Supplementary Table S2. Top significant differentially methylated genes. Analysis of top significant differentially methylated genes showed micro-RNA miR128-2 as top 1 of all differentially methylated genes (and top 1 of all hypomethylated genes in EGFR amplified glioblastomas) with Δβ = -0.17 and p-value = 0.0000033 and antisense-RNA NKX2-2-AS1 as top 2 of all differentially methylated genes (and top 1 of all hypermethylated genes in EGFR amplified glioblastomas) with Δβ = 0.17 and p-value = 0.0023. It is of note that there are eleven functionally relevant RNAs (five miRNAs: miR1180, miR1255B1, miR126, miR128-2, miR3125; two long non-coding RNAs: LINC00474, LINC01091; four antisense RNAs: EPN2-AS1, MNX1-AS2, NKX2-2-AS1, WWTR1-AS1) among top hits. Methylation differences mean.mean.diff were determined by calculating mean.mean.AMPL - mean.mean.NON.

| ID | Chromosome | Start | End | Symbol | Location | mean.mean.AMPL | mean.mean.NON | mean.mean.diff | mod.mean.mean.diff | comb.p.val | combinedRank |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ENSG00000207625 | chr3 | 35785968 | 35786051 | MIR128-2 | gene | 0.322220972 | 0.492248572 | -0.170027601 | 0.170027601 | 0.0000033 | 9 |
| ENSG00000258197 | chr20 | 21492085 | 21492947 | NKX2-2-AS1 | gene | 0.422625332 | 0.255251283 | 0.16737405 | 0.16737405 | 0.002298411 | 165 |
| ENSG00000232163 | chr13 | 23947562 | 23948200 | RPLP1P13 | gene | 0.514541929 | 0.680636707 | -0.166094778 | 0.166094778 | 1.90383E-05 | 44 |
| ENSG00000185899 | chr7 | 143140546 | 143141502 | TAS2R60 | gene | 0.75100281 | 0.590514665 | 0.160488145 | 0.160488145 | 3.30219E-05 | 82 |
| ENSG00000224854 | chr9 | 21967137 | 21967738 | C9orf53 | gene | 0.372027307 | 0.528713639 | -0.156686332 | 0.156686332 | 0.001853354 | 141 |
| ENSG00000120738 | chr5 | 137801179 | 137805004 | EGR1 | gene | 0.385534577 | 0.54146755 | -0.155932973 | 0.155932973 | 7.29307E-07 | 63 |
| ENSG00000221540 | chr17 | 19247819 | 19247887 | MIR1180 | gene | 0.401727072 | 0.557241617 | -0.155514545 | 0.155514545 | 0.000730704 | 91 |
| ENSG00000229164 | chr14 | 23016447 | 23021097 | TRAC | gene | 0.485156371 | 0.639491389 | -0.154335018 | 0.154335018 | 0.019106428 | 819 |
| ENSG00000255270 | chr11 | 19402031 | 19406561 | NAV2-IT1 | gene | 0.430165533 | 0.583579453 | -0.15341392 | 0.15341392 | 0.000290236 | 48 |
| ENSG00000252312 | chr14 | 36700481 | 36702480 | RN7SKP21 | prom | 0.592926542 | 0.745772051 | -0.15284551 | 0.15284551 | 1.83862E-05 | 183 |
| ENSG00000186960 | chr14 | 29240410 | 29242409 | C14orf23 | prom | 0.246484017 | 0.39716641 | -0.150682394 | 0.150682394 | 8.97213E-05 | 50 |
| ENSG00000264370 | chr2 | 12875993 | 12877992 | MIR3125 | prom | 0.574532903 | 0.721350724 | -0.146817821 | 0.146817821 | 3.28119E-06 | 188 |
| ENSG00000146859 | chr7 | 134831324 | 134833323 | TMEM140 | prom | 0.279612354 | 0.423797232 | -0.144184878 | 0.144184878 | 0.000608082 | 145 |
| ENSG00000207269 | chr5 | 100067262 | 100069261 | RN7SKP62 | prom | 0.362999258 | 0.505348162 | -0.142348904 | 0.142348904 | 1.97458E-05 | 37 |
| ENSG00000152467 | chr19 | 58543900 | 58545899 | ZSCAN1 | prom | 0.346455431 | 0.208809498 | 0.137645933 | 0.137645933 | 0.00383955 | 480 |
| ENSG00000212409 | chr9 | 113859194 | 113861193 | RNY4P18 | prom | 0.701204568 | 0.563944151 | 0.137260417 | 0.137260417 | 4.10187E-05 | 231 |
| ENSG00000188379 | chr9 | 21384897 | 21386896 | IFNA2 | prom | 0.473866383 | 0.336754375 | 0.137112008 | 0.137112008 | 9.34179E-06 | 29 |
| ENSG00000202337 | chr14 | 32671976 | 32673975 | RNU6-8 | prom | 0.374319223 | 0.238511563 | 0.13580766 | 0.13580766 | 0.000272438 | 88 |
| ENSG00000255287 | chr11 | 92669107 | 92671106 | SNRPGP16 | prom | 0.630782623 | 0.495180796 | 0.135601827 | 0.135601827 | 0.00039503 | 157 |
| ENSG00000253279 | chr8 | 29777529 | 29779528 | FAM183CP | prom | 0.812754818 | 0.677628921 | 0.135125897 | 0.135125897 | 1.33243E-06 | 377 |
| ENSG00000235397 | chr17 | 19199909 | 19209574 | EPN2-AS1 | gene | 0.3457932 | 0.48012022 | -0.13432702 | 0.13432702 | 0.000109001 | 25 |
| ENSG00000179468 | chr7 | 142723245 | 142724282 | OR9A2 | gene | 0.710800645 | 0.577732763 | 0.133067883 | 0.133067883 | 0.000304987 | 139 |
| ENSG00000253032 | chr5 | 55419998 | 55421997 | RNU6-299P | prom | 0.558921016 | 0.690897479 | -0.131976463 | 0.131976463 | 0.001723165 | 269 |
| ENSG00000223118 | chr2 | 124626648 | 124628647 | RN7SKP102 | prom | 0.684477855 | 0.554662253 | 0.129815602 | 0.129815602 | 0.000116971 | 261 |
| ENSG00000176293 | chr19 | 58569107 | 58571106 | ZNF135 | prom | 0.364420298 | 0.234807596 | 0.129612701 | 0.129612701 | 0.00014374 | 69 |
| ENSG00000196832 | chr14 | 20665495 | 20666605 | OR11G2 | gene | 0.565664395 | 0.437418307 | 0.128246088 | 0.128246088 | 0.000939813 | 101 |
| ENSG00000222300 | chr2 | 159791998 | 159793997 | RNU2-21P | prom | 0.534004516 | 0.659875875 | -0.125871359 | 0.125871359 | 0.000123403 | 155 |
| ENSG00000132530 | chr17 | 6657266 | 6659265 | XAF1 | prom | 0.380460944 | 0.505781888 | -0.125320944 | 0.125320944 | 4.15164E-05 | 52 |
| ENSG00000255501 | chr11 | 105008448 | 105010453 | CARD18 | gene | 0.625243217 | 0.500583827 | 0.12465939 | 0.12465939 | 0.000398214 | 107 |
| ENSG00000224854 | chr9 | 21965637 | 21967636 | C9orf53 | prom | 0.393401961 | 0.517680058 | -0.124278097 | 0.124278097 | 0.001661056 | 265 |
| ENSG00000235029 | chr7 | 156799001 | 156799826 | MNX1-AS2 | gene | 0.34813271 | 0.472171788 | -0.124039078 | 0.124039078 | 0.006541228 | 353 |
| ENSG00000123689 | chr1 | 209848765 | 209849733 | G0S2 | gene | 0.308852442 | 0.186918862 | 0.121933579 | 0.121933579 | 0.002447504 | 176 |
| ENSG00000206923 | chr9 | 113664117 | 113666116 | RNU6-432P | prom | 0.707323787 | 0.587968682 | 0.119355104 | 0.119355104 | 3.61317E-05 | 399 |
| ENSG00000223037 | chr4 | 165540384 | 165542383 | RNU6-284P | prom | 0.490782171 | 0.610044192 | -0.119262021 | 0.119262021 | 1.6599E-05 | 223 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ENSG00000266730 | chr3 | 195647501 | 195649500 | RN7SL773P | prom | 0.393610458 | 0.512749694 | -0.119139235 | 0.119139235 | 7.39771E-05 | 107 |
| ENSG00000252613 | chr21 | 18823499 | 18825498 | RNU7-168P | prom | 0.249497308 | 0.368229697 | -0.118732389 | 0.118732389 | 0.002833082 | 381 |
| ENSG00000168967 | chr5 | 22140961 | 22142960 | PMCHL1 | prom | 0.412144485 | 0.530463882 | -0.118319397 | 0.118319397 | 0.000142555 | 89 |
| ENSG00000251568 | chr5 | 5375836 | 5376949 | ALG3P1 | gene | 0.578093796 | 0.695861962 | -0.117768166 | 0.117768166 | 0.002786153 | 215 |
| ENSG00000251568 | chr5 | 5376450 | 5378449 | ALG3P1 | prom | 0.578093796 | 0.695861962 | -0.117768166 | 0.117768166 | 0.002786153 | 407 |
| ENSG00000241313 | chr3 | 149373307 | 149375306 | WWTR1-AS1 | prom | 0.371826289 | 0.489501448 | -0.11767516 | 0.11767516 | 0.001448866 | 247 |
| ENSG00000249464 | chr4 | 124569922 | 124571921 | LINC01091 | prom | 0.538950993 | 0.656059118 | -0.117108125 | 0.117108125 | 4.85605E-05 | 263 |
| ENSG00000138755 | chr4 | 76922428 | 76928641 | CXCL9 | gene | 0.634693466 | 0.51783409 | 0.116859376 | 0.116859376 | 0.000128379 | 144 |
| ENSG00000213029 | chr1 | 229440129 | 229441248 | SPHAR | gene | 0.525020334 | 0.641507763 | -0.116487429 | 0.116487429 | 0.000146956 | 159 |
| ENSG00000199940 | chr7 | 71150233 | 71152232 | RN7SKP75 | prom | 0.677087914 | 0.560680221 | 0.116407693 | 0.116407693 | 0.001106958 | 303 |
| ENSG00000184617 | chr20 | 45113100 | 45121279 | ZNF840 | gene | 0.421583077 | 0.537841823 | -0.116258746 | 0.116258746 | 0.002317249 | 167 |
| ENSG00000162621 | chr1 | 74977799 | 74979798 | LRRC53 | prom | 0.397853897 | 0.513872931 | -0.116019033 | 0.116019033 | 0.001203412 | 211 |
| ENSG00000235289 | chr2 | 70580142 | 70583047 | BRD7P6 | gene | 0.725736678 | 0.610910219 | 0.114826458 | 0.114826458 | 0.000623857 | 276 |
| ENSG00000214140 | chr17 | 74522168 | 74524167 | PRCD | prom | 0.573845262 | 0.46006075 | 0.113784512 | 0.113784512 | 2.51663E-05 | 177 |
| ENSG00000199161 | chr9 | 139565054 | 139565138 | MIR126 | gene | 0.486477611 | 0.373907952 | 0.112569659 | 0.112569659 | 0.036209346 | 1423 |
| ENSG00000153071 | chr5 | 39461903 | 39463902 | DAB2 | prom | 0.492648808 | 0.604642746 | -0.111993938 | 0.111993938 | 0.00112539 | 286 |
| ENSG00000223770 | chr7 | 81638493 | 81659271 | MIR1255B1 | gene | 0.486452136 | 0.598423687 | -0.111971551 | 0.111971551 | 0.000524429 | 133 |
| ENSG00000189431 | chr11 | 13030696 | 13032647 | RASSF10 | gene | 0.415843355 | 0.305996532 | 0.109846823 | 0.109846823 | 0.015913128 | 700 |
| ENSG00000124237 | chr20 | 56724460 | 56726459 | C20orf85 | prom | 0.563033427 | 0.454471829 | 0.108561598 | 0.108561598 | 0.000455291 | 146 |
| ENSG00000214289 | chr3 | 134074904 | 134076903 | RPL39P5 | prom | 0.696415238 | 0.588421512 | 0.107993726 | 0.107993726 | 0.000116473 | 491 |
| ENSG00000213538 | chr11 | 9114410 | 9116409 | KRT8P41 | prom | 0.66909915 | 0.561594 | 0.107505151 | 0.107505151 | 0.000528859 | 466 |
| ENSG00000181894 | chr19 | 58665978 | 58667977 | ZNF329 | prom | 0.284294666 | 0.176909138 | 0.107385528 | 0.107385528 | 0.005425016 | 605 |
| ENSG00000251934 | chr11 | 3735606 | 3737605 | RNU6-1143P | prom | 0.746801526 | 0.640729716 | 0.10607181 | 0.10607181 | 0.003303656 | 732 |
| ENSG00000235029 | chr7 | 156797501 | 156799500 | MNX1-AS2 | prom | 0.361706594 | 0.467343882 | -0.105637288 | 0.105637288 | 0.033077948 | 2187 |
| ENSG00000206199 | chr3 | 149685673 | 149687672 | ANKUB1 | prom | 0.500392529 | 0.395168605 | 0.105223924 | 0.105223924 | 0.002003663 | 299 |
| ENSG00000248546 | chr4 | 165118159 | 165118863 | ANP32C | gene | 0.660780157 | 0.765857749 | -0.105077591 | 0.105077591 | 2.462E-05 | 345 |
| ENSG00000223770 | chr7 | 81636993 | 81638992 | MIR1255B1 | prom | 0.486317341 | 0.591240401 | -0.10492306 | 0.10492306 | 0.000242367 | 300 |
| ENSG00000237111 | chr14 | 106329626 | 106329675 | IGHJ3P | gene | 0.351192958 | 0.455537277 | -0.104344319 | 0.104344319 | 0.006504893 | 352 |
| ENSG00000122861 | chr10 | 75667435 | 75669434 | PLAU | prom | 0.265889158 | 0.36998452 | -0.104095361 | 0.104095361 | 0.000353182 | 103 |
| ENSG00000188211 | chr11 | 17371773 | 17373772 | NCR3LG1 | prom | 0.616551565 | 0.5124758 | 0.104075765 | 0.104075765 | 0.005121566 | 578 |
| ENSG00000160753 | chr1 | 155289187 | 155291186 | RUSC1 | prom | 0.333141837 | 0.437209947 | -0.10406811 | 0.10406811 | 0.005417912 | 603 |
| ENSG00000252887 | chr16 | 89509726 | 89509832 | RNU6-430P | gene | 0.486771108 | 0.589747999 | -0.10297689 | 0.10297689 | 0.000355891 | 189 |
| ENSG00000228599 | chr22 | 40502571 | 40504570 | RPL7P52 | prom | 0.382876669 | 0.485804257 | -0.102927588 | 0.102927588 | 0.000782145 | 165 |
| ENSG00000214285 | chr10 | 129347613 | 129350935 | NPS | gene | 0.506709083 | 0.609290763 | -0.10258168 | 0.10258168 | 0.011948843 | 564 |
| ENSG00000198131 | chr19 | 58738460 | 58740459 | ZNF544 | prom | 0.225285598 | 0.123187679 | 0.102097919 | 0.102097919 | 0.001631932 | 262 |
| ENSG00000214533 | chr2 | 65892329 | 65894328 | KRT18P33 | prom | 0.715983988 | 0.614499746 | 0.101484242 | 0.101484242 | 0.000501343 | 735 |
| ENSG00000139269 | chr12 | 57844606 | 57846605 | INHBE | prom | 0.667535787 | 0.566463227 | 0.10107256 | 0.10107256 | 0.002137912 | 591 |
| ENSG00000236460 | chr7 | 31979374 | 31981373 | SNX2P2 | prom | 0.567219589 | 0.466359181 | 0.100860408 | 0.100860408 | 0.005205645 | 584 |
| ENSG00000204148 | chr9 | 118686987 | 118688986 | LINC00474 | prom | 0.661505094 | 0.560838896 | 0.100666198 | 0.100666198 | 0.002879812 | 577 |
| ENSG00000229910 | chr13 | 68876935 | 68878934 | HNRNPA1P18 | prom | 0.539966523 | 0.439567887 | 0.100398636 | 0.100398636 | 0.004922156 | 560 |