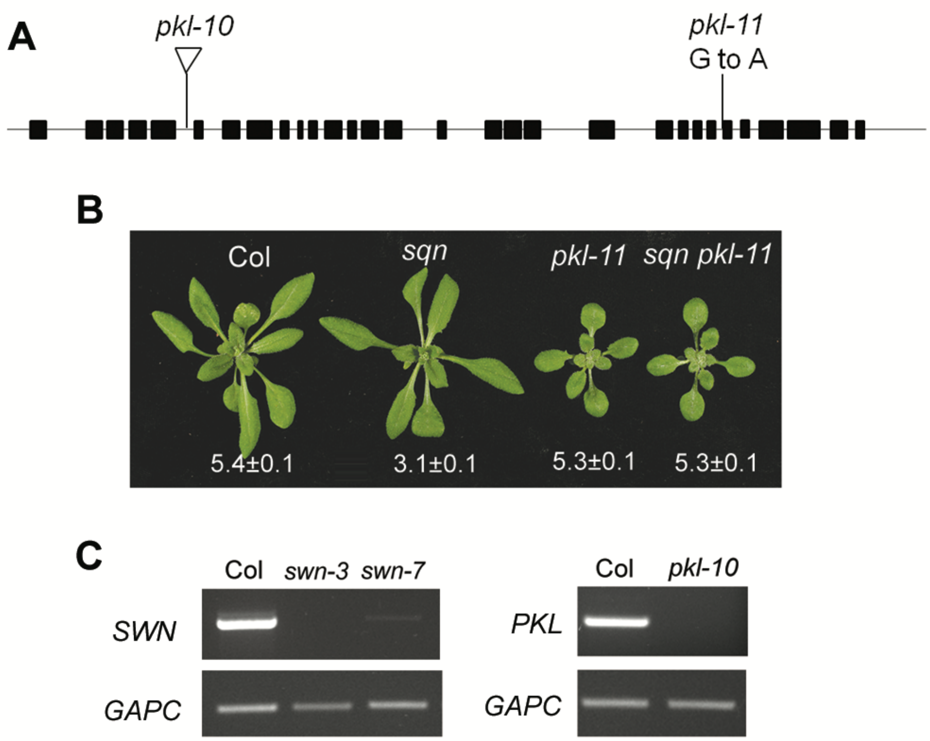
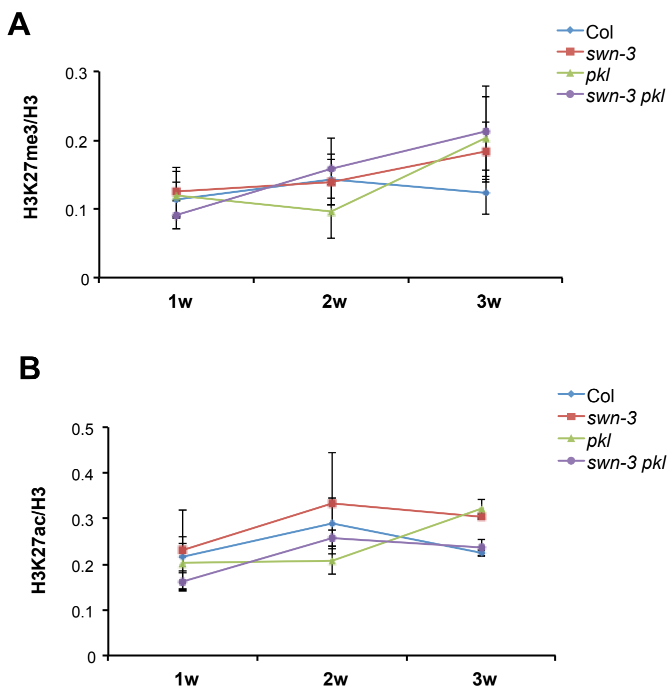
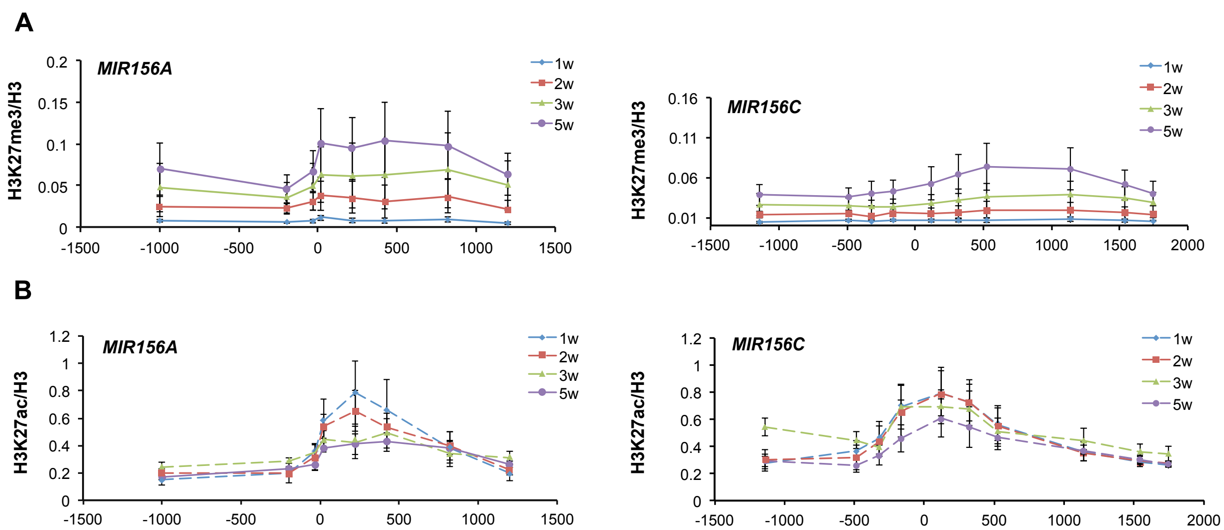


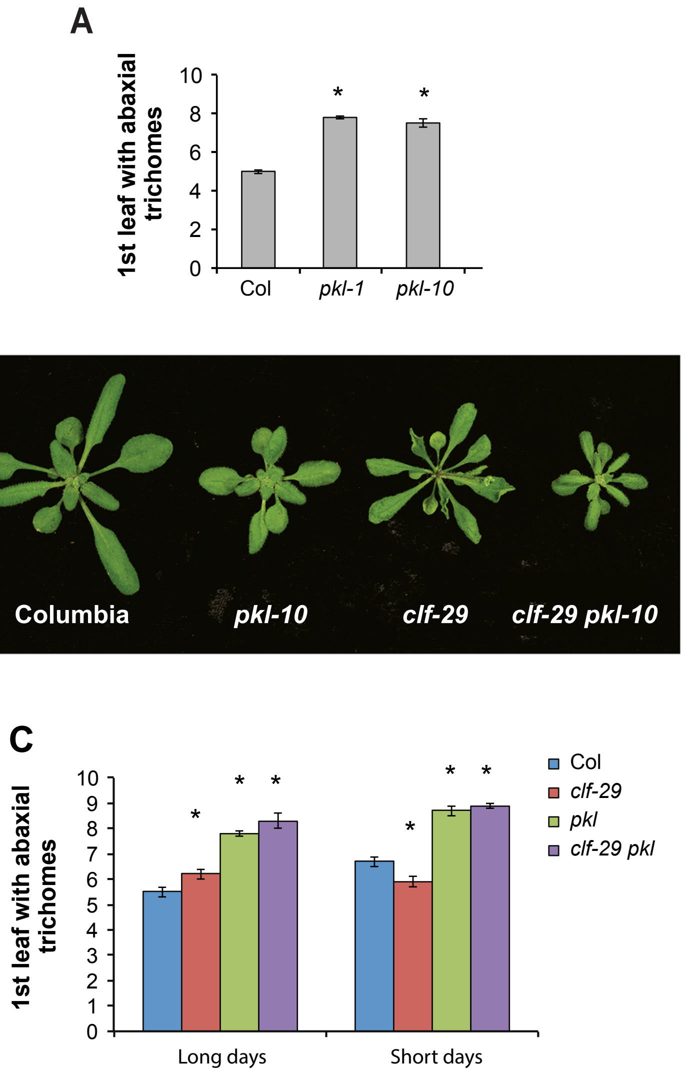

**Supplemental Figure 1: The phenotype of *pkl-11*, and the effect of *pkl-10, swn-3 and swn-7* on gene expression.** (A) The location of the *pkl-10* and *pkl-11* mutations in the PKL genomic sequence. *pkl-10* is a T-DNA insertion (GK_273E06), and *pkl-11* is an EMS-induced G-to-A splice site mutation at position 7667 in the genomic sequence, relative to the ATG. (B) The rosette morphology of Col, *sqn-1*, *pkl-11* and *sqn-1 pkl-11*, and the first leaf with abaxial trichomes in these genotypes (± SEM). Plants were grown in long days. (C) RT-PCR of the *SWN* and *PKL* transcripts in the *swn-3*, *swn-7* and *pkl-10* mutations.



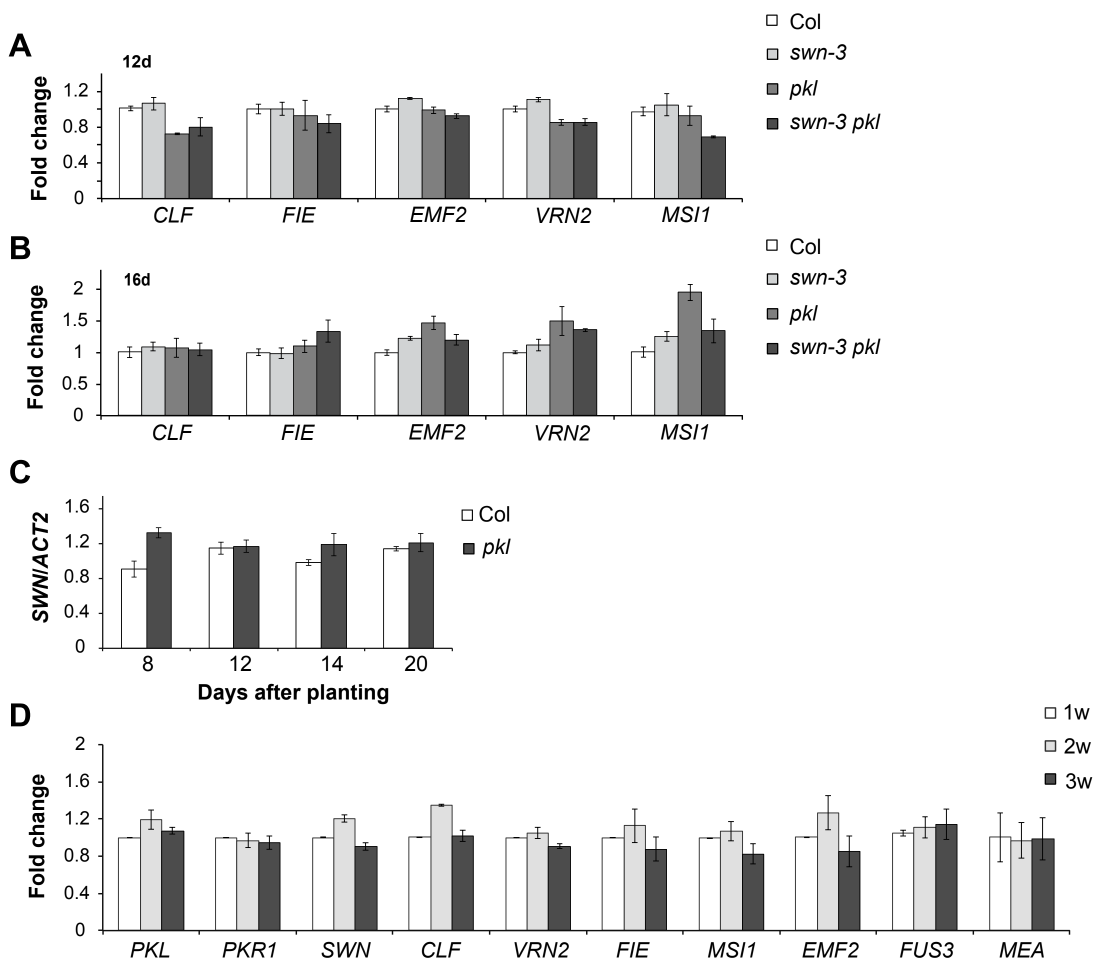

**Supplemental Figure 2: The abundance of H3K27me3 and H3K27ac at the *STM* locus in shoot apices of Col and mutant plants at various times after germination.** (A) RT-qPCR of STM DNA in the chromatin of shoot apices immunoprecipitated with an antibody to H3K27me3 and normalized to the product obtained from samples immunoprecipitated with an antibody to H3. (B) RT-qPCR of STM DNA in in the chromatin from shoot apices immunoprecipitated with an antibody to H3K27ac, normalized to the produced obtained from samples immunoprecipitated with an antibody to H3. Values are the average of 3 biological replicates. Error bars = SEM.



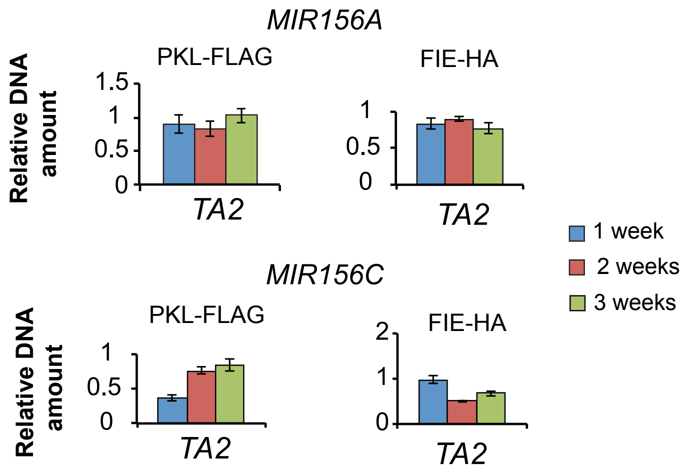

**Supplemental Figure 3: H3K27me3 increases and H3K27ac decreases at *MIR156A* and *MIR156C* during shoot development.** Chromatin from shoot apices of Col plants of different ages was immunoprecipitated with antibodies to (A) H3K27me3 or (B) H3K27ac, and sites across *MIR156A* and *MIR156C* were assayed by RT-qPCR. These results were normalized to the results obtained using an antibody to H3. Average from 3 independent biological replicates. Error bars = SEM.



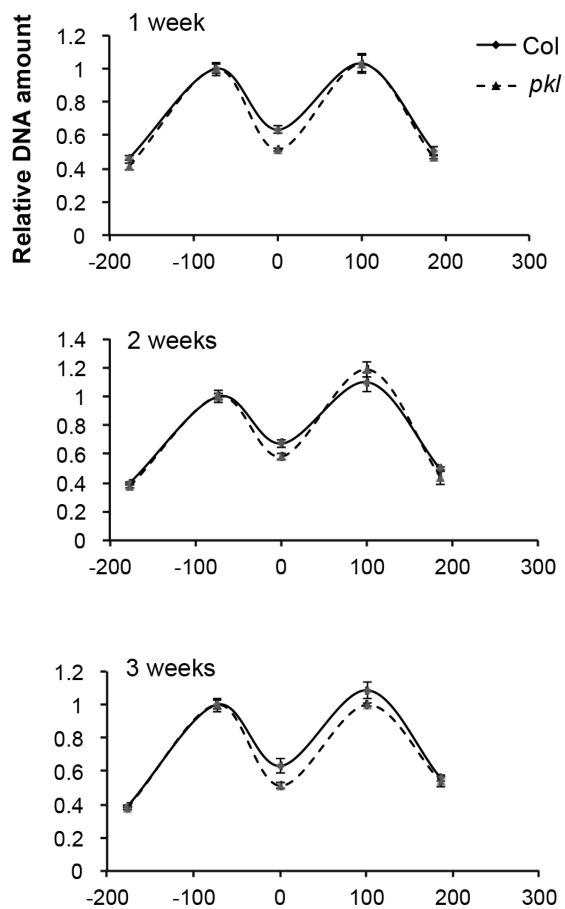

**Supplemental Figure 4: The phenotype of *pkl, clf* and *pkl clf*.** (A) The first leaf with abaxial trichomes in *pkl* and *clf* mutants growing in long days (LD). *pkl-1* and *pkl-10* are significantly different from wild type, $p < 0.01$, Student's t-test. (B) Rosette morphology of 3-w-old Col, *pkl-10*, *clf-29*, and *pkl-10 clf-29* (LD). (C) The first leaf with abaxial trichomes in Col and mutant plants, grown in LD and SD. In both LD and SD, *pkl*, and *clf -29 pkl* produced abaxial trichomes significantly later (p < 0.01, Student's t-test) than Col. *clf-29* produced abaxial trichomes significantly later than Col in LD, but produced abaxial trichomes significantly early than Col in SD because trichome production was delayed in Col but not in *clf-29* under SD conditions.



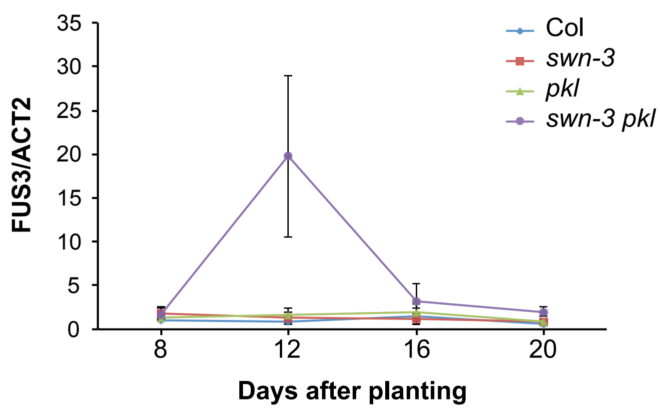

**Supplemental Figure 5: PcG gene expression in Col and mutant plants.** (A-B) RT-qPCR analysis of the transcript levels of PcG genes in the shoot apices of Col, *swn-3*, *pkl-10* and *swn-3 pkl-10* mutants at (A) 12 and (B) 16 days after planting (SD). (C) RT-qPCR analysis of *SWN* transcript levels in the shoot apices of Col and *pkl-10* plant of different ages (SD). (D) RT-qPCR analysis of PcG gene expression in Col shoot apices of different ages (SD).




**Supplemental Figure 6: Abundance of the sites used for normalization in the PKL-FLAG and HA-FIE CHiP experiments, relative to the retrotransposon TA2.** qPCR analysis of the abundance of TA2 in chromatin of PKL-FLAG or FIE-HA plants, immunoprecipitated with antibodies to FLAG or HA. Samples were normalized to the *MIR156A* and *MIR156C* sites indicated in Fig. 5. These values are equal to or less than 1, meaning that these *MIR156A/MIR156C* sites were no more abundant in the immunoprecipitated chromatin than the DNA from this constitutively methylated retrotransposon.




**Supplemental Figure 7: *pkl* has no effect on the MNase sensitivity of At4g07700.** MNase sensitivity of chromatin near the TSS of At4g07700 in Col and *pkl-10* shoot apices at 1, 2, and 3w after planting (SD). The sites assayed by qPCR are described in Kumar and Wigge (2010).




**Supplemental Figure 8: RT-qPCR analysis of the temporal pattern of *FUS3* expression in the shoot apices of Col and mutant plants.**

**Supplemental Table 1: PCR primers** (Forward-Reverse, 5' to 3')

| | | |
|---|---|---|
| **Genotyping** | | |
| swn-3 | TATGCAAACAAATTAACGTCAATT | AACACCTTTCGAAAAGGGTTG |
| swn-7 | ATTGTCTGGAATAGGCTCACCTAC | TAAGCAGAATACCGAGGAATTTTC |
| clf-29 | AAGAAACTTGCTAGTTCCGCC | GAGGCATTGACTTTGATTTGC |
| clf-28 | TTTGCTCGATCATTAAGCAATAAC | AGCGGAATCGATGAAAGTAATAA |
| pkl-gk | GCAAGTCGAGGCTATTGTCAG | GACAAGATATTCCAGCTCCCC |
| pkr1-1 | TAGGCAGCTTAAACTGCATAGTTG | TTGGCTTAGAAGATCTGGTTTAGG |
| suvr5-1 | CATCATCGACGACACAAATTG | TTGGAAATTCATGTGGAGGAG |
| suvr5-2 | GCTCGCCTGTAACTTGTGATC | AGTTGCTTTACAATGGCATGG |
| **RT-qPCR** | | |
| PKL | ATGAGTAGTTTGGTGGAGAGGCTTC | TTCCTCTCTGCAGGCAAGAATCCGAT |
| SWN | ATGATGGCAGGACTGACCCAGGGAAT | CTACAAACATCACCTTAGCGTAGCAA |
| FIE | CGTTTCTTCGATGTCTTCGT | ACGACTCTTCCTTATCTTCATCAG |
| EMF2 | CAGAAGACTGAAGTAACTGAAGAC | AAATTGAGGAGATCGTGGGT |
| VRN2 | GCAGAAATAACACCAGGAGAC | CCACGGTTTCCATCATTCAG |
| CLF | ATTATTCGCATGACCCTTGAG | CATGTCTTGCCTTGATTTCAC |
| SWN | CAGGGAATGATAATGATGAGGT | GACCAGCAGACTTTGTAGAG |
| MEA | GGTGAGGCACTAGAATTGAGCAGT | CCATAGTCCTGCCCAACCG |
| MSI1 | CATTTGATAGCCACAAAGAGGAG | TCATCGATCCTGCTAAGGTC |
| PKL | GCTTGTTACATCCATACCAG | TGAATTGTCTTGCCTAGTCC |
| PKR1 | CACATCGTCAGTTTCCTCCGTCAGGGG | TCTCGGCTGAAATGGAAATCGAGGAAG |
| FUS3 | GCCAAACAACAATAGCAGAA | TTTCTTGCTTGTATAACGTAATTG |
| miR156a | CTTCGTTCTCTATGTCTCAATCTCTC | TGATTAAAGGCTAAAGGTCTCCTC |
| miR156c | AAAAGCCTCAGATCTAACTCCAACAC | GCGTTTCTCTTAAAATTTGTCCCAAAACT |
| miR156 RT | GTCGTATCCAGTGCAGGGTCCGAGGTATTCGCA CTGGATACGACGTGCTCA | |
| miR156 | GCGGCGGTGACAGAAGAGAGT | GTGCAGGGTCCGAGGT |
| snoR101 | CTTCACAGGTAAGTTCGCTTG | AGCATCAGCAGACCAGTAGTT |
| ACT2 | GCACCCTGTTCTTCTTACCG | AACCCTCGTAGATTGGCACA |
| **ChIP qPCR** | | |
| 156a1 | GTATATTATTTTTTAGAGATTTCTCGG | TGATTTTTTGAGAGTGAATAATGGT |
| 156a2 | CTCAAAAAATCATTATCTATTTGGTGA | AGTGTTTATTTATTTTTGTTTGAAGTCT |
| 156a3 | TAACTCAAAACCCTAACTTCTATATAT | TGGGGTTTTTCTTGTTGTCAAG |
| 156a4 | AAACGCGCTTCACTTAAAATTAC | TTTGTTGGCGGAAGACCAACAT |
| 156a5 | GGAAAGAGAAGACATTTAACGAA | TTGAGATTTGAGAGTGAACAATGA |
| 156a6 | GTTCATTGCCATTTTTAGGTCTCTC | AGGGTAAAGAAACAAAGATCTGAT |
| 156a7 | CTTTCTTTCTTTTTTTTGCTTTTTATG | GAAACGATGAGAATCTTTTAAGCT |
| 156a8 | TTGTTTTCTTTGTTTCATCTTGTAG | AACGAAGACAGGCCAAAGAGAT |
| 156a9 | CTCTATGTCTCAATCTCTCTCT | TTTTCGATACTACCCATCTCTTA |
| 156a10 | AAGCTTAATCTATTAGTTAACGCG | TATATGATCGCATGAATCAAAAGAC |
| 156a11 | TTATCTCATTTTGCGTGAATAAGAT | CATATAAAATGTAGAAAAAATGTAAGTAC |
| 156a12 | TATATATTTGATTCCATGTTACATTTGT | AGACATGACACATCAACTTGTG |
| 156a13 | TCCCACTTTTGTACTGTTAATAC | CAATCATCTTAATCACAGAAAATACA |

| | | |
|---|---|---|
| 156a14 | CATCTTTAAGACATATTTGTAGCTT | CAATAGATTTGATGAGAAAGGAAAG |
| 156a15 | ATAGTTCTAAAATAAAACGCAAAATCAA | CTTCGTTAACAATTTTGATTTCCTA |
| 156c1 | GTTTTATGGGTGGATGATAAACGATAC | CACAATTTTAAGAATTAATTCAATTGGAC |
| 156c2 | GTGAAATAATTTTAAAGATTAAGTTACAAT | CTAGTTTAAATAAACGTGTATACAGG |
| 156c3 | TATTGTTTTAGGTGAAAATAGCAAAAAG | AAGATGACCTATAGGTGGCATC |
| 156c4 | AACATGTTATATGATCAATTGGTAAC | AATATTATTTTTTGGGAATCAGCTCT |
| 156c5 | TTACCACTCCCATCGTGAAAG | TCAAGAAGAGTCTTATCTCTGTT |
| 156c6 | AAGACTCTTCTTGAAGAGAGTG | CTTTTGGAAAACAAATCTAGGGTT |
| 156c7 | CATATCTGAAAATGAAGGACAAC | TCAGTCATCACTCATTATCACC |
| 156c8 | TGAGGGAGTTTTGGGACAAATT | AACACATGAGAGAGAAAGTGAG |
| 156c9 | CTTCATCTCTCAAAGGTAAATTAAA | TCCCATGTTAATCTCACTTAACC |
| 156c10 | CCATTAACGTTAACCTAGTTTTC | ACACATAGATATGATCGTATGGA |
| 156c11 | ATAGTCATGGATCTTGCAAAGTA | CACATGGATCAATGATATATAAATTAG |
| 156c12 | ATCACGTTGTGAATCTTGTGAG | AGATCCAAAAATTCCCTACCAG |
| 156c13 | AGGAAGCGATTTGTCATTTGCA | AAACCCCAAGATAACATTTCATAC |
| 156c14 | TCTTCTGGGGGAAGAGGTGAGAC | GAACAAAAGTTTGCATCTCATCT |
| 156c15 | TTGCAATAATTGACAACAATTGGTT | TGATGGCTTAGTATCATGAGAC |
| TA2 | GGCGAGCTGTCAGGGTATTTT | GCAAGCTAGGTCCCCAGATTG |
| STM | GCCCATCATGACATCACATC | GGGAACTACTTTGTTGGTGGTG |
| **MNase assay** | | |
| MIR156A | GTTGCAAGTTGTAACACAAAATTG | TGGAAGATATATTAAACACAAAAAAAAA |
| | GTCATTCAGTACAAAAAAAAAATTAAA | AGCCCTAAAGACTTGCAAAAT |
| | TGTGTTTAATATATCTTCCATAATTTTG | TATTTTTTTCGTTAAATGTCTTCTC |
| | GCTTGTTGATGTTGGTCTTCC | TTTGCATTTAATTTCTCATCTCC |
| | GACATTTAACGAAAAAAATAATAATAATC | TGTTGGCTAACAATTTGCCACT |
| | GAGAAATTAAATGCAAATTAATAAATATTC | ATATATAAAGATTAGGAACCCGTT |
| | AATTGTTAGCCAACAAAAGAAAGA | ATTTGAGAGTGAACAATGAATGGT |
| | TTCCTAATCTTTATATATACCTTCC | CATTTGAATTTATAGAGAGACCTA |
| | CATTGTTCACTCTCAAATCTCAA | AGGGAACAGATGTCTGGCGA |
| | GGTCTCTCTATAAATTCAAATGTT | TATGGCTCTTGTCGCTTTCTT |
| | TCGCCAGACATCTGTTCCCT | GAAAACCTTATCTCTCTCTATTTC |
| | GAAAGCGACAAGAGCCATAAA | AGGGTAAAGAAACAAAGATCTGAT |
| | AATAGAGAGAGAGATAAGGTTTTCTC | GAGAAAAAACATAACCATAAAAAGC |
| | AGATCTTTGTTTCTTTACCCTCT | ACCCTTTAGAAGATCAAATCTAG |
| | TTTTTATGGTTATGTTTTTTCTCGA | GAGGGAGAGATATGAGAAGAG |
| MIR156C | GATTTATTGTATTTGTATTTTAAAATTATT | AGAAATGAATTTTGGTCTTTCAC |
| | GCTGATTCCCAAAAAATAATATTTTA | TATAAACGGCAACGACAAGC |
| | GACCAAAATTCATTTCTCAAAATTC | AACAGTACCATTGCAGATTATAG |
| | GCTTGTCGTTGCCGTTTATA | GTCTGAAGAGAGAGACATTTG |
| | TAATCTGCAATGGTACTGTTGA | GTTTCTTATCTCTCTCCCTCT |
| | AAATGTCTCTCTCTTCAGACAT | TCAAGAAGAGTCTTATCTCTGTT |
| | GAGGGAGAGAGATAAGAAACA | AAAAAACCTTATCTCTCTCTGTC |
| | AAAAACAGAGATAAGACTCTTCT | GGAGAGGAGAAGAGAGGAAG |
| | AGAGAGAGATAAGGTTTTTTGTT | GGCAGAGAAATATTCGGGGA |

| | | |
|---|---|---|
| | CTTCCTCTCTTCTCCTCTCC | CGTAACGAAAAATAAATATATTACCAA |
| | TCCCCGAATATTTCTCTGCC | CTTTTGGAAAACAAATCTAGGGTT |
| | TAATATATTTATTTTTCGTTACGATTTG | AACCGAAGGAGAAGAGGAAA |
| | GATTTGTTTTCCAAAAGCATATCT | GCTTTTAGGTTAAACAAGCAAAA |
| | TTTCCTCTTCTCCTTCGGTTA | AAAGGAGGCAGACTTTGAAGG |
| | TGCTTGTTTAACCTAAAAGCCT | AATTCTGAGATTAGAGATCGAAC |
| | CTTCAAAGTCTGCCTCCTTTC | TCAGTCATCACTCATTATCACC |
| | CGATCTCTAATCTCAGAATTTG | TTCTATGCGTTTCTCTTAAAATTT |
| | GATAATGAGTGATGACTGATGAG | CATGCAAAGTGCCTTTGTGT |
| | AATTTTAAGAGAAACGCATAGAA | AGTGAGCACGCAAGAGAAG |
| | ACACAAAGGCACTTTGCATGT | GAAAACGTGACCGGGACCGA |
| | GTCCCGGTCACGTTTTCTTC | TTATCAGATCGTATTTAATTTACCTT |