

**Supplementary Table 1. Beta coefficients and *P* values after log-linear model of the 140 CpGs present in the 12<sup>th</sup> iteration of the RF algorithm output and their Genetic details**

| CpGs       | CHR <sup>s</sup> | UCSC*<br>chromosomal<br>location | Gene                  | UCSC*<br>Gene<br>Region | USCS*<br>CpG<br>Island<br>Relation | β-coefficients | P-Value |
|------------|------------------|----------------------------------|-----------------------|-------------------------|------------------------------------|----------------|---------|
| cg00057114 | 1                | 6344362                          | <i>ACOT7</i>          | Body                    | S_Shelf                            | 1.57           | 0.032   |
| cg00069771 | 1                | 233089275                        | <i>C1orf57</i>        | Body                    | S_Shelf                            | -0.11          | 0.031   |
| cg00349607 | 1                | 39546688                         | <i>MACF1</i>          | TSS1500                 | N_Shore                            | 1.44           | 0.026   |
| cg00362285 | 1                | 236444212                        | <i>ERO1LB</i>         | Body                    | N_Shore                            | 1.38           | 0.026   |
| cg00388605 | 1                | 89150448                         | <i>PKN2</i>           | Body                    | Island                             | -1.55          | 0.028   |
| cg02641560 | 1                | 24828811                         | <i>RCAN3</i>          | TSS1500                 | N_Shore                            | 2.68           | 0.011   |
| cg00158434 | 2                | 73871782                         | <i>ALMS1P</i>         | TSS1500                 |                                    | 1.69           | 0.017   |
| cg00541803 | 2                | 120301835                        | <i>PCDP1</i>          | TSS1500                 | Island                             | -2.02          | 0.031   |
| cg00900242 | 2                | 200929967                        |                       |                         |                                    | 1.92           | 0.043   |
| cg01158447 | 2                | 190445074                        | <i>SLC40A1</i>        | Body                    | N_Shore                            | -1.40          | 0.016   |
| cg02237186 | 2                | 10263043                         | <i>RRM2;RRM2</i>      | Body                    | Island                             | 1.45           | 0.039   |
| cg06334988 | 2                | 220095083                        | <i>ANKZF1;ATG9A</i>   | Body; TSS1500           | S_Shore                            | -1.12          | 0.009   |
| cg00071869 | 3                | 141599902                        | <i>ATP1B3</i>         | Body                    | S_Shelf                            | -1.17          | 0.023   |
| cg00124095 | 3                | 72305082                         |                       |                         |                                    | 1.10           | 0.016   |
| cg00203564 | 3                | 176133845                        |                       |                         |                                    | -0.80          | 0.038   |
| cg00742851 | 3                | 3843342                          | <i>LRRN1</i>          | 5'UTR                   | S_Shore                            | 0.80           | 0.034   |
| cg09306365 | 3                | 61547944                         | <i>PTPRG</i>          | 1stExon; 5'UTR          | Island                             | -1.17          | 0.047   |
| cg00050654 | 4                | 4576493                          |                       |                         | N_Shore                            | -1.64          | 0.014   |
| cg01214900 | 4                | 66784395                         |                       |                         |                                    | 0.84           | 0.104   |
| cg01651499 | 4                | 156646379                        | <i>GUCY1A3</i>        | Body                    |                                    | -0.99          | 0.038   |
| cg02654265 | 5                | 137086868                        |                       |                         | N_Shelf                            | 1.36           | 0.017   |
| cg11861905 | 5                | 176045983                        |                       |                         | N_Shore                            | -0.89          | 0.038   |
| cg17602756 | 5                | 179246001                        | <i>SQSTM1</i>         | 5'UTR                   | N_Shore                            | -1.92          | 0.028   |
| cg00252472 | 6                | 150739173                        |                       |                         |                                    | 0.96           | 0.026   |
| cg02077766 | 6                | 42891866                         | <i>PTCRA</i>          | Body                    | N_Shore                            | 2.26           | 0.017   |
| cg03473348 | 6                | 33160976                         | <i>COL11A2</i>        | TSS1500                 | Island                             | -1.84          | 0.017   |
| cg24303123 | 6                | 3076314                          | <i>RIPK1</i>          | TSS1500                 |                                    | 1.54           | 0.016   |
| cg00035220 | 7                | 158197980                        | <i>PTPRN2</i>         | Body                    | N_Shore                            | 0.96           | 0.034   |
| cg00576402 | 7                | 77167212                         | <i>PTPN12</i>         | TSS200; Body            | Island                             | -0.55          | 0.042   |
| cg00718175 | 7                | 158807362                        | <i>LOC154822</i>      | Body                    |                                    | 1.53           | 0.043   |
| cg02433979 | 7                | 128824829                        |                       |                         | N_Shelf                            | 1.07           | 0.024   |
| cg05345249 | 7                | 80291832                         | <i>CD36</i>           | Body                    |                                    | 1.30           | 0.016   |
| cg11570082 | 7                | 116899446                        |                       |                         |                                    | 1.49           | 0.014   |
| cg00021978 | 8                | 105476917                        | <i>DPYS</i>           | Body                    | N_Shore                            | -1.06          | 0.042   |
| cg00397910 | 8                | 80522577                         | <i>STMN2</i>          | TSS1500                 | N_Shore                            | 1.33           | 0.016   |
| cg01049274 | 8                | 146228340                        | <i>ZNF252;C8orf77</i> | TSS200; Body            | Island                             | -1.02          | 0.046   |
| cg01214321 | 8                | 26435429                         | <i>DPYSL2</i>         | 5'UTR; 1stExon          | Island                             | -1.79          | 0.038   |

|            |    |           |                |                      |         |       |       |
|------------|----|-----------|----------------|----------------------|---------|-------|-------|
| cg02049232 | 8  | 145556129 | SCRT1          | 3'UTR                | Island  | -1.65 | 0.024 |
| cg02098905 | 8  | 119759090 |                |                      |         | -1.02 | 0.026 |
| cg02919936 | 8  | 70982285  | PRDM14         | 5'UTR                | Island  | -0.57 | 0.038 |
| cg14839837 | 8  | 1834174   | ARHGEF10       | Body                 | S_Shelf | 1.77  | 0.025 |
| cg00193668 | 9  | 35814283  | HINT2          | Body                 | N_Shore | 2.85  | 0.016 |
| cg00306063 | 9  | 92289643  | LOC100129066   | Body                 | N_Shore | 0.95  | 0.043 |
| cg00077547 | 10 | 63170372  | TMEM26         | Body                 |         | -1.55 | 0.03  |
| cg00198759 | 10 | 81444321  | LOC650623      | Body                 | Island  | 1.18  | 0.047 |
| cg02765031 | 10 | 85462980  |                |                      |         | 1.71  | 0.009 |
| cg03049303 | 10 | 103816154 | C10orf76       | TSS1500              | S_Shore | 1.55  | 0.028 |
| cg04807739 | 10 | 88779914  | FAM25A         | TSS200               |         | -2.03 | 0.024 |
| cg08353444 | 10 | 60506653  | BICC1          | Body                 |         | 1.18  | 0.026 |
| cg20077343 | 11 | 1036307   | MUC6           | Body                 | N_Shore | -1.62 | 0.017 |
| cg00224126 | 12 | 62861053  | MON2           | 1stExon              | S_Shore | -2.18 | 0.024 |
| cg00369908 | 12 | 6772357   | ING4           | TSS200               | Island  | 1.29  | 0.028 |
| cg00665405 | 12 | 50899548  | DIP2B          | Body                 | S_Shore | -1.45 | 0.022 |
| cg00667315 | 12 | 295951    |                |                      | N_Shelf | 2.03  | 0.021 |
| cg02583247 | 12 | 4555311   | FGF6           | TSS1500              | S_Shore | 1.88  | 0.016 |
| cg02767665 | 12 | 129788385 | TMEM132D       | Body                 | S_Shore | 1.67  | 0.016 |
| cg04797820 | 12 | 129460559 | GLT1D1         | Body                 |         | -1.09 | 0.016 |
| cg11912049 | 12 | 50361401  |                |                      | Island  | -1.38 | 0.016 |
| cg00949022 | 13 | 73356224  | PIBF1;DIS3     | TSS200; 1stExon;     | Island  | 0.77  | 0.038 |
| cg01560119 | 13 | 50025780  | SETDB2         | 5'UTR; 1stExon       |         | -0.87 | 0.026 |
| cg04850479 | 13 | 113811569 | PROZ           | TSS1500              | S_Shelf | 2.72  | 0.014 |
| cg05411056 | 13 | 112852819 |                |                      | S_Shelf | 2.27  | 0.014 |
| cg22148297 | 13 | 99910587  | GPR18;UBAC2    | 1stExon; Body; 5'UTR |         | 0.49  | 0.037 |
| cg00722180 | 14 | 73525139  | RBM25          | TSS200               | Island  | 1.29  | 0.038 |
| cg01802073 | 14 | 54976343  | CGRRF1         | TSS1500              | Island  | 1.80  | 0.034 |
| cg06920136 | 14 | 21945858  | RAB2B;TOX4     | TSS1500; Body        | S_Shore | 1.54  | 0.026 |
| cg00229754 | 15 | 25018302  |                |                      | Island  | -0.55 | 0.149 |
| cg02203881 | 15 | 42386909  | PLA2G4D        | TSS200               |         | 0.73  | 0.047 |
| cg04980849 | 15 | 45671347  | LOC145663;GATM | Body; TSS1500        | S_Shore | -1.53 | 0.017 |
| cg00024494 | 16 | 73096842  |                |                      | N_Shore | -0.50 | 0.041 |
| cg00073380 | 16 | 5122085   | ALG1           | Body                 | Island  | -0.78 | 0.038 |
| cg00161345 | 16 | 66866226  | NAE1           | TSS1500              | S_Shore | 2.19  | 0.014 |
| cg00797821 | 16 | 49888944  |                |                      | Island  | -1.20 | 0.038 |
| cg00818680 | 16 | 68881254  | TMCO7          | Body                 | S_Shelf | 0.65  | 0.026 |
| cg00933210 | 16 | 3233117   |                |                      | Island  | -2.13 | 0.045 |
| cg01452911 | 16 | 86512095  |                |                      |         | 1.72  | 0.016 |
| cg03910196 | 16 | 2256384   | MLST8          | Body                 | S_Shore | 1.55  | 0.031 |
| cg05839818 | 16 | 85634031  |                |                      |         | 2.56  | 0.017 |
| cg00354884 | 17 | 1057541   | ABR            | Body; 5'UTR          |         | 1.75  | 0.016 |

|            |    |           |           |                |         |       |       |
|------------|----|-----------|-----------|----------------|---------|-------|-------|
| cg00927777 | 17 | 1960199   | HIC1      | Body           | Island  | -0.92 | 0.026 |
| cg00320243 | 19 | 18314691  | RAB3A     | 5'UTR          | Island  | -1.91 | 0.038 |
| cg00337020 | 19 | 2241089   | SF3A2     | 5'UTR          | S_Shelf | 1.04  | 0.028 |
| cg00201670 | 21 | 46221900  | UBE2G2    | TSS200         | Island  | -1.95 | 0.043 |
| cg00015530 | 8  | 145052950 | PARP10    | Body           | S_Shore | 0.32  | 0.244 |
| cg00019877 | 9  | 115773738 | LOC169834 | 5'UTR          | N_Shore | 1.82  | 0.024 |
| cg00546248 | 1  | 2412743   | PLCH2     | Body           | S_Shore | -0.45 | 0.186 |
| cg00778190 | 1  | 95068029  |           |                |         | 0.54  | 0.101 |
| cg01059116 | 1  | 54163070  | GLIS1     | 5'UTR          |         | 0.31  | 0.048 |
| cg00164941 | 2  | 73523056  |           |                | S_Shelf | -0.59 | 0.11  |
| cg00729049 | 2  | 171679402 | GAD1      | Body           | Island  | -1.10 | 0.031 |
| cg00405769 | 4  | 187539852 | FAT1      | Body           |         | -0.57 | 0.075 |
| cg00866215 | 4  | 54956702  |           |                | N_Shore | 0.64  | 0.123 |
| cg05684300 | 4  | 102267366 | PPP3CA    | Body           | N_Shore | 0.94  | 0.061 |
| cg00099094 | 5  | 2334514   |           |                |         | -0.23 | 0.189 |
| cg00106739 | 5  | 177657311 | AGXT2L2   | Body           | N_Shore | 0.97  | 0.068 |
| cg00580497 | 5  | 1153746   |           |                | N_Shore | 0.81  | 0.122 |
| cg00043444 | 6  | 134384706 |           |                |         | -0.23 | 0.633 |
| cg00155619 | 6  | 33173278  | HSD17B8   | Body           | S_Shore | 0.97  | 0.08  |
| cg00491418 | 6  | 112575482 | LAMA4     | 5'UTR          | Island  | -1.72 | 0.066 |
| cg01427769 | 6  | 31830600  | NEU1      | 5'UTR; 1stExon | Island  | -2.0  | 0.016 |
| cg12427444 | 6  | 31923064  | RDBP      | Body           | N_Shelf | -0.49 | 0.497 |
| cg00036614 | 7  | 47093842  |           |                | S_Shore | 0.33  | 0.378 |
| cg00064840 | 7  | 4784485   | FOXK1     | Body           | N_Shore | 1.42  | 0.068 |
| cg00106345 | 7  | 27138396  |           |                | S_Shore | -0.39 | 0.213 |
| cg00129269 | 7  | 127228222 | ARF5      | TSS1500        | Island  | -0.92 | 0.068 |
| cg00301256 | 7  | 82653693  | PCLO;PCLO | Body           |         | -0.57 | 0.264 |
| cg02474076 | 7  | 127223255 | GCCI      | Body           | N_Shore | 1.47  | 0.126 |
| cg00161683 | 8  | 95563352  | KIAA1429  | Body           | N_Shelf | 1.89  | 0.027 |
| cg00166750 | 8  | 102138594 |           |                | Island  | -1.21 | 0.06  |
| cg00328935 | 8  | 142517474 | FLJ43860  | TSS200         |         | -0.34 | 0.359 |
| cg00405554 | 8  | 65490897  | LOC401463 | TSS1500        | N_Shore | 1.34  | 0.084 |
| cg00449899 | 8  | 53626436  | RB1CC1    | 5'UTR          | Island  | -1.34 | 0.039 |
| cg00592695 | 8  | 134545685 | ST3GAL1   | 5'UTR          |         | -0.92 | 0.094 |
| cg00598335 | 8  | 11627530  | NEIL2     | 5'UTR; 1stExon | Island  | 0.43  | 0.489 |
| cg00661018 | 8  | 145769086 | KIAA1688  | Body           | N_Shore | 1.90  | 0.053 |
| cg00556719 | 9  | 108457484 | TMEM38B   | Body           | Island  | 1.98  | 0.075 |
| cg00152946 | 10 | 130338781 |           |                | Island  | -1.53 | 0.068 |
| cg00338996 | 11 | 45828080  | SLC35C1   | Body           | S_Shore | 0.75  | 0.06  |
| cg00478064 | 11 | 118271813 | ATP5L     | TSS1500        | N_Shore | 1.61  | 0.09  |
| cg12079699 | 11 | 131564481 | NTM       | Body           | S_Shelf | -0.77 | 0.101 |
| cg00104348 | 12 | 10772424  | STYK1     | 3'UTR          |         | -0.70 | 0.149 |
| cg00216961 | 12 | 6054731   | ANO2      | Body           |         | -0.91 | 0.189 |

|                   |    |           |                 |         |         |       |       |
|-------------------|----|-----------|-----------------|---------|---------|-------|-------|
| <b>cg00240719</b> | 12 | 132169130 |                 |         | N_Shore | -0.71 | 0.121 |
| <b>cg00216180</b> | 13 | 114778713 | <i>RASA3</i>    | Body    | Island  | 0.88  | 0.213 |
| <b>cg00247571</b> | 13 | 50707065  |                 |         | N_Shore | -1.15 | 0.027 |
| <b>cg01729020</b> | 14 | 55035889  | <i>SAMD4A</i>   | Body    | S_Shore | 0.90  | 0.25  |
| <b>cg00376910</b> | 15 | 89765061  | <i>RLBP1</i>    | TSS200  |         | -1.12 | 0.054 |
| <b>cg00153543</b> | 16 | 84259830  | <i>KCNG4</i>    | Body    | S_Shelf | 0.54  | 0.219 |
| <b>cg00261912</b> | 16 | 89777763  | <i>C16orf7</i>  | Body    | Island  | 0.47  | 0.054 |
| <b>cg00489954</b> | 16 | 28855387  | <i>TUFM</i>     | Body    | N_Shore | 0.001 | 0.999 |
| <b>cg00701514</b> | 16 | 1183462   |                 |         | S_Shelf | -0.84 | 0.075 |
| <b>cg00911376</b> | 16 | 84274417  | <i>KCNG4</i>    | TSS1500 | S_Shelf | 0.67  | 0.162 |
| <b>cg02455706</b> | 16 | 84918851  | <i>CRISPLD2</i> | Body    |         | -0.78 | 0.032 |
| <b>cg00416882</b> | 18 | 44495671  | <i>PIAS2</i>    | Body    | N_Shore | 0.88  | 0.075 |
| <b>cg00417323</b> | 18 | 29307959  |                 |         | S_Shelf | 0.76  | 0.093 |
| <b>cg00486358</b> | 18 | 54309442  |                 |         | S_Shelf | 0.54  | 0.178 |
| <b>cg01080902</b> | 19 | 44039870  | <i>ZNF575</i>   | 3'UTR   | S_Shore | 1.19  | 0.06  |
| <b>cg00397859</b> | 20 | 13768987  | <i>C20orf7</i>  | Body    | S_Shelf | 0.67  | 0.065 |
| <b>cg00399938</b> | 22 | 20118646  | <i>ZDHHC8</i>   | TSS1500 | Island  | 0.44  | 0.25  |
| <b>cg01133262</b> | 22 | 38863905  | <i>KDELR3</i>   | TSS200  | Island  | 0.87  | 0.226 |

CHR<sup>s</sup>= chromosome number

UCSC\*= University of South Carolina