**Supplementary Table 5. miRNA enrichment of H2AFY co-expressed genes.**

| Gene set                              | ES   | NES     | pValue | FDR   | Size | LeadingEdgeNum |
|---------------------------------------|------|---------|--------|-------|------|----------------|
| GAGCCAG,MIR-149                       | 0.54543 | 1.582008 | 0      | 0.256383 | 135  | 43             |
| TAGGTCA,MIR-192,MIR-215               | -0.49741 | -1.51601 | 0.020408 | 0.379246 | 42  | 7              |
| GCAAGAC,MIR-431                       | 0.54421 | 1.374646 | 0.059611 | 0.434887 | 43  | 15             |
| ACACTCC,MIR-122A                      | 0.513054 | 1.37558  | 0.03298  | 0.472815 | 65  | 22             |
| GGGGCCC,MIR-296                       | 0.506384 | 1.35156  | 0.044153 | 0.475381 | 67  | 12             |
| GTGGTGA,MIR-197                       | 0.514972 | 1.38212  | 0.027251 | 0.488283 | 67  | 24             |
| CACTGCC,MIR-34A,MIR-34C,MIR-449       | 0.451176 | 1.356489 | 0.006192 | 0.488397 | 263 | 78             |
| CCAGGTT,MIR-490                       | 0.53605 | 1.44728  | 0.016687 | 0.49243  | 60  | 20             |
| TCCCCAC,MIR-491                       | 0.561224 | 1.46328  | 0.017094 | 0.524778 | 55  | 17             |
| GGTGAAG,MIR-412                       | 0.501643 | 1.328035 | 0.056166 | 0.531505 | 55  | 13             |
| AAACCAC,MIR-140                       | 0.470553 | 1.333922 | 0.033105 | 0.533448 | 100 | 41             |
| GTGTGAG,MIR-342                       | 0.52431 | 1.382919 | 0.048864 | 0.5452  | 59  | 21             |
| CTACCTC,LET-7A,LET-7B,LET-7C,LET-7D,LET-7E,LET-7F,MIR-98,LET-7G,LET-7I | 0.42068 | 1.287281 | 0.00804  | 0.549786 | 364 | 109            |
| GTGACTT,MIR-224                       | 0.439037 | 1.277271 | 0.045359 | 0.554209 | 150 | 34             |
| Sequence                  | Value1         | Value2         | Value3         | Value4         | Value5 | Value6 | Value7 | Value8 | Value9 | Value10 |
|--------------------------|----------------|----------------|----------------|----------------|--------|--------|--------|--------|--------|---------|
| AACATTC,MIR-409-3P       | 4.48823        | 1.291339       | 0.049676       | 0.554344       | 132    | 29     |        |        |        |         |
| CTCAGGG,MIR-125B,MIR-125A | 4.2059         | 1.280851       | 0.018256       | 0.559503       | 304    | 82     |        |        |        |         |
| CAGGGTC,MIR-504          | 4.54412        | 1.26214        | 0.101382       | 0.570121       | 79     | 18     |        |        |        |         |
| GCGCTTT,MIR-518B,MIR-518C,MIR-518D | 5.91423  | 1.309246       | 0.134986       | 0.573273       | 18     | 10     |        |        |        |         |
| CCAGGGG,MIR-331          | 4.59531        | 1.269434       | 0.087311       | 0.573762       | 83     | 18     |        |        |        |         |
| AGGTGCA,MIR-500          | 4.61074        | 1.292711       | 0.059887       | 0.575214       | 93     | 17     |        |        |        |         |
| AGCGCCTT,MIR-518F,MIR-518E,MIR-518A | 5.95523  | 1.263209       | 0.175          | 0.586148       | 16     | 7      |        |        |        |         |
| CAGCAGG,MIR-370          | 5.11699        | 1.486216       | 0.003219       | 0.589475       | 138    | 32     |        |        |        |         |
| TTGGAGA,MIR-515-5P,MIR-519E | 4.51443        | 1.295156       | 0.037199       | 0.589664       | 130    | 30     |        |        |        |         |
| GCCCAGT,MIR-193A,MIR-193B | 4.75151        | 1.310694       | 0.040724       | 0.600028       | 83     | 16     |        |        |        |         |
| CTCTGGA,MIR-520A,MIR-525 | 4.2841         | 1.248633       | 0.079399       | 0.601777       | 145    | 33     |        |        |        |         |
| AACGGTT,MIR-451          | 7.22489        | 1.384224       | 0.057803       | 0.613524       | 10     | 3      |        |        |        |         |
| GCCGGCA,MIR-371          | -0.32115       | -0.57851       | 0.934718       | 0.98891        | 5      | 1      |        |        |        |         |
| CTCAAGA,MIR-526B         | -0.18947       | -0.6506        | 1              | 1              | 69     | 12     |        |        |        |         |
| GGATCCG,MIR-127          | -0.31094       | -0.67807       | 0.864865       | 1              | 10     | 3      |        |        |        |         |
| CTAGGAA,MIR-384          | -0.22098       | -0.72503       | 0.994152       | 1              | 60     | 5      |        |        |        |         |
| GTATGAT,MIR-154,MIR-487  | -0.22717       | -0.76101       | 0.974522       | 1              | 67     | 11     |        |        |        |         |
| Sequence                  | ES    | NES   | FDR  | Count1 | Count2 |
|---------------------------|-------|-------|------|--------|--------|
| CGTCTTA,MIR-208           | -0.40365 | -0.84383 | 0.682493 | 1 | 8 | 8 |
| TCTATGA,MIR-376A,MIR-376B| -0.25217 | -0.85798 | 0.816176 | 1 | 76 | 14 |
| CTACTAG,MIR-325           | -0.35985 | -0.87279 | 0.668966 | 1 | 16 | 3 |
| CAATGCA,MIR-33            | -0.26165 | -0.9118 | 0.708333 | 1 | 90 | 13 |
| TGCAAAC,MIR-452           | -0.27154 | -0.94885 | 0.612613 | 1 | 101 | 11 |
| ACATATC,MIR-190           | -0.29393 | -0.96626 | 0.494253 | 1 | 58 | 5 |
| GCTTGAA,MIR-498           | -0.27074 | -0.9734 | 0.504587 | 1 | 103 | 18 |
| GACAAATC,MIR-219          | -0.26785 | -0.98301 | 0.539474 | 1 | 134 | 20 |
| GTAAGAT,MIR-200A          | -0.321 | -1.00757 | 0.403846 | 1 | 45 | 5 |
| GAGCCTG,MIR-484           | -0.28889 | -1.02523 | 0.36 | 1 | 98 | 12 |
| GTACAGG,MIR-486           | -0.32322 | -1.02987 | 0.372549 | 1 | 54 | 12 |
| GTGTCAA,MIR-514           | -0.33579 | -1.09498 | 0.263473 | 1 | 59 | 19 |
| CGGTGTG,MIR-220           | -0.62305 | -1.10745 | 0.369048 | 1 | 5 | 1 |
| ATAAGCT,MIR-21            | -0.32667 | -1.19012 | 0.085106 | 1 | 105 | 16 |

ES: Enrichment score; NES: Normalized enrichment score; FDR: false discovery rate.