

Table S1 Primer Sequence used in qRT-PCR (5'-3')

| Gene             | Forward                 | Reverse                 |
|------------------|-------------------------|-------------------------|
| M Ppara          | CCCTGAACATCGAGTGTGCGAA  | TTCGCCGAAAGAAGCCCTTA    |
| M Dnmt1          | TGTTCTGTCTGCTGCAACCT    | GCCATCTCTTTCCAAGTCTTT   |
| M Cdk4           | CTGGAAGAAGTCTGCGTCGG    | GTCTTGCCAAAGCGGTTTCAG   |
| M CDKN2A         | GCGAGACGGACAAACACTG     | ACTTTGATGCCTTCAGCCATAC  |
| M $\beta$ -actin | GGCTGTATTCCCCTCCATCG    | CCAGTTGGTAACAATGCCATGT  |
| H PPARA          | TCATCACGGACACGCTTTCA    | TCAATGCTCCACTGGGAGAC    |
| H DNMT1          | CCTAGCCCCAGGATTACAAGG   | ACTCATCCGATTTGGCTCTTTC  |
| H PRMT6          | GGAGTCGGAGAAACCCCTG     | TGAAACGTCCGTGTCTTGCTC   |
| H P21            | CGATGGAACTTCGACTTTGTCA  | GCACAAGGGTACAAGACAGTG   |
| H P27            | GTACGAGTGGCAAGAGGTGG    | TAGAAGAATCGTCGGTTGCAGG  |
| H ACTIN          | CATGTACGTTGCTATCCAGGC   | CTCCTTAATGTCACGCACGAT   |
| H DNMT3A         | CCGATGCTGGGGACAAGAAT    | CCCCTCATCCACCAAGACAC    |
| H DNMT2          | CGGGTGCTGGAGCTATACAG    | CGACAGTGTTGACATCAATGGC  |
| H ACOX1          | ACTCGCAGCCAGCGTTATG     | AGGGTCAGCGATGCCAAAC     |
| H NSUN2          | CAAGCTGTTGAGCACTACTAC   | CTCCCTGAGAGCGTCCATGA    |
| H NSUN4          | CCATCAATCCGTGTCAGTCTC   | GCTTAGCACTTACATGATCCCAG |
| H METTL1         | GGCAACGTGCTCACTCCAA     | CACAGCCTATGTCTGCAAAC    |
| H METTL3         | TTGTCTCCAACCTTCCGTAGT   | CCAGATCAGAGAGGTGGTGTAG  |
| H PRMT1          | CTTTGACTCCTACGCACACTT   | GTGCCGGTTATGAAACATGGA   |
| H PRMT3          | GTACCCTTCTCATACCCCAATGG | GACGAGCAGGTTCTGACATCT   |
| H PRMT5          | CTGTCTTCCATCCGCGTTTCA   | GCAGTAGGTCTGATCGTGTCTG  |
| H PRMT6          | TACCGCCTGGGTATCCTTCG    | CCTGTTCCGGCAACTCTACA    |
| H PRMT7          | TTGACACAGAGCTGATCGGG    | CAACGGGAGGGACGATGAC     |
| H PRMT8          | CCTGCTAAGCCCGTGCAAT     | TGGGCATAGGAGTCAAGTAA    |
| H PCNA           | GCTGACATCGGACACTTA      | CTCAGGTACAAACTTGGTG     |
| H MMP9           | TGTACCGCTATGGTTACTACTCG | GGCAGGGACAGTTGCTTCT     |
| H VIMENTIN       | GACGCCATCAACACCGAGTT    | CTTTGTCGTTGGTTAGCTGGT   |
| H ECADHERIN      | CGAGAGCTACACGTTACCGG    | GGGTGTCGAGGGAAAAATAGG   |
| H CDKN2A         | GATCCAGGTGGGTAGAAGGTC   | CCCCTGCAAACCTTCGTCTT    |
| H DNMT3B         | AGGGAAGACTCGATCCTCGTC   | GTGTGTAGCTTAGCAGACTGG   |
| H MLH1           | CTTTCATCAACCATCGTCTGG   | GCAAATAGGCTGCATACACTGTT |
| H H4F2           | GAAAAGGCTTAGGCAAAGGGG   | CCAGAGATCCGCTTAACGC     |
| H RASSF1A        | AGGACGGTCTTACACAGGCT    | TGGGCAGGTAAAAGGAAGTGC   |
| H APC            | AAAATGTCCCTCCGTTCTTATGG | CTGAAGTTGAGCGTAATACCAGT |
| H GSTP1          | CCCTACACCGTGGTCTATTTCC  | CAGGAGGCTTTGAGTGAGC     |
| H CyclinD1       | GCTGCGAAGTGGAACCATC     | CCTCCTTCTGCACACATTTGAA  |
| H CDK4           | ATGGCTACCTCTCGATATGAGC  | CATTGGGGACTCTCACACTCT   |
| H CDK6           | GCTGACCAGCAGTACGAATG    | GCACACATCAAACAACCTGACC  |
| H RB1            | CTCTCGTCAGGCTTGAGTTTG   | GACATCTCATCTAGGTCAACTGC |
| H OCT4           | CTGGGTTGATCCTCGGACCT    | CCATCGGAGTTGCTCTCCA     |
| H NANOG          | TTTGTGGGCCTGAAGAAAAC    | AGGGCTGTCTGAATAAGCAG    |
| H SOX2           | GCCGAGTGGAACCTTTGTGCG   | GGCAGCGTGTACTTATCCTTCT  |

|        |                       |                      |
|--------|-----------------------|----------------------|
| H SOX9 | AGCGAACGCACATCAAGAC   | CTGTAGGCGATCTGTTGGGG |
| H HIC1 | GTCGTGCGACAAGAGCTACAA | CGTTGCTGTGCGAACTTGC  |
| H E2F  | ACGCTATGAGACCTCACTGAA | TCCTGGGTCAACCCCTCAAG |

Table S2 Primer Sequence used in MSP (5'-3')

| Gene     | Forward                  | Reverse                 |
|----------|--------------------------|-------------------------|
| CDKN2A M | TTATTAGAGGGTGGGGCGGATCGC | GACCCCGAACCGCGACCGTAA   |
| CDKN2A U | GAGGGGTTGGTTGGTTATTAG    | CCACCTAAATCAACCTCCAACCA |