 (0.008) | 2.97E-05 | 0.04 | not tested | not tested | Open Sea | |
| cg07666998 | chr4: 8254585 | NA | -0.04 (0.009) | 3.07E-05 | 0.04 | not tested | not tested | Open Sea | |
| cg08202553 | chr19: 36156064 | <i>UPK1A</i> | 0.013 (0.003) | 3.13E-05 | 0.04 | not tested | not tested | Open Sea | within 1500 bp of TSS |
| cg08301307 | chr14: 103599204 | <i>TNFAIP2</i> | 0.019 (0.004) | 2.90E-05 | 0.04 | no | no | Open Sea | within gene body |
| cg08450168 | chr1: 28918231 | <i>RAB42</i> | 0.02 (0.005) | 2.84E-05 | 0.04 | no | no | North Shore | within 1500 bp of TSS |
| cg09427273 | chr10: 11077625 | <i>CUGBP2</i> | -0.028 (0.006) | 3.16E-05 | 0.04 | no | no | Open Sea | within gene body |
| cg09780594 | chr9: 96576175 | NA | -0.032 (0.007) | 3.08E-05 | 0.04 | not tested | not tested | Open Sea | |
| cg10153638 | chr3: 156835317 | <i>LINC00880</i> | -0.044 (0.01) | 3.15E-05 | 0.04 | not tested | not tested | North Shelf | within gene body |
| cg10232265 | chr10: 126782326 | <i>CTBP2</i> | 0.026 (0.006) | 2.83E-05 | 0.04 | no | no | Open Sea | 5'UTR |
| cg10428881 | chr14: 81770194 | <i>STON2</i> | -0.036 (0.008) | 3.11E-05 | 0.04 | not tested | not tested | Open Sea | within gene body |
| cg10698419 | chr4: 72897317 | <i>NPFFR2</i> | 0.021 (0.005) | 3.11E-05 | 0.04 | no | no | North Shore | within 1500 bp of TSS |
| cg11579421 | chr10: 134211857 | <i>PWWP2B</i> | -0.041 (0.009) | 3.02E-05 | 0.04 | no | no | South Shore | within gene body |

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|------------|------------------|-----------------|----------------|----------|------|------------|------------|---------------|-----------------------|
| cg11902424 | chr5: 2252995 | NA | 0.043 (0.01) | 3.11E-05 | 0.04 | no | no | Open Sea | |
| cg12157761 | chr15: 71005778 | <i>UACA</i> | -0.039 (0.009) | 2.99E-05 | 0.04 | no | no | Open Sea | within gene body |
| cg12234652 | chr19: 35811489 | NA | -0.026 (0.006) | 3.14E-05 | 0.04 | not tested | not tested | Open Sea | |
| cg12891543 | chr16: 53958626 | <i>FTO</i> | -0.052 (0.012) | 3.09E-05 | 0.04 | not tested | not tested | Open Sea | within gene body |
| cg13092082 | chr1: 192602520 | NA | -0.025 (0.006) | 3.02E-05 | 0.04 | no | no | Open Sea | |
| cg13131168 | chr8: 145542119 | <i>DGAT1</i> | 0.024 (0.005) | 3.16E-05 | 0.04 | not tested | not tested | Open Sea | within gene body |
| cg13537774 | chr9: 84088338 | NA | 0.016 (0.004) | 2.91E-05 | 0.04 | no | no | Open Sea | |
| cg13645530 | chr12: 116756948 | NA | -0.045 (0.01) | 3.14E-05 | 0.04 | yes | yes | Open Sea | |
| cg15047616 | chr22: 27015719 | NA | -0.031 (0.007) | 2.86E-05 | 0.04 | not tested | not tested | Open Sea | |
| cg15156528 | chr12: 49583981 | <i>TUBA1A</i> | -0.037 (0.008) | 3.12E-05 | 0.04 | not tested | not tested | South Shore | within 1500 bp of TSS |
| cg15221794 | chr13: 29943389 | <i>MTUS2</i> | -0.005 (0.001) | 3.10E-05 | 0.04 | not tested | not tested | Open Sea | within gene body |
| cg15616051 | chr3: 122770795 | NA | -0.026 (0.006) | 2.81E-05 | 0.04 | not tested | not tested | Open Sea | |
| cg17594681 | chr19: 45991739 | <i>RTN2</i> | 0.024 (0.005) | 3.09E-05 | 0.04 | not tested | not tested | Open Sea | within gene body |
| cg17704620 | chr14: 77763369 | <i>POMT2</i> | 0.014 (0.003) | 3.01E-05 | 0.04 | not tested | not tested | Open Sea | within gene body |
| cg17712081 | chr12: 57662315 | <i>R3HDM2</i> | -0.024 (0.005) | 3.13E-05 | 0.04 | not tested | not tested | Open Sea | within gene body |
| cg17844178 | chr16: 12562911 | <i>SNX29</i> | 0.009 (0.002) | 2.87E-05 | 0.04 | not tested | not tested | Open Sea | within gene body |
| cg18064897 | chrX: 10085184 | <i>WWC3</i> | 0.028 (0.006) | 3.09E-05 | 0.04 | no | no | in CpG Island | within gene body |
| cg18215449 | chr12: 66089473 | NA | -0.045 (0.01) | 2.90E-05 | 0.04 | no | no | Open Sea | |
| cg18308901 | chr9: 140376822 | <i>PNPLA7</i> | -0.028 (0.006) | 2.82E-05 | 0.04 | not tested | not tested | South Shore | within gene body |
| cg18681014 | chr14: 105660876 | NA | -0.04 (0.009) | 3.07E-05 | 0.04 | no | no | North Shore | |
| cg20300412 | chr4: 65749341 | NA | -0.064 (0.014) | 3.07E-05 | 0.04 | not tested | not tested | Open Sea | |
| cg20302236 | chr8: 28637293 | <i>INTS9</i> | -0.028 (0.006) | 3.07E-05 | 0.04 | not tested | not tested | Open Sea | within gene body |
| cg20653075 | chr8: 65291682 | <i>MIR124-2</i> | -0.024 (0.005) | 2.97E-05 | 0.04 | no | no | South Shore | within 200 bp of TSS |
| cg21359538 | chr4: 76440740 | <i>RCHY1</i> | -0.062 (0.014) | 3.05E-05 | 0.04 | not tested | not tested | South Shore | within 1500 bp of TSS |
| cg21452013 | chr3: 31269300 | NA | 0.009 (0.002) | 2.82E-05 | 0.04 | not tested | not tested | Open Sea | |
| cg21784411 | chr1: 3251502 | <i>PRDM16</i> | 0.025 (0.006) | 2.88E-05 | 0.04 | yes | no | Open Sea | within gene body |
| cg22239593 | chr10: 103540102 | <i>FGF8</i> | -0.028 (0.006) | 3.06E-05 | 0.04 | not tested | not tested | South Shore | 5'UTR |
| cg22265441 | chr15: 58011290 | NA | 0.013 (0.003) | 2.79E-05 | 0.04 | not tested | not tested | Open Sea | |

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| cg22848722 | chr10: 80917822 | <i>ZMIZ1</i> | -0.037 (0.008) | 2.88E-05 | 0.04 | not tested | not tested | Open Sea | 5'UTR |
| cg25921418 | chr6: 31621008 | <i>BAT3</i> | -0.009 (0.002) | 2.99E-05 | 0.04 | no | no | in CpG Island | within 1500 bp of TSS |
| cg26431261 | chr8: 74418384 | <i>STAU2</i> | 0.017 (0.004) | 3.12E-05 | 0.04 | not tested | not tested | Open Sea | within gene body |
| cg24907814 | chr5: 2758088 | NA | -0.028 (0.006) | 3.17E-05 | 0.04 | no | no | South Shore | |
| cg06794088 | chr19: 19426589 | <i>SUGP1</i> | 0.026 (0.006) | 3.17E-05 | 0.04 | not tested | not tested | Open Sea | within gene body |
| cg09732711 | chr10: 130696072 | NA | -0.03 (0.007) | 3.18E-05 | 0.04 | no | no | Open Sea | |
| cg20493821 | chr15: 89341999 | NA | -0.024 (0.005) | 3.21E-05 | 0.04 | not tested | not tested | Open Sea | |
| cg21688288 | chr21: 44181258 | <i>PDE9A</i> | 0.022 (0.005) | 3.22E-05 | 0.04 | no | no | Open Sea in CpG Island | within gene body |
| cg06168449 | chr19: 38714549 | <i>DPF1</i> | 0.018 (0.004) | 3.26E-05 | 0.05 | no | no | Open Sea | within gene body |
| cg11764535 | chr6: 46380623 | <i>RCAN2</i> | -0.04 (0.009) | 3.25E-05 | 0.05 | not tested | not tested | Open Sea | within gene body |
| cg01772854 | chr5: 1176225 | NA | 0.031 (0.007) | 3.28E-05 | 0.05 | no | no | Open Sea | |
| cg02329351 | chr13: 44977492 | <i>TUSC8</i> | -0.019 (0.004) | 3.37E-05 | 0.05 | not tested | not tested | Open Sea | within gene body |
| cg02966624 | chr1: 150668227 | <i>GOLPH3L</i> | -0.037 (0.008) | 3.33E-05 | 0.05 | not tested | not tested | Open Sea | 5'UTR |
| cg03457781 | chr3: 20418856 | NA | -0.021 (0.005) | 3.31E-05 | 0.05 | no | no | Open Sea | |
| cg04823228 | chr5: 176258443 | <i>UNC5A</i> | 0.024 (0.005) | 3.40E-05 | 0.05 | not tested | not tested | Open Sea | within gene body |
| cg06549111 | chr12: 58287804 | NA | -0.025 (0.006) | 3.39E-05 | 0.05 | not tested | not tested | North Shelf | |
| cg06679537 | chr9: 112210147 | <i>PTPN3</i> | -0.027 (0.006) | 3.29E-05 | 0.05 | not tested | not tested | Open Sea | within gene body |
| cg08410015 | chr10: 119862094 | <i>CASC2</i> | -0.035 (0.008) | 3.33E-05 | 0.05 | not tested | not tested | Open Sea in CpG Island | within gene body |
| cg12817436 | chr19: 1068561 | <i>HMHA1</i> | -0.023 (0.005) | 3.36E-05 | 0.05 | no | no | Open Sea | within 1500 bp of TSS |
| cg13590419 | chr20: 43209782 | <i>PKIG</i> | -0.035 (0.008) | 3.39E-05 | 0.05 | not tested | not tested | Open Sea | |
| cg14080033 | chr7: 2663085 | NA | -0.029 (0.007) | 3.40E-05 | 0.05 | not tested | not tested | Open Sea | |
| cg16994421 | chr17: 33569462 | <i>SLFN5</i> | -0.005 (0.001) | 3.40E-05 | 0.05 | not tested | not tested | in CpG Island | within 1500 bp of TSS |
| cg18388619 | chr17: 1792197 | <i>RPA1</i> | 0.021 (0.005) | 3.36E-05 | 0.05 | no | no | Open Sea | within gene body |
| cg18841746 | chr4: 114681688 | <i>CAMK2D</i> | 0.005 (0.001) | 3.38E-05 | 0.05 | no | no | North Shore | within gene body |
| cg18964464 | chr12: 93741046 | <i>LOC643339</i> | -0.031 (0.007) | 3.37E-05 | 0.05 | not tested | not tested | Open Sea | within gene body |
| cg19008646 | chr3: 31145476 | NA | -0.019 (0.004) | 3.33E-05 | 0.05 | no | no | Open Sea | |
| cg20781421 | chr11: 11866554 | <i>USP47</i> | -0.033 (0.007) | 3.37E-05 | 0.05 | no | no | South Shelf | within gene body |

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|------------|-----------------|-------------------|----------------|----------|------|------------|------------|-------------|-----------------------|
| cg23502495 | chr16: 3175677 | <i>ZNF213-AS1</i> | 0.012 (0.003) | 3.31E-05 | 0.05 | not tested | not tested | South Shore | within gene body |
| cg24743838 | chr8: 143696464 | <i>ARC</i> | -0.029 (0.007) | 3.30E-05 | 0.05 | not tested | not tested | South Shore | within 1500 bp of TSS |
| cg25139718 | chr1: 2027575 | <i>PRKCZ</i> | 0.021 (0.005) | 3.37E-05 | 0.05 | no | no | South Shore | within gene body |
| cg27160460 | chr11: 66617512 | <i>PC</i> | 0.024 (0.005) | 3.36E-05 | 0.05 | not tested | not tested | Open Sea | within gene body |
| cg27509293 | chr6: 14919597 | NA | -0.057 (0.013) | 3.36E-05 | 0.05 | not tested | not tested | Open Sea | |
| cg00325007 | chr9: 5774228 | <i>RIC1</i> | 0.013 (0.003) | 3.41E-05 | 0.05 | not tested | not tested | Open Sea | within gene body |
| cg07887517 | chr17: 79005277 | <i>BAIAP2-AS1</i> | -0.034 (0.008) | 3.45E-05 | 0.05 | not tested | not tested | North Shore | within gene body |
| cg11531968 | chr4: 73969865 | <i>ANKRD17</i> | 0.016 (0.004) | 3.44E-05 | 0.05 | not tested | not tested | Open Sea | within gene body |
| cg12342178 | chr1: 238282400 | NA | -0.022 (0.005) | 3.44E-05 | 0.05 | not tested | not tested | Open Sea | |
| cg11845488 | chr14: 70189638 | NA | 0.011 (0.002) | 3.46E-05 | 0.05 | no | no | North Shelf | |
| cg14293102 | chr19: 2232170 | <i>DOT1L</i> | 0.011 (0.003) | 3.47E-05 | 0.05 | no | no | South Shore | 3'UTR |
| cg01370074 | chr3: 170902250 | <i>TNIK</i> | -0.04 (0.009) | 3.53E-05 | 0.05 | not tested | not tested | Open Sea | within gene body |
| cg10684056 | chr8: 128494566 | <i>CASC8</i> | -0.022 (0.005) | 3.53E-05 | 0.05 | not tested | not tested | Open Sea | within 200 bp of TSS |
| cg19995259 | chr19: 53795827 | <i>BIRC8</i> | -0.056 (0.013) | 3.53E-05 | 0.05 | not tested | not tested | South Shore | within 1500 bp of TSS |
| cg23178580 | chr11: 6806121 | <i>OR2AG1</i> | -0.022 (0.005) | 3.53E-05 | 0.05 | not tested | not tested | Open Sea | within 200 bp of TSS |
| cg26723045 | chr11: 9042581 | <i>SCUBE2</i> | -0.027 (0.006) | 3.52E-05 | 0.05 | no | no | Open Sea | 3'UTR |
| cg10007431 | chr14: 89866249 | <i>FOXN3</i> | -0.044 (0.01) | 3.57E-05 | 0.05 | not tested | not tested | Open Sea | within gene body |
| cg15988812 | chr19: 33889481 | <i>PEPD</i> | 0.026 (0.006) | 3.57E-05 | 0.05 | no | no | North Shelf | within gene body |
| cg24996724 | chr16: 2286426 | <i>DNASE1L2</i> | -0.028 (0.006) | 3.56E-05 | 0.05 | not tested | not tested | South Shore | within 200 bp of TSS |
| cg00453272 | chr10: 76574026 | NA | 0.017 (0.004) | 3.63E-05 | 0.05 | no | no | South Shore | |
| cg01362696 | chr10: 63348729 | NA | -0.031 (0.007) | 3.61E-05 | 0.05 | not tested | not tested | Open Sea | |
| cg07160014 | chr11: 47959926 | NA | -0.04 (0.009) | 3.63E-05 | 0.05 | no | no | Open Sea | |
| cg09352336 | chr6: 3410628 | <i>SLC22A23</i> | 0.019 (0.004) | 3.63E-05 | 0.05 | not tested | not tested | Open Sea | 5'UTR |
| cg10493330 | chr5: 179709813 | <i>MAPK9</i> | 0.015 (0.003) | 3.63E-05 | 0.05 | no | no | Open Sea | 5'UTR |
| cg14456982 | chr17: 17074142 | <i>MPRIP</i> | 0.016 (0.004) | 3.62E-05 | 0.05 | not tested | not tested | Open Sea | within gene body |
| cg16840609 | chr15: 51397257 | <i>TNFAIP8L3</i> | -0.034 (0.008) | 3.63E-05 | 0.05 | not tested | not tested | Open Sea | within 1st exon |
| cg24130603 | chr1: 161062428 | NA | 0.009 (0.002) | 3.58E-05 | 0.05 | not tested | not tested | Open Sea | |
| cg24430703 | chr7: 55621681 | <i>VOPPI</i> | 0.021 (0.005) | 3.62E-05 | 0.05 | no | no | Open Sea | within gene body |

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|------------|------------------|-----------------|----------------|----------|------|------------|------------|-------------|-----------------------|
| cg27253783 | chr10: 14338581 | <i>FRMD4A</i> | 0.007 (0.002) | 3.61E-05 | 0.05 | not tested | not tested | Open Sea | within gene body |
| cg11539188 | chr10: 3170957 | <i>PFKP</i> | 0.023 (0.005) | 3.64E-05 | 0.05 | not tested | not tested | Open Sea | within gene body |
| cg12278739 | chr11: 68795647 | NA | -0.028 (0.006) | 3.65E-05 | 0.05 | not tested | not tested | Open Sea | |
| cg00885708 | chr5: 139167076 | NA | -0.025 (0.006) | 3.69E-05 | 0.05 | no | no | North Shore | |
| cg06030722 | chr6: 127568996 | NA | 0.01 (0.002) | 3.69E-05 | 0.05 | not tested | not tested | Open Sea | |
| cg11682700 | chr3: 114477956 | <i>ZBTB20</i> | 0.013 (0.003) | 3.68E-05 | 0.05 | not tested | not tested | Open Sea | within 1st exon |
| cg06680529 | chr17: 79920755 | NA | 0.027 (0.006) | 3.72E-05 | 0.05 | no | no | Open Sea | |
| cg04422752 | chr10: 102028175 | <i>CWF19L1</i> | 0.011 (0.002) | 3.74E-05 | 0.05 | not tested | not tested | Open Sea | within 1500 bp of TSS |
| cg13705180 | chr7: 31978680 | <i>PDE1C</i> | 0.012 (0.003) | 3.74E-05 | 0.05 | not tested | not tested | Open Sea | within gene body |
| cg07771893 | chr16: 27188676 | NA | 0.015 (0.003) | 3.77E-05 | 0.05 | not tested | not tested | Open Sea | |
| cg18548615 | chr17: 32295722 | <i>ASIC2</i> | -0.013 (0.003) | 3.78E-05 | 0.05 | not tested | not tested | Open Sea | within gene body |
| cg20779373 | chr1: 37428969 | <i>GRIK3</i> | -0.035 (0.008) | 3.77E-05 | 0.05 | no | no | Open Sea | within gene body |
| cg25133753 | chr20: 44299726 | <i>WFDC11</i> | -0.039 (0.009) | 3.78E-05 | 0.05 | no | no | Open Sea | within 1500 bp of TSS |
| cg00367499 | chr5: 170634447 | <i>RANBP17</i> | 0.062 (0.014) | 3.81E-05 | 0.05 | not tested | not tested | Open Sea | within gene body |
| cg01479664 | chr16: 58016655 | <i>TEPP</i> | 0.036 (0.008) | 3.81E-05 | 0.05 | no | no | Open Sea | within gene body |
| cg24409539 | chr2: 114034595 | <i>PAX8</i> | -0.03 (0.007) | 3.81E-05 | 0.05 | no | no | Open Sea | within gene body |
| cg23291484 | chr3: 150067838 | NA | 0.015 (0.003) | 3.84E-05 | 0.05 | not tested | not tested | Open Sea | |
| cg00244312 | chr2: 131622518 | NA | -0.025 (0.006) | 3.86E-05 | 0.05 | not tested | not tested | Open Sea | |
| cg01447564 | chr5: 131335786 | <i>ACSL6</i> | -0.042 (0.009) | 3.88E-05 | 0.05 | not tested | not tested | Open Sea | within gene body |
| cg12660171 | chr17: 2026359 | <i>SMG6</i> | -0.029 (0.007) | 3.88E-05 | 0.05 | not tested | not tested | Open Sea | within gene body |
| cg17258765 | chr1: 25202617 | NA | 0.024 (0.005) | 3.86E-05 | 0.05 | not tested | not tested | Open Sea | |
| cg23978004 | chr4: 142144530 | <i>ZNF330</i> | 0.017 (0.004) | 3.88E-05 | 0.05 | no | no | Open Sea | within gene body |
| cg09012071 | chr19: 2171984 | <i>DOT1L</i> | -0.027 (0.006) | 3.93E-05 | 0.05 | not tested | not tested | Open Sea | within gene body |
| cg13698574 | chr2: 106364714 | <i>NCK2</i> | -0.033 (0.008) | 3.91E-05 | 0.05 | not tested | not tested | Open Sea | 5'UTR |
| cg14637909 | chr10: 103618712 | <i>C10orf76</i> | -0.04 (0.009) | 3.91E-05 | 0.05 | not tested | not tested | Open Sea | within gene body |
| cg16294620 | chr20: 13280181 | <i>ISM1</i> | 0.021 (0.005) | 3.91E-05 | 0.05 | no | no | Open Sea | 3'UTR |
| cg26060224 | chr1: 173604924 | <i>ANKRD45</i> | 0.031 (0.007) | 3.92E-05 | 0.05 | not tested | not tested | Open Sea | within gene body |
| cg26336118 | chr1: 97303097 | NA | 0.008 (0.002) | 3.89E-05 | 0.05 | no | no | Open Sea | |

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|------------|------------------|---------------------|----------------|----------|------|------------|------------|-------------|-----------------------|
| cg27010208 | chr11: 93263413 | <i>SMCO4</i> | -0.03 (0.007) | 3.91E-05 | 0.05 | not tested | not tested | Open Sea | 5'UTR |
| cg12434712 | chr4: 40005867 | NA | 0.024 (0.006) | 3.94E-05 | 0.05 | not tested | not tested | Open Sea | |
| cg02998837 | chr3: 168619603 | <i>LOC100507661</i> | -0.024 (0.006) | 4.01E-05 | 0.05 | not tested | not tested | Open Sea | within 200 bp of TSS |
| cg10217365 | chr19: 12890523 | NA | -0.031 (0.007) | 4.04E-05 | 0.05 | not tested | not tested | South Shore | |
| cg10473700 | chr11: 62359899 | <i>TUT1</i> | -0.03 (0.007) | 3.98E-05 | 0.05 | not tested | not tested | South Shore | within 1500 bp of TSS |
| cg11485152 | chr3: 3171664 | <i>TRNT1</i> | -0.034 (0.008) | 3.99E-05 | 0.05 | no | no | South Shelf | within gene body |
| cg13977520 | chr2: 158543191 | NA | -0.032 (0.007) | 3.98E-05 | 0.05 | not tested | not tested | Open Sea | |
| cg14200834 | chr19: 4278055 | <i>SHD</i> | -0.029 (0.007) | 3.97E-05 | 0.05 | yes | no | North Shore | within 1500 bp of TSS |
| cg16521773 | chr11: 865988 | <i>TSPAN4</i> | 0.026 (0.006) | 4.01E-05 | 0.05 | no | no | Open Sea | within gene body |
| cg17178175 | chr2: 178109973 | <i>NFE2L2</i> | -0.048 (0.011) | 4.03E-05 | 0.05 | no | no | Open Sea | within gene body |
| cg17540831 | chr19: 4535992 | <i>PLIN5</i> | 0.026 (0.006) | 4.03E-05 | 0.05 | not tested | not tested | South Shore | within 1500 bp of TSS |
| cg17754042 | chr4: 2338980 | <i>ZFYVE28</i> | 0.022 (0.005) | 3.99E-05 | 0.05 | no | no | North Shelf | within gene body |
| cg18781031 | chr5: 127598507 | <i>FBN2</i> | -0.039 (0.009) | 3.97E-05 | 0.05 | no | no | Open Sea | within gene body |
| cg20389995 | chr21: 44462317 | NA | 0.026 (0.006) | 4.01E-05 | 0.05 | not tested | not tested | Open Sea | |
| cg22503060 | chr12: 92368774 | NA | 0.013 (0.003) | 3.98E-05 | 0.05 | no | no | Open Sea | |
| cg22999603 | chr11: 119537405 | <i>PVRL1</i> | -0.031 (0.007) | 3.97E-05 | 0.05 | no | no | South Shore | within gene body |
| cg24208718 | chr1: 212629727 | NA | -0.047 (0.011) | 4.02E-05 | 0.05 | not tested | not tested | Open Sea | |
| cg00238899 | chr10: 112046866 | <i>MXI1</i> | 0.013 (0.003) | 4.05E-05 | 0.05 | no | no | Open Sea | 3'UTR |
| cg25463683 | chr1: 55542596 | <i>USP24</i> | -0.02 (0.005) | 4.06E-05 | 0.05 | not tested | not tested | Open Sea | within gene body |
| cg02172658 | chr11: 2440093 | <i>TRPM5</i> | 0.035 (0.008) | 4.20E-05 | 0.05 | not tested | not tested | North Shore | within gene body |
| cg02257445 | chr17: 14117857 | NA | -0.045 (0.01) | 4.12E-05 | 0.05 | not tested | not tested | Open Sea | |
| cg02862505 | chr12: 114939167 | NA | 0.011 (0.003) | 4.14E-05 | 0.05 | no | no | Open Sea | |
| cg03048947 | chr1: 225611366 | <i>LBR</i> | -0.045 (0.01) | 4.17E-05 | 0.05 | no | no | North Shelf | within gene body |
| cg04245616 | chr15: 59543693 | <i>MYO1E</i> | -0.072 (0.017) | 4.20E-05 | 0.05 | not tested | not tested | Open Sea | within gene body |
| cg04399598 | chr21: 43956068 | <i>SLC37A1</i> | -0.034 (0.008) | 4.11E-05 | 0.05 | not tested | not tested | Open Sea | within gene body |
| cg05075015 | chr2: 216317679 | <i>LOC102724849</i> | -0.021 (0.005) | 4.18E-05 | 0.05 | not tested | not tested | Open Sea | within 1500 bp of TSS |

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|------------|------------------|---------------------|----------------|----------|------|------------|------------|---------------------------|------------------------|
| cg05875486 | chr11: 655245 | <i>DEAF1</i> | 0.017 (0.004) | 4.17E-05 | 0.05 | not tested | not tested | Open Sea | within gene body |
| cg06820907 | chr2: 242122206 | <i>PPP1R7</i> | -0.002 (0) | 4.15E-05 | 0.05 | no | no | Open Sea | within gene body |
| cg08690174 | chr6: 123959721 | <i>TRDN</i> | -0.046 (0.011) | 4.18E-05 | 0.05 | not tested | not tested | Open Sea | within 1500 bp of TSS |
| cg11014079 | chr7: 149517605 | <i>SSPO</i> | -0.02 (0.005) | 4.15E-05 | 0.05 | no | no | Open Sea | within gene body |
| cg18024141 | chr6: 152232729 | <i>ESR1</i> | -0.029 (0.007) | 4.11E-05 | 0.05 | not tested | not tested | Open Sea | within gene body |
| cg18049487 | chr19: 40709597 | <i>MAP3K10</i> | 0.017 (0.004) | 4.14E-05 | 0.05 | not tested | not tested | North Shelf | within gene body |
| cg19361399 | chr2: 67405276 | <i>LOC102800447</i> | 0.035 (0.008) | 4.12E-05 | 0.05 | not tested | not tested | Open Sea | within gene body |
| cg21995472 | chr12: 85271218 | <i>SLC6A15</i> | -0.047 (0.011) | 4.13E-05 | 0.05 | not tested | not tested | Open Sea | within gene body |
| cg22393541 | chr12: 11081043 | <i>PRH2</i> | 0.01 (0.002) | 4.08E-05 | 0.05 | not tested | not tested | Open Sea | within 1500 bp of TSS |
| cg24948374 | chr20: 62869833 | <i>MYT1</i> | -0.024 (0.006) | 4.21E-05 | 0.05 | not tested | not tested | Open Sea | within gene body |
| cg25221207 | chr11: 119555633 | <i>PVRL1</i> | -0.026 (0.006) | 4.10E-05 | 0.05 | no | no | Open Sea | within gene body |
| cg25506287 | chr6: 26247955 | <i>HIST1H4G</i> | 0.009 (0.002) | 4.14E-05 | 0.05 | not tested | not tested | South Shore | within 1500 bp of TSS |
| cg26351916 | chr17: 78084228 | <i>GAA</i> | 0.024 (0.005) | 4.17E-05 | 0.05 | no | no | South Shore | within gene body |
| cg27209994 | chr18: 51750371 | <i>MBD2</i> | 0.007 (0.002) | 4.09E-05 | 0.05 | no | no | North Shore | within gene body |
| cg27399052 | chr1: 1293868 | <i>MXRA8</i> | -0.025 (0.006) | 4.20E-05 | 0.05 | no | no | South Shelf in CpG Island | within 1st exon |
| cg20478080 | chr22: 45133246 | <i>PRR5</i> | 0.023 (0.005) | 4.22E-05 | 0.05 | no | no | Open Sea | 3'UTR within gene body |
| cg05214676 | chr4: 141005085 | <i>MAML3</i> | 0.031 (0.007) | 4.25E-05 | 0.05 | no | no | Open Sea | within gene body |
| cg00693782 | chr11: 11097882 | NA | -0.041 (0.009) | 4.29E-05 | 0.05 | not tested | not tested | Open Sea | |
| cg26686150 | chr12: 93637466 | NA | -0.026 (0.006) | 4.29E-05 | 0.05 | no | no | Open Sea | |
| cg06177446 | chr20: 1093802 | <i>PSMF1</i> | 0.02 (0.005) | 4.31E-05 | 0.05 | no | no | Open Sea | within 200 bp of TSS |
| cg04394031 | chr11: 65416901 | <i>SIPA1</i> | 0.025 (0.006) | 4.33E-05 | 0.05 | no | no | South Shore | within gene body |
| cg14540181 | chr7: 7330669 | NA | 0.029 (0.007) | 4.33E-05 | 0.05 | not tested | not tested | Open Sea | |
| cg17463863 | chr3: 139106943 | <i>COPB2</i> | 0.022 (0.005) | 4.32E-05 | 0.05 | not tested | not tested | North Shore | within gene body |
| cg18815657 | chr5: 74130379 | <i>FAM169A</i> | -0.03 (0.007) | 4.34E-05 | 0.05 | not tested | not tested | Open Sea | within gene body |
| cg23718496 | chr19: 47875594 | <i>DHX34</i> | 0.018 (0.004) | 4.38E-05 | 0.05 | not tested | not tested | Open Sea | within gene body |

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|------------|---------------------|---------------|----------------|----------|------|------------|------------|-------------|---------------------|
| cg17064521 | chr15: 45740423 | NA | -0.023 (0.005) | 4.40E-05 | 0.05 | not tested | not tested | Open Sea | |
| cg01047262 | chr8: 38007025 | <i>STAR</i> | -0.017 (0.004) | 4.47E-05 | 0.05 | not tested | not tested | Open Sea | within gene |
| cg01276573 | chr17: 28672068 | NA | -0.027 (0.006) | 4.45E-05 | 0.05 | not tested | not tested | Open Sea | body |
| cg02649474 | chr16: 30673103 | <i>FBRS</i> | 0.02 (0.005) | 4.48E-05 | 0.05 | not tested | not tested | South Shore | within gene |
| cg06039201 | chr3: 50737816 | <i>DOCK3</i> | 0.013 (0.003) | 4.45E-05 | 0.05 | not tested | not tested | Open Sea | body |
| cg06540015 | chr1: 32203668 | <i>ADGRB2</i> | 0.024 (0.006) | 4.42E-05 | 0.05 | not tested | not tested | Open Sea | within gene |
| cg07092838 | chr17: 72248179 | <i>TTYH2</i> | 0.024 (0.005) | 4.48E-05 | 0.05 | not tested | not tested | Open Sea | body |
| cg13176608 | chr1: 204542634 | NA | 0.027 (0.006) | 4.46E-05 | 0.05 | not tested | not tested | Open Sea | |
| cg19989663 | chr7: 115981565 | NA | -0.056 (0.013) | 4.46E-05 | 0.05 | not tested | not tested | Open Sea | |
| cg20181240 | chr1: 4029800 | NA | -0.049 (0.011) | 4.44E-05 | 0.05 | not tested | not tested | Open Sea | |
| cg20335206 | chr12: 120802252 | <i>MSI1</i> | 0.021 (0.005) | 4.45E-05 | 0.05 | no | no | North Shelf | within gene body |

^a Genomic location is according to genome build GRCh37/hg19

^b Effect estimates represent the proportion of methylation difference at follow-up compared to baseline, adjusted for batch, cell type estimates, Hispanic ethnicity, estimated smoking pack-years, and a random intercept for individual to account for the repeated sampling design.

^c Was this CpG site statistically significantly different when comparing current (or former) adult smokers to adults who never smoked? Comparing from the meta-analysis of ~16,000 adults published in Joehanes et al. 2016 *Circ Cardiovas Genetics* 9(5):436-447. Joehanes et al. used the 450K; 'not tested' sites were not included on that version of the Infinium array.

^d Location of CpG site relative to a CpG Island

^e Location of CpG site relative to nearest gene according to annotations from UCSC RefGene

Supplemental Table S2. Difference in DNA methylation between baseline and follow-up at CpG sites Previously associated with firefighting

| Probe ID ^a | Genomic Location ^b | Gene Name | Estimate (SE) ^c | p-value |
|-----------------------|-------------------------------|-------------------|----------------------------|--------------|
| cg15304928 | chr1: 201123562 | <i>TMEM9</i> | -0.001 (0.002) | 0.632 |
| cg00287370 | chr1: 234736092 | NA | 0.009 (0.004) | 0.009 |
| cg02932780 | chr6: 31762353 | <i>VAR5</i> | -0.005 (0.007) | 0.541 |
| cg09544149 | chr10: 80588828 | NA | -0.048 (0.016) | 0.004 |
| cg05236728 | chr12: 47609513 | <i>PCED1B-AS1</i> | 0.001 (0.001) | 0.309 |
| cg03177084 | chr17: 40985069 | <i>PSME3</i> | 0.002 (0.003) | 0.535 |
| cg22433210 | chr17: 43662623 | NA | -0.001 (0) | 0.031 |
| cg13753209 | chr17: 57696993 | <i>CLTC</i> | 0 (0) | 0.718 |
| cg22280238 | chr17: 79251323 | <i>SLC38A10</i> | -0.001 (0.001) | 0.197 |
| cg07897354 | chr18: 12657909 | <i>SPIRE1</i> | 0 (0) | 0.280 |
| cg20821958 | chr19: 48614116 | <i>PLA2G4C</i> | 0.002 (0.001) | 0.007 |
| cg12253469 | chr22: 37420454 | <i>MPST</i> | -0.008 (0.015) | 0.575 |
| cg24034992 | chrX: 67719066 | <i>YIPF6</i> | -0.001 (0.006) | 0.817 |

^a Only CpG sites that differed when comparing new recruits and incumbent firefighters or associated with years in the service are included in this table, from Zhou et al. 2019

^b Genomic location is according to genome build GRCh37/hg19

^c Effect estimates represent the proportion of methylation difference at follow-up compared to baseline, adjusted for batch, cell type estimates, Hispanic ethnicity, estimated smoking pack-years, and a random intercept for individual to account for the repeated sampling.

NA means the CpG site is not within a gene or within a known feature (e.g. promoter) of a specific gene.

Supplemental Table S3. Enriched gene sets annotated to disease and disease-related functions in IPA among differentially methylated genes comparing baseline to follow-up ($q < 0.05$)

| Broader Category of Disease | Gene-Set (Disease or Functional Annotation) | q-value for enrichment | # Differentially Methylated Genes in the gene-set |
|---|---|------------------------|---|
| Cancer, Cell Cycle, Organismal Injury and Abnormalities | Interphase of cancer cells | 0.030 | 4 |
| | Arrest in interphase of cancer cells | 0.035 | 3 |
| | Arrest in G2 phase of cancer cells | 0.044 | 2 |
| Cancer, Dermatological Diseases and Conditions, Organismal Injury and Abnormalities | Skin cancer | 0.048 | 242 |
| Cancer, Endocrine System Disorders, Gastrointestinal Disease, Organismal Injury and Abnormalities | Pancreatic tumor | 0.020 | 100 |
| | Pancreatic cancer | 0.035 | 88 |
| | Pancreatic carcinoma | 0.042 | 84 |
| | Pancreatic adenocarcinoma | 0.042 | 80 |
| | Pancreatic ductal adenocarcinoma | 0.044 | 78 |
| Cancer, Gastrointestinal Disease, Organismal Injury and Abnormalities | Large intestine adenocarcinoma | 0.001 | 277 |
| | Large intestine neoplasm | 0.001 | 283 |
| | Malignant neoplasm of large intestine | 0.001 | 282 |
| | Colon tumor | 0.001 | 178 |
| | Gastrointestinal adenocarcinoma | 0.001 | 280 |
| | Stomach tumor | 0.001 | 141 |
| | Gastrointestinal carcinoma | 0.001 | 288 |
| | Development of digestive organ tumor | 0.001 | 215 |
| | Gastro-esophageal carcinoma | 0.001 | 143 |
| | Gastroesophageal cancer | 0.001 | 146 |
| | Gastric cancer | 0.001 | 139 |
| | Colon cancer | 0.001 | 175 |
| | Colorectal adenocarcinoma | 0.001 | 173 |
| | Gastric carcinoma | 0.001 | 135 |

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|--|---|-------|-----|
| | Upper gastrointestinal tract tumor | 0.001 | 166 |
| | Non-colon gastrointestinal cancer | 0.001 | 172 |
| | Gastrointestinal tract cancer | 0.002 | 291 |
| | Colon adenocarcinoma | 0.002 | 166 |
| | Colorectal carcinoma | 0.002 | 174 |
| | Upper gastrointestinal carcinoma | 0.002 | 161 |
| | Upper gastrointestinal tract cancer | 0.002 | 164 |
| | Colon carcinoma | 0.003 | 167 |
| | Colorectal tumor | 0.005 | 187 |
| | Colorectal cancer | 0.008 | 184 |
| | Pancreatobiliary tumor | 0.020 | 113 |
| | Digestive system cancer | 0.021 | 302 |
| | Mismatch repair deficient colorectal adenocarcinoma | 0.035 | 4 |
| | Metastatic BRAF V600E mutation positive colon cancer | 0.035 | 3 |
| | Metastatic BRAF V600E mutation positive rectal cancer | 0.035 | 3 |
| | Advanced BRAF V600E mutation positive colon cancer | 0.035 | 3 |
| | Advanced BRAF V600E mutation positive rectal cancer | 0.035 | 3 |
| | Replication error repair positive colorectal tumor | 0.037 | 4 |
| Cancer,Gastrointestinal Disease,Organismal Injury and Abnormalities,Tumor Morphology | Metastatic progressive colorectal cancer | 0.020 | 4 |
| Cancer,Hematological Disease,Immunological Disease,Organismal Injury and Abnormalities | Precursor B-cell acute lymphoblastic leukemia | 0.019 | 31 |
| | Acute lymphoblastic leukemia | 0.020 | 36 |
| | B-cell leukemia | 0.036 | 35 |
| Cancer,Neurological Disease,Organismal Injury and Abnormalities | Central nervous system cancer | 0.001 | 228 |
| | Nervous system neoplasm | 0.001 | 232 |
| | Central nervous system solid tumor | 0.001 | 230 |
| | Brain glioma | 0.001 | 221 |

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|--|--|-------|-----|
| | Glioma cancer | 0.001 | 223 |
| | Brain tumor | 0.001 | 222 |
| | Glioma | 0.001 | 225 |
| | Brain cancer | 0.001 | 107 |
| | Gliomatosis cerebri | 0.005 | 99 |
| | Brain astrocytoma | 0.014 | 167 |
| | High grade astrocytoma | 0.015 | 172 |
| | Grade 1-4 astrocytoma | 0.016 | 167 |
| | Grade 3-4 glioma | 0.017 | 185 |
| | Grade 3-4 glioma cancer | 0.020 | 184 |
| | Grade 4 high grade glioma | 0.020 | 165 |
| | Grade 4 malignant glioma | 0.020 | 165 |
| | Grade 4 astrocytoma | 0.020 | 165 |
| | Tumorigenesis of glioblastoma | 0.022 | 2 |
| | Meningioma | 0.023 | 17 |
| Cancer,Organismal Injury and Abnormalities | Breast or colorectal cancer | 0.001 | 220 |
| | Melanoma | 0.003 | 264 |
| | Malignant connective or soft tissue neoplasm | 0.007 | 252 |
| | Abdominal adenocarcinoma | 0.007 | 304 |
| | Formation of solid tumor | 0.007 | 302 |
| | Connective or soft tissue tumor | 0.011 | 253 |
| | Malignant soft tissue neoplasm | 0.011 | 249 |
| | Development of carcinoma | 0.012 | 266 |
| | Cancer of head | 0.013 | 124 |
| | Tumorigenesis of epithelial neoplasm | 0.013 | 267 |
| | Frequency of tumor | 0.013 | 268 |
| | Breast or pancreatic cancer | 0.015 | 170 |
| | Head and neck tumor | 0.017 | 306 |
| | Adenocarcinoma | 0.017 | 306 |
| | Non-hematological solid tumor | 0.017 | 336 |
| | Incidence of tumor | 0.019 | 271 |
| | Head and neck squamous cell carcinoma | 0.020 | 99 |

| | | | |
|---|---|-------|-----|
| | Malignant solid organ tumor | 0.021 | 247 |
| | Nonhematologic malignant neoplasm | 0.029 | 335 |
| | Head and neck cancer | 0.032 | 289 |
| | Extraadrenal retroperitoneal tumor | 0.035 | 123 |
| | Head and neck carcinoma | 0.037 | 280 |
| | Malignant neoplasm of retroperitoneum | 0.045 | 113 |
| Cancer,Organismal Injury and Abnormalities,Reproductive System Disease | Breast or ovarian carcinoma | 0.028 | 117 |
| | Breast carcinoma | 0.034 | 84 |
| | Breast cancer | 0.044 | 99 |
| | Mammary tumor | 0.049 | 100 |
| Cancer,Organismal Injury and Abnormalities,Respiratory Disease | Stage IIIB primary non-squamous non-small cell lung carcinoma | 0.044 | 2 |
| | Stage IV primary non-squamous non-small cell lung carcinoma | 0.044 | 2 |
| | Primary EGFR mutation positive non-small cell lung carcinoma | 0.044 | 2 |
| | Stage IV EGFR activating mutation positive EGFR T790M mutation negative nonsquamous non-small cell lung carcinoma | 0.044 | 2 |
| | EGFR T790M mutation negative EGFR exon 20 insertion mutation negative non-small cell lung carcinoma | 0.044 | 2 |
| Cancer,Organismal Injury and Abnormalities,Tumor Morphology | Regression of tumor | 0.035 | 3 |
| Cardiovascular Disease,Cardiovascular System Development and Function,Organ Morphology,Organismal Development,Organismal Injury and Abnormalities,Skeletal and Muscular Disorders | Dilated cardiomyopathy | 0.042 | 13 |
| Cardiovascular System Development and Function,Cellular Development,Cellular Growth and Proliferation | Colony formation of endothelial cell lines | 0.044 | 2 |
| Cardiovascular System Development and Function,Organ Development,Organ Morphology | Contraction of heart | 0.020 | 7 |
| Cell Cycle | Arrest in interphase of tumor cell lines | 0.017 | 19 |
| | Arrest in interphase | 0.038 | 20 |
| | Arrest in G1 phase of tumor cell lines | 0.043 | 13 |

| | | | |
|--|---|-------|-----|
| Cell-To-Cell Signaling and Interaction | Activation of cells | 0.007 | 25 |
| Cell-To-Cell Signaling and Interaction,Hematological System Development and Function | Activation of blood cells | 0.020 | 19 |
| Cellular Development | Epithelial-mesenchymal transition of tumor cell lines | 0.045 | 10 |
| Cellular Development,Cellular Growth and Proliferation,Hematological System Development and Function,Hematopoiesis,Tissue Development | Development of hematopoietic progenitor cells | 0.017 | 11 |
| Cellular Movement | Cell movement of tumor cell lines | 0.026 | 46 |
| | Migration of tumor cell lines | 0.029 | 41 |
| | Migration of cells | 0.042 | 57 |
| | Homing of tumor cell lines | 0.049 | 9 |
| Cellular Movement,Nervous System Development and Function | Migration of neuroglia | 0.017 | 3 |
| Connective Tissue Disorders,Inflammatory Disease,Inflammatory Response,Organismal Injury and Abnormalities,Skeletal and Muscular Disorders | Inflammation of joint | 0.044 | 39 |
| Dermatological Diseases and Conditions,Organismal Injury and Abnormalities | Skin lesion | 0.034 | 244 |
| Developmental Disorder,Hereditary Disorder,Neurological Disease,Organismal Injury and Abnormalities | CHARGE syndrome | 0.029 | 3 |
| Gene Expression | Activation of DNA endogenous promoter | 0.001 | 41 |
| | Transcription | 0.002 | 66 |
| | Transcription of RNA | 0.003 | 59 |
| | Transcription of DNA | 0.007 | 48 |
| | Expression of RNA | 0.014 | 65 |
| | Synthesis of rRNA | 0.035 | 3 |
| Hematological System Development and Function,Hematopoiesis | Development of hematopoietic system | 0.013 | 12 |
| Neurological Disease,Organismal Injury and Abnormalities | Cerebral disorder | 0.011 | 106 |

Supplemental Table S4. Associations between Proxies of Cumulative Fireground Exposures and DNA Methylation (q<0.05)

| Genomic Location ^a | Gene Name | Fire-Hours, All Fires | | Fire-Runs, All Fires | | Fire-Hours, Structure Fires | | Fire-Runs, Structure Fires | |
|-------------------------------|------------------|----------------------------|---------|----------------------------|---------|-----------------------------|---------|----------------------------|---------|
| | | Estimate (SE) ^b | q-value | Estimate (SE) ^b | q-value | Estimate (SE) ^b | q-value | Estimate (SE) ^b | q-value |
| chr1:1293868 | <i>MXRA8</i> | -0.0139 (0.0066) | 0.14 | -0.0164 (0.0057) | 0.04 | -0.0097 (0.0072) | 0.37 | -0.0134 (0.0077) | 0.19 |
| chr1:1912135 | <i>CFAP74</i> | 0.0174 (0.0056) | 0.05 | 0.016 (0.0049) | 0.02 | 0.0164 (0.0063) | 0.12 | 0.0171 (0.0068) | 0.08 |
| chr1:2027575 | <i>PRKCZ</i> | 0.0144 (0.0052) | 0.07 | 0.0152 (0.0045) | 0.02 | 0.0111 (0.0058) | 0.23 | 0.0168 (0.0061) | 0.06 |
| chr1:8797440 | <i>RERE</i> | -0.0312 (0.0107) | 0.07 | -0.0291 (0.0095) | 0.04 | -0.0315 (0.0117) | 0.11 | -0.0357 (0.0125) | 0.05 |
| chr1:11795976 | <i>AGTRAP</i> | -0.0234 (0.0084) | 0.07 | -0.0209 (0.0074) | 0.04 | -0.019 (0.0093) | 0.22 | -0.0239 (0.0099) | 0.09 |
| chr1:27874526 | <i>AHDC1</i> | 0.0152 (0.0063) | 0.11 | 0.0154 (0.0054) | 0.04 | 0.011 (0.007) | 0.31 | 0.0147 (0.0074) | 0.14 |
| chr1:32670695 | <i>IQCC</i> | 0.0334 (0.007) | 0.01 | 0.0322 (0.0061) | 0.00 | 0.0335 (0.0078) | 0.04 | 0.0397 (0.0083) | 0.00 |
| chr1:45254092 | <i>BEST4</i> | -0.0268 (0.0088) | 0.06 | -0.0277 (0.0076) | 0.02 | -0.0218 (0.01) | 0.19 | -0.0234 (0.0108) | 0.12 |
| chr1:97303097 | NA | 0.0054 (0.0021) | 0.10 | 0.0055 (0.0018) | 0.04 | 0.0036 (0.0024) | 0.31 | 0.0053 (0.0025) | 0.13 |
| chr1:109843435 | <i>MYBPHL</i> | -0.0245 (0.0078) | 0.05 | -0.0252 (0.0068) | 0.02 | -0.0256 (0.0086) | 0.09 | -0.0374 (0.0089) | 0.01 |
| chr1:150668227 | <i>GOLPH3L</i> | -0.0257 (0.0097) | 0.09 | -0.0254 (0.0085) | 0.04 | -0.0262 (0.0107) | 0.14 | -0.0323 (0.0113) | 0.05 |
| chr1:156865043 | <i>PEAR1</i> | -0.0126 (0.0079) | 0.23 | -0.01 (0.0071) | 0.24 | -0.02 (0.0084) | 0.15 | -0.0264 (0.009) | 0.05 |
| chr1:185227307 | <i>SWT1</i> | 0.0135 (0.006) | 0.13 | 0.0144 (0.0052) | 0.05 | 0.0091 (0.0067) | 0.36 | 0.012 (0.0071) | 0.20 |
| chr1:192736213 | NA | -0.0096 (0.004) | 0.11 | -0.0102 (0.0034) | 0.04 | -0.0086 (0.0044) | 0.22 | -0.0106 (0.0047) | 0.11 |
| chr1:204542634 | NA | 0.0213 (0.007) | 0.05 | 0.021 (0.006) | 0.02 | 0.0154 (0.0079) | 0.22 | 0.0156 (0.0085) | 0.17 |
| chr1:206971195 | <i>IL19</i> | -0.021 (0.0097) | 0.13 | -0.0249 (0.0084) | 0.04 | -0.0156 (0.0108) | 0.34 | -0.0263 (0.0114) | 0.10 |
| chr1:228112951 | <i>WNT9A</i> | 0.0202 (0.0081) | 0.10 | 0.0248 (0.0068) | 0.02 | 0.0102 (0.0091) | 0.44 | 0.0187 (0.0096) | 0.15 |
| chr1:235931377 | <i>LYST</i> | -0.0429 (0.0119) | 0.04 | -0.0414 (0.0103) | 0.01 | -0.0406 (0.0133) | 0.09 | -0.0492 (0.014) | 0.03 |
| chr2:54756403 | <i>RPL23AP32</i> | 0.009 (0.0027) | 0.05 | 0.0091 (0.0024) | 0.02 | 0.0057 (0.0031) | 0.25 | 0.0053 (0.0034) | 0.24 |
| chr2:70792316 | NA | 0.0094 (0.0042) | 0.13 | 0.0102 (0.0037) | 0.04 | 0.0051 (0.0048) | 0.45 | 0.01 (0.005) | 0.14 |
| chr2:109941286 | <i>SH3RF3</i> | 0.0048 (0.0023) | 0.14 | 0.0036 (0.002) | 0.16 | 0.007 (0.0024) | 0.10 | 0.0082 (0.0026) | 0.04 |
| chr2:114034595 | <i>PAX8</i> | -0.0234 (0.0076) | 0.05 | -0.0213 (0.0067) | 0.03 | -0.0178 (0.0084) | 0.20 | -0.0187 (0.0092) | 0.13 |

| | | | | | | | | | |
|----------------|-----------------------|------------------|------|---------------------|------|------------------|------|------------------|------|
| chr2:178109973 | <i>NFE2L2</i> | -0.0242 (0.0126) | 0.17 | -0.0323 (0.0109) | 0.04 | -0.0121 (0.0139) | 0.55 | -0.0248 (0.0149) | 0.20 |
| chr2:201593511 | <i>AOX2P</i> | -0.0196 (0.0066) | 0.06 | -0.0174 (0.0058) | 0.04 | -0.0146 (0.0075) | 0.23 | -0.0177 (0.0081) | 0.12 |
| chr2:240044446 | <i>HDAC4</i> | 0.0149 (0.006) | 0.10 | 0.0139 (0.0052) | 0.05 | 0.0181 (0.0065) | 0.10 | 0.0201 (0.007) | 0.05 |
| chr2:241990667 | <i>SNED1</i> | 0.0174 (0.0055) | 0.05 | 0.0177 (0.0047) | 0.02 | 0.0142 (0.0062) | 0.17 | 0.0166 (0.0066) | 0.08 |
| chr3:9811912 | <i>CAMK1</i> | -0.0215 (0.0071) | 0.06 | -0.0173 (0.0065) | 0.06 | -0.0259 (0.0075) | 0.07 | -0.027 (0.0081) | 0.04 |
| chr3:31145476 | NA | -0.0087 (0.0046) | 0.17 | -0.0068 (0.0041) | 0.19 | -0.0136 (0.0049) | 0.10 | -0.0156 (0.0053) | 0.05 |
| chr3:46009762 | <i>FYCO1</i> | 0.0143 (0.0046) | 0.05 | 0.0134 (0.004) | 0.02 | 0.0151 (0.0051) | 0.09 | 0.0178 (0.0054) | 0.04 |
| chr3:49966773 | <i>MON1A</i> | 0.006 (0.0023) | 0.10 | 0.0056 (0.002) | 0.05 | 0.0044 (0.0026) | 0.27 | 0.005 (0.0028) | 0.18 |
| chr3:52008487 | <i>ABHD14B</i> | -0.0111 (0.0078) | 0.27 | -0.0123 (0.0068) | 0.16 | -0.0174 (0.0085) | 0.21 | -0.0265 (0.0089) | 0.05 |
| chr3:58367583 | <i>PXK</i> | 0.0256 (0.0148) | 0.20 | 0.0271 (0.0129) | 0.10 | 0.0378 (0.016) | 0.15 | 0.0509 (0.0168) | 0.04 |
| chr3:89097455 | NA | -0.0215 (0.0073) | 0.06 | -0.0189 (0.0064) | 0.04 | -0.0223 (0.008) | 0.10 | -0.0284 (0.0085) | 0.04 |
| chr3:109746788 | NA | -0.026 (0.0098) | 0.09 | -0.0228 (0.0087) | 0.06 | -0.0302 (0.0106) | 0.10 | -0.0373 (0.0114) | 0.04 |
| chr3:132450221 | <i>NPHP3- AS1</i> | -0.0278 (0.0125) | 0.13 | -0.0275 (0.011) | 0.07 | -0.0294 (0.0137) | 0.20 | -0.0415 (0.0143) | 0.05 |
| chr4:65749341 | NA | -0.0556 (0.016) | 0.04 | -0.0498 (0.0141) | 0.02 | -0.0634 (0.0175) | 0.07 | -0.0582 (0.0192) | 0.04 |
| chr4:72897317 | <i>NPFFR2</i> | 0.0168 (0.0052) | 0.05 | 0.0174 (0.0044) | 0.01 | 0.0142 (0.0058) | 0.14 | 0.0186 (0.0062) | 0.04 |
| chr4:73969865 | <i>ANKRD17</i> | 0.0116 (0.0039) | 0.06 | 0.0098 (0.0035) | 0.04 | 0.0105 (0.0044) | 0.15 | 0.0099 (0.0047) | 0.13 |
| chr4:76440740 | <i>RCHY1</i> | -0.0381 (0.0158) | 0.12 | -0.0386 (0.0139) | 0.05 | -0.0447 (0.0172) | 0.12 | -0.056 (0.0183) | 0.04 |
| chr4:111533823 | NA | -0.0214 (0.0079) | 0.08 | -0.0199 (0.0071) | 0.04 | -0.0195 (0.0087) | 0.18 | -0.0242 (0.0093) | 0.08 |
| chr5:2758088 | NA | -0.0138 (0.0073) | 0.17 | -0.0153 (0.0063) | 0.07 | -0.0142 (0.008) | 0.25 | -0.0243 (0.0084) | 0.05 |
| chr5:38427885 | <i>EGFLAM</i> | -0.0361 (0.0129) | 0.07 | -0.0333 (0.0114) | 0.04 | -0.047 (0.0136) | 0.07 | -0.0602 (0.014) | 0.01 |
| chr5:60622671 | NA | 0.0245 (0.0076) | 0.05 | 0.0261 (0.0066) | 0.01 | 0.0151 (0.0087) | 0.26 | 0.0192 (0.0093) | 0.13 |
| chr5:71764958 | <i>ZNF366</i> | -0.0366 (0.0103) | 0.04 | -0.0364 (0.009) | 0.01 | -0.035 (0.0115) | 0.09 | -0.0472 (0.0121) | 0.02 |
| chr5:88875631 | NA | -0.0337 (0.0095) | 0.04 | -0.0306 (0.0083) | 0.02 | -0.0325 (0.0106) | 0.09 | -0.0392 (0.0113) | 0.03 |
| chr5:117897957 | <i>HRAT56</i> | 0.0122 (0.0033) | 0.04 | 0.013 (0.0028) | 0.00 | 0.0059 (0.0039) | 0.31 | 0.0096 (0.0041) | 0.10 |
| chr5:142422241 | <i>ARHGAP26</i> | 0.0075 (0.003) | 0.10 | 0.0085 (0.0025) | 0.02 | 0.0024 (0.0034) | 0.61 | 0.0044 (0.0036) | 0.34 |
| chr5:153211415 | NA | -0.0231 (0.0099) | 0.12 | -0.0247 (0.0086) | 0.04 | -0.0249 (0.0108) | 0.17 | -0.0354 (0.0115) | 0.04 |
| chr5:179709813 | <i>MAPK9</i> | 0.0073 (0.004) | 0.18 | 0.0075 (0.0035) | 0.10 | 0.0088 (0.0044) | 0.22 | 0.0131 (0.0046) | 0.05 |
| chr6:13007033 | <i>PHACTR1</i> | -0.0212 (0.0124) | 0.21 | -0.0186 (0.0109) | 0.17 | -0.0284 (0.0135) | 0.20 | -0.0417 (0.0141) | 0.05 |

| | | | | | | | | | |
|-----------------|-----------------|------------------|------|------------------|------|------------------|------|------------------|------|
| chr6:13053520 | <i>PHACTR1</i> | -0.0419 (0.0126) | 0.05 | -0.0412 (0.011) | 0.02 | -0.0379 (0.0141) | 0.11 | -0.0482 (0.0149) | 0.04 |
| chr6:30159309 | <i>TRIM26</i> | 0.0075 (0.0032) | 0.12 | 0.0095 (0.0027) | 0.02 | 0.0015 (0.0036) | 0.77 | 0.0052 (0.0038) | 0.29 |
| chr6:46380623 | <i>RCAN2</i> | -0.0267 (0.0104) | 0.10 | -0.0266 (0.0092) | 0.04 | -0.0178 (0.0115) | 0.31 | -0.0225 (0.0124) | 0.17 |
| chr6:101880078 | <i>GRIK2</i> | -0.0326 (0.0129) | 0.10 | -0.0346 (0.0112) | 0.04 | -0.0308 (0.0143) | 0.19 | -0.0425 (0.0151) | 0.05 |
| chr6:152232729 | <i>ESR1</i> | -0.0234 (0.0071) | 0.05 | -0.0198 (0.0064) | 0.04 | -0.027 (0.0077) | 0.07 | -0.0318 (0.0082) | 0.02 |
| chr7:2158623 | <i>MAD1L1</i> | 0.0255 (0.0069) | 0.04 | 0.0272 (0.0059) | 0.00 | 0.0178 (0.008) | 0.18 | 0.0235 (0.0084) | 0.06 |
| chr7:2663085 | NA | -0.0112 (0.0075) | 0.26 | -0.0087 (0.0066) | 0.27 | -0.0219 (0.0079) | 0.10 | -0.0249 (0.0085) | 0.05 |
| chr7:14899040 | NA | -0.0306 (0.0145) | 0.14 | -0.0356 (0.0125) | 0.04 | -0.0203 (0.0163) | 0.40 | -0.0375 (0.0171) | 0.12 |
| chr7:48127925 | <i>UPP1</i> | -0.0155 (0.0075) | 0.14 | -0.0177 (0.0065) | 0.05 | -0.0134 (0.0083) | 0.29 | -0.0166 (0.0089) | 0.16 |
| chr7:100282651 | <i>GIGYF1</i> | 0.0157 (0.0047) | 0.05 | 0.0136 (0.0041) | 0.02 | 0.0149 (0.0052) | 0.10 | 0.0166 (0.0056) | 0.04 |
| chr7:150086034 | <i>ZNF775</i> | -0.0296 (0.0114) | 0.09 | -0.0291 (0.01) | 0.04 | -0.024 (0.0128) | 0.24 | -0.0343 (0.0135) | 0.08 |
| chr8:27114746 | <i>STMN4</i> | -0.035 (0.009) | 0.04 | -0.0327 (0.008) | 0.01 | -0.032 (0.01) | 0.09 | -0.0369 (0.011) | 0.04 |
| chr8:128512692 | NA | 0.0067 (0.0032) | 0.14 | 0.008 (0.0028) | 0.04 | 0.002 (0.0036) | 0.71 | 0.0056 (0.0039) | 0.26 |
| chr9:5186210 | <i>INSL6</i> | 0.0093 (0.0037) | 0.10 | 0.0092 (0.0032) | 0.04 | 0.0069 (0.0041) | 0.27 | 0.0079 (0.0044) | 0.18 |
| chr9:135852984 | <i>GFI1B</i> | -0.0263 (0.0098) | 0.08 | -0.0245 (0.0086) | 0.04 | -0.0262 (0.0107) | 0.14 | -0.0308 (0.0114) | 0.07 |
| chr9:140174741 | <i>C9orf167</i> | 0.023 (0.0072) | 0.05 | 0.0217 (0.0063) | 0.02 | 0.0231 (0.008) | 0.10 | 0.0308 (0.0084) | 0.02 |
| chr9:140376822 | <i>PNPLA7</i> | -0.02 (0.0072) | 0.08 | -0.021 (0.0063) | 0.02 | -0.0167 (0.008) | 0.20 | -0.0264 (0.0084) | 0.04 |
| chr10:14338581 | <i>FRMD4A</i> | 0.0045 (0.0018) | 0.11 | 0.0044 (0.0016) | 0.05 | 0.0038 (0.0021) | 0.25 | 0.0046 (0.0022) | 0.13 |
| chr10:76661092 | <i>KAT6B</i> | -0.0353 (0.0094) | 0.04 | -0.0327 (0.0083) | 0.01 | -0.0348 (0.0105) | 0.07 | -0.0378 (0.0113) | 0.04 |
| chr10:134211857 | <i>PWWP2B</i> | -0.0283 (0.0105) | 0.08 | -0.0279 (0.0092) | 0.04 | -0.0182 (0.0118) | 0.31 | -0.0253 (0.0128) | 0.14 |
| chr11:1536810 | <i>HCCA2</i> | -0.0178 (0.0112) | 0.23 | -0.0179 (0.0099) | 0.15 | -0.0277 (0.012) | 0.17 | -0.0363 (0.0127) | 0.05 |
| chr11:5538958 | <i>UBQLNL</i> | -0.033 (0.0095) | 0.04 | -0.0257 (0.0085) | 0.04 | -0.0368 (0.0104) | 0.07 | -0.0348 (0.0114) | 0.04 |
| chr11:11866554 | <i>USP47</i> | -0.0225 (0.0083) | 0.08 | -0.0153 (0.0075) | 0.11 | -0.0345 (0.0087) | 0.06 | -0.0327 (0.0096) | 0.04 |
| chr11:47959926 | NA | -0.031 (0.0099) | 0.05 | -0.0283 (0.0086) | 0.02 | -0.0285 (0.011) | 0.12 | -0.0357 (0.0117) | 0.04 |
| chr11:62600230 | <i>STX5</i> | -0.0249 (0.0089) | 0.07 | -0.0213 (0.0079) | 0.05 | -0.0285 (0.0096) | 0.10 | -0.0349 (0.0102) | 0.04 |
| chr11:65378788 | <i>MAP3K11</i> | -0.0115 (0.0063) | 0.18 | -0.011 (0.0055) | 0.12 | -0.0187 (0.0067) | 0.10 | -0.0216 (0.0071) | 0.04 |
| chr11:68795647 | NA | -0.0251 (0.0069) | 0.04 | -0.0186 (0.0062) | 0.04 | -0.0253 (0.0076) | 0.07 | -0.0254 (0.0082) | 0.04 |
| chr11:79613887 | NA | -0.0266 (0.0096) | 0.07 | -0.0281 (0.0083) | 0.02 | -0.027 (0.0106) | 0.13 | -0.0335 (0.0113) | 0.05 |

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|-----------------|------------------|------------------|------|--|------|------------------|------|------------------|------|
| chr11:119537405 | <i>PVRL1</i> | -0.0185 (0.0082) | 0.13 | -0.0151 (0.0072) | 0.11 | -0.0228 (0.0089) | 0.13 | -0.0288 (0.0094) | 0.04 |
| chr12:11081043 | <i>PRH2</i> | 0.006 (0.0026) | 0.13 | 0.0069 (0.0023) -0.0138 (0.0044) | 0.04 | 0.0057 (0.0029) | 0.23 | 0.0082 (0.0031) | 0.07 |
| chr12:42102842 | NA | -0.0144 (0.0051) | 0.07 | -0.0188 (0.0062) | 0.03 | -0.0141 (0.0056) | 0.13 | -0.0166 (0.006) | 0.06 |
| chr12:52435577 | <i>NR4A1</i> | -0.0169 (0.0071) | 0.12 | -0.0229 (0.0067) | 0.04 | -0.0184 (0.0077) | 0.15 | -0.028 (0.0079) | 0.03 |
| chr12:54402050 | <i>HOXC8</i> | -0.0241 (0.0077) | 0.05 | -0.0368 (0.012) -0.0159 (0.0056) | 0.02 | -0.0238 (0.0084) | 0.10 | -0.0302 (0.009) | 0.04 |
| chr12:119621039 | <i>HSPB8</i> | -0.0352 (0.0138) | 0.10 | -0.0159 (0.0047) | 0.04 | -0.0212 (0.0153) | 0.36 | -0.0328 (0.0164) | 0.14 |
| chr12:120559003 | NA | -0.0153 (0.0064) | 0.12 | -0.0254 (0.0086) | 0.04 | -0.0141 (0.007) | 0.22 | -0.02 (0.0075) | 0.07 |
| chr12:120802252 | <i>MS1</i> | 0.0141 (0.0054) | 0.09 | -0.0137 (0.0067) | 0.04 | 0.0117 (0.0061) | 0.23 | 0.0149 (0.0065) | 0.10 |
| chr13:35043968 | <i>LINC00457</i> | -0.022 (0.01) | 0.13 | -0.0494 (0.0147) | 0.04 | -0.0273 (0.0108) | 0.13 | -0.047 (0.0109) | 0.01 |
| chr13:72778607 | NA | -0.0168 (0.0075) | 0.13 | -0.0563 (0.015) -0.0227 (0.0079) | 0.11 | -0.0221 (0.0081) | 0.10 | -0.0247 (0.0087) | 0.05 |
| chr14:24858912 | NA | -0.0461 (0.0169) | 0.08 | -0.0157 (0.0058) | 0.02 | -0.0365 (0.0191) | 0.23 | -0.0498 (0.0206) | 0.09 |
| chr14:63785523 | <i>GPHB5</i> | -0.0599 (0.0168) | 0.04 | -0.0227 (0.0079) | 0.02 | -0.0665 (0.0176) | 0.07 | -0.0762 (0.0191) | 0.02 |
| chr14:105955879 | <i>C14orf80</i> | -0.0205 (0.009) | 0.13 | -0.0157 (0.0058) | 0.04 | -0.0179 (0.01) | 0.25 | -0.0228 (0.0108) | 0.13 |
| chr15:45406362 | <i>DUOX2</i> | -0.015 (0.0066) | 0.13 | 0.01 (0.0029) | 0.05 | -0.0134 (0.0073) | 0.25 | -0.0221 (0.0077) | 0.05 |
| chr15:58011290 | NA | 0.0101 (0.0034) | 0.06 | 0.0102 (0.0042) -0.0195 (0.0068) | 0.02 | 0.0079 (0.0038) | 0.20 | 0.0101 (0.004) | 0.08 |
| chr15:68933603 | <i>CORO2B</i> | 0.0118 (0.0048) | 0.11 | 0.0151 (0.0057) 0.05 | 0.08 | 0.0162 (0.0051) | 0.09 | 0.0173 (0.0055) | 0.04 |
| chr16:1386290 | <i>BAIAP3</i> | -0.0189 (0.0077) | 0.11 | 0.0116 (0.004) -0.0177 (0.0077) | 0.04 | -0.0233 (0.0082) | 0.10 | -0.0323 (0.0086) | 0.02 |
| chr16:1420171 | <i>UNKL</i> | 0.0137 (0.0054) | 0.10 | 0.0136 (0.0047) | 0.04 | 0.0102 (0.0061) | 0.27 | 0.0117 (0.0065) | 0.17 |
| chr16:2086421 | <i>SLC9A3R2</i> | 0.0159 (0.0064) | 0.10 | 0.0151 (0.0057) | 0.05 | 0.0183 (0.007) | 0.12 | 0.0248 (0.0074) | 0.04 |
| chr16:28922391 | <i>RABEP2</i> | 0.0093 (0.0046) | 0.16 | 0.0116 (0.004) -0.0177 (0.0077) | 0.04 | 0.0028 (0.0052) | 0.71 | 0.0095 (0.0055) | 0.18 |
| chr16:57984539 | <i>CNGB1</i> | -0.0201 (0.0087) | 0.13 | 0.0221 (0.0064) | 0.08 | -0.0253 (0.0093) | 0.11 | -0.033 (0.0098) | 0.04 |
| chr16:88096588 | <i>BANP</i> | 0.0194 (0.0075) | 0.09 | 0.0118 (0.0049) | 0.02 | 0.0089 (0.0085) | 0.46 | 0.0157 (0.009) | 0.18 |
| chr16:88979098 | <i>CBFA2T3</i> | 0.0108 (0.0057) | 0.17 | 0.0118 (0.0049) | 0.08 | 0.0113 (0.0063) | 0.25 | 0.0201 (0.0065) | 0.04 |
| chr16:89922539 | <i>SPIRE2</i> | 0.0186 (0.006) | 0.05 | 0.015 (0.0053) | 0.04 | 0.0202 (0.0065) | 0.09 | 0.0188 (0.0071) | 0.07 |
| chr17:1059336 | <i>ABR</i> | 0.0103 (0.0051) | 0.15 | 0.0099 (0.0044) | 0.09 | 0.015 (0.0054) | 0.10 | 0.0187 (0.0058) | 0.04 |
| chr17:2861947 | <i>RAP1GAP2</i> | 0.0169 (0.0052) | 0.05 | 0.0143 (0.0047) | 0.04 | 0.0178 (0.0057) | 0.09 | 0.0179 (0.0063) | 0.05 |
| chr17:4350829 | <i>SPNS3</i> | 0.0081 (0.0035) | 0.13 | 0.0087 (0.0031) | 0.04 | 0.005 (0.004) | 0.39 | 0.0086 (0.0042) | 0.13 |
| chr17:4917032 | <i>KIF1C</i> | 0.0115 (0.004) | 0.07 | 0.0106 (0.0035) -0.0127 (0.0063) | 0.04 | 0.0121 (0.0044) | 0.10 | 0.0165 (0.0046) | 0.02 |
| chr17:7083015 | <i>ASGR1</i> | -0.0163 (0.0071) | 0.13 | -0.0127 (0.0063) | 0.12 | -0.0243 (0.0076) | 0.09 | -0.0257 (0.0082) | 0.04 |

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|----------------|----------------|------------------|------|---------------------|------|------------------|------|------------------|------|
| chr17:10541620 | <i>MYH3</i> | -0.0022 (0.0007) | 0.05 | -0.0022 (0.0006) | 0.02 | -0.0023 (0.0008) | 0.09 | -0.003 (0.0008) | 0.02 |
| chr17:19628421 | NA | -0.031 (0.0086) | 0.04 | -0.0281 (0.0077) | 0.02 | -0.035 (0.0091) | 0.07 | -0.0374 (0.0098) | 0.02 |
| chr17:27441752 | <i>MYO18A</i> | 0.0183 (0.0061) | 0.06 | 0.0186 (0.0054) | 0.02 | 0.0152 (0.0068) | 0.18 | 0.0153 (0.0073) | 0.13 |
| chr17:39554246 | <i>KRT31</i> | -0.0156 (0.0055) | 0.07 | -0.0163 (0.0047) | 0.02 | -0.0112 (0.0062) | 0.25 | -0.015 (0.0066) | 0.11 |
| chr17:76850256 | <i>TIMP2</i> | -0.0343 (0.0092) | 0.04 | -0.0324 (0.0079) | 0.01 | -0.0256 (0.0104) | 0.14 | -0.0286 (0.0111) | 0.08 |
| chr18:9643805 | NA | -0.0473 (0.0143) | 0.05 | -0.043 (0.0126) | 0.02 | -0.0476 (0.0159) | 0.09 | -0.0541 (0.0171) | 0.04 |
| chr18:47813745 | <i>CXXC1</i> | -0.0082 (0.0028) | 0.07 | -0.0075 (0.0025) | 0.04 | -0.0068 (0.0032) | 0.20 | -0.0077 (0.0034) | 0.11 |
| chr18:55906325 | <i>NEDD4L</i> | -0.0313 (0.0112) | 0.07 | -0.029 (0.0097) | 0.04 | -0.0343 (0.0122) | 0.10 | -0.0396 (0.013) | 0.04 |
| chr19:1612208 | <i>TCF3</i> | 0.0141 (0.0062) | 0.13 | 0.0151 (0.0054) | 0.05 | 0.0131 (0.0068) | 0.23 | 0.0182 (0.0073) | 0.08 |
| chr19:2062522 | NA | 0.0201 (0.0069) | 0.07 | 0.0183 (0.0061) | 0.04 | 0.0238 (0.0076) | 0.09 | 0.0271 (0.0081) | 0.04 |
| chr19:2065374 | NA | 0.0177 (0.0068) | 0.09 | 0.0191 (0.0059) | 0.02 | 0.0178 (0.0074) | 0.15 | 0.0251 (0.0079) | 0.04 |
| chr19:2579745 | <i>GNG7</i> | -0.0223 (0.0072) | 0.05 | -0.0203 (0.0064) | 0.03 | -0.0201 (0.008) | 0.13 | -0.0218 (0.0087) | 0.08 |
| chr19:2706834 | NA | -0.0176 (0.0083) | 0.14 | -0.0187 (0.0073) | 0.06 | -0.019 (0.0091) | 0.20 | -0.0285 (0.0095) | 0.05 |
| chr19:4278055 | <i>SHD</i> | -0.0217 (0.0077) | 0.07 | -0.022 (0.0066) | 0.02 | -0.02 (0.0084) | 0.15 | -0.0257 (0.009) | 0.05 |
| chr19:4540065 | <i>LRG1</i> | -0.0242 (0.0089) | 0.08 | -0.021 (0.0079) | 0.06 | -0.0327 (0.0096) | 0.07 | -0.0383 (0.0103) | 0.02 |
| chr19:17448937 | <i>GTPBP3</i> | 0.0009 (0.0004) | 0.12 | 0.0009 (0.0003) | 0.04 | 0.0007 (0.0004) | 0.28 | 0.0011 (0.0004) | 0.08 |
| chr19:17597999 | <i>SLC27A1</i> | 0.0105 (0.0049) | 0.14 | 0.0106 (0.0043) | 0.07 | 0.0102 (0.0055) | 0.24 | 0.0165 (0.0057) | 0.05 |
| chr19:17631991 | <i>PGLS</i> | 0.0217 (0.0076) | 0.07 | 0.0243 (0.0065) | 0.02 | 0.0167 (0.0085) | 0.22 | 0.028 (0.0089) | 0.04 |
| chr19:19426589 | <i>SUGP1</i> | 0.0204 (0.0063) | 0.05 | 0.0171 (0.0056) | 0.04 | 0.0188 (0.007) | 0.11 | 0.0167 (0.0076) | 0.12 |
| chr19:33889481 | <i>PEPD</i> | 0.0155 (0.0068) | 0.13 | 0.0195 (0.0058) | 0.02 | 0.0111 (0.0075) | 0.33 | 0.0186 (0.0079) | 0.10 |
| chr19:35502231 | <i>GRAMD1A</i> | -0.0162 (0.008) | 0.16 | -0.0192 (0.0069) | 0.05 | -0.0143 (0.0089) | 0.29 | -0.0268 (0.0092) | 0.05 |
| chr19:40709597 | <i>MAP3K10</i> | 0.0137 (0.0044) | 0.05 | 0.0117 (0.0039) | 0.04 | 0.0143 (0.0049) | 0.10 | 0.0162 (0.0052) | 0.04 |
| chr19:40883570 | <i>PLD3</i> | 0.0116 (0.0047) | 0.11 | 0.0116 (0.0041) | 0.04 | 0.0111 (0.0052) | 0.20 | 0.016 (0.0055) | 0.05 |
| chr19:42557118 | <i>GRIK5</i> | 0.0147 (0.0055) | 0.08 | 0.0137 (0.0048) | 0.04 | 0.0094 (0.0062) | 0.31 | 0.009 (0.0066) | 0.29 |
| chr19:42582914 | <i>ZNF574</i> | 0.0175 (0.0063) | 0.07 | 0.0173 (0.0055) | 0.03 | 0.018 (0.007) | 0.12 | 0.0228 (0.0073) | 0.04 |
| chr20:33543028 | <i>GSS</i> | -0.0169 (0.0068) | 0.10 | -0.015 (0.006) | 0.07 | -0.0204 (0.0073) | 0.10 | -0.0223 (0.0078) | 0.05 |
| chr20:56419097 | NA | 0.0092 (0.0045) | 0.15 | 0.0084 (0.004) | 0.10 | 0.0122 (0.0049) | 0.14 | 0.0149 (0.0052) | 0.05 |
| chr21:44462317 | NA | 0.0221 (0.0067) | 0.05 | 0.0192 (0.0059) | 0.02 | 0.0201 (0.0074) | 0.11 | 0.0227 (0.008) | 0.05 |
| chr21:44914774 | NA | -0.0231 (0.0087) | 0.09 | -0.0233 (0.0076) | 0.04 | -0.0272 (0.0096) | 0.10 | -0.0334 (0.0103) | 0.04 |
| chr22:38137445 | <i>TRIOBP</i> | -0.0141 (0.0065) | 0.13 | -0.0154 (0.0056) | 0.05 | -0.0109 (0.0072) | 0.31 | -0.0185 (0.0076) | 0.09 |

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|----------------|--------------|------------------|------|---------------------|------|------------------|------|-----------------|------|
| chr22:39348639 | NA | -0.0265 (0.0078) | 0.05 | -0.0234 (0.0069) | 0.02 | -0.0288 (0.0086) | 0.07 | -0.0355 (0.009) | 0.02 |
| chrX:48620142 | <i>GLOD5</i> | 0.0141 (0.0059) | 0.12 | 0.0122 (0.0052) | 0.08 | 0.0164 (0.0065) | 0.13 | 0.0199 (0.0069) | 0.05 |
| chrX:68759322 | NA | 0.0146 (0.0077) | 0.17 | 0.0189 (0.0066) | 0.04 | -0.0013 (0.0086) | 0.92 | 0.0074 (0.0093) | 0.54 |

^a Genomic location is according to genome build GRCh37/hg19

^b Effect estimates represent the change in proportion of DNA methylation at the locus for each ln-transformed unit of the fire-variable in linear mixed effects models adjusted for batch, cell type estimates, Hispanic ethnicity, estimated smoking pack-years, time between baseline and follow-up, and a random intercept for individual. Separate models were run for each fire-variable.

NA means the CpG site is not within a gene or within a known feature (e.g. promoter) of a specific gene.

Statistically significant at q-value<0.05

SUPPLEMENTAL METHODS

Samples were randomized and hybridized to chips across three batches (one at the University of Utah DNA Sequencing and Genomics Core Facility, and two batches at the University of Michigan Advanced Genomics Core), scanned by experienced personnel, and processed as we previously described.[1] Briefly, raw image files were read with the R package minfi, and the ENmix package was used for quality control and normalization.[2] Probes were removed if at least 5% of samples were not detected (p -value $>1e^{-16}$ compared to background). Background correction was performed with noob and dye bias correction with Regression on Logarithm of Internal Control probes followed by quantile normalization.[3] Cross-reactive probes and probes with SNPs in the CpG or single-base extension site were excluded. Five pairs that failed quality control for at least one sample were excluded. The final dataset consisted of 759,346 CpG sites and 100 samples (50 pairs).

The proportion of six blood cell types were estimated using reference data from sorted blood leukocytes according to the algorithm established by Houseman *et al.*[4] We used data from control probes included on each chip for surrogate variable analysis, and created three principal components (PCs) explaining 92% of the technical variance in the data; these are used as covariates in downstream models to adjust for batch effects.[5] While all participants were reported to be current non-smokers, past exposure was uncertain. We used an algorithm based on the DNA methylation data to estimate lifetime smoking pack-years.[6] Since this estimation is highly correlated with age, we regressed pack-years on age and adjusted for the residuals in statistical models (referred to as “pack-years residual”).

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