**Supplementary information**

**Table S1.** Partial primer sequences used for agarose gel electrophoresis and sequencing

|  |  |  |
| --- | --- | --- |
| **Gene Target** | **sequences** | **Product length** |
| PCMV | F: ACGGGGATCGACGAGAAAG | 320 |
| R: GAAGAGAAAGGAAGTGAAGG |
| PCMV-gB | F: TTCCTGTAGATGAAGCTGGAT | 443 |
| R: AGGGATAGTTTTCTTTGGTCCA |
| RT-PCMV-gB | F: TTCCGCTGCCGAGATTAGAAACCA | 268 |
| R: CTCAACCGATTCACCTGTACCGAGT |
| DS1 | F: CTGAGTTTTACAGTCATCCC | 1203 |
| R: TACCAAACATACAAAAGAACTG |
| RS1 | F: CCACCACCAATTAACACTACC | 281（After integration: 1394） |
| R: TATTAGCATTACGGCAACTGAG |
| M1 | F: GGTCTGCTGGTGTTGAGTG | 428（After integration: 535） |
| R: CCGAGGCTGGAGTTCTACA |
| M2 | F: CATAGTGAAGCCACAGAT | 174 |
| R: CCGAGGCTGGAGTTCTACA |
| M3 | F: CATAGTGAAGCCACAGAT | 60 |
| R: CACCGAGGCAGTAGGCAGACACT |

\*F: Forward primer, R: Reverse primer

**Table S2.** SiRNA targeting sequence

|  |  |  |
| --- | --- | --- |
| **siRNA** | **sequences** | **Reverse sequences** |
| U77 | CGGACACUGGCAUAUUUCAUGGCAU | AUGCCAUGAAAUAUGCCAGUGUCCG |
| U57 | GAGGCCAUACUCGGCAUCUACUGUA | UACAGUAGAUGCCGAGUAUGGCCUC |
| U51 | GGAUACUGCGUUCUACAUA | UAUGUAGAACGCAGUAUCC |
| U38-1 | CCAGAUUCUACAUCGAUAA | UUAUCGAUGUAGAAUCUGG |
| U38-2 | CAACUACAGACAUCAUGUA | UACAUGAUGUCUGUAGUUG |
| U12 | GAUGCAGACUUUGCGAUAA | UUAUCGCAAAGUCUGCAUC |

**Table S3.** OTS design for Rosa26 locus

|  |  |
| --- | --- |
| **OTS and sgRNA (pRosa26)** | **sequences** |
| sgRNA | ATCTTGACTA CCACTGCGAT |
| R1 | GCCTTGACTA CCACTGGATG |
| R2 | ATCTTGACTA CCACTTATAC |
| R3 | GTCTTGACAC CCACTGGAGC |
| R4 | AGCTTGACTA CCACTGAACC |
| R5 | GGCTCAGTGG TAGTCAAGGC |
| R6 | CGCAGTGGTA GTCGAGATGT |
| R7 | AAGTGGTAGT CAAGAGAGGA |
| R8 | ATCTTGACTA CCAATTCATT |
| R9 | AGAAAACTGG TAGTCAAGAT |
| R10 | GGTCTTGACT ACCACAACTT |

**Table S4.** OTS design for miR-17-92 locus

|  |  |
| --- | --- |
| **OTS and sgRNA (miR-17-92)** | **sequences** |
| sgRNA | TGTCGATGTA GAATCTGCC |
| M1 | ATCAGATTCT ACATCCCCAG |
| M2 | ACTGGCAGA TTCTACAATT |
| M3 | AGTGGAGTCG ATGTAGAATG |
| M4 | ATTCTACATA AATTTATCTG |
| M5 | GATGTGTAGA ATCTGCCAAT |
| M6 | CATGTAGAAT CTGCTCCAT |
| M7 | TTGATGTAGA ATCTGAACA |
| M8 | TTAAGTCATG TAGAATCTG |
| M9 | TGTTGCAGAT TCTACATCAC |
| M10 | TCTAAGCAGA TTCTACATTC |

**Table S5.** Primer design for OTS detection at the Rosa26 locus

|  |  |  |
| --- | --- | --- |
| **OTS (Rosa26)** | **Forward primer** | **Reverse primer** |
| OTS-R1 | GTATTACAGTTGAGGTCCACGATT | TGTAACCTGCTGGTACTCATTCT |
| OTS-R2 | ACTTGTGCTCCAGTTGAATCC | TGCTGAGGCTTGCTGACA |
| OTS-R3 | TGTGAATCTCTATGGTCGTAGG | TGCTCCAGTGGTAGTCAAGA |
| OTS-R4 | TCTCCTACTCCGTGCTGTT | ACTATGCTGACTGTTAGAATGG |
| OTS-R5 | AAGAAGGAGGAGGAAGAGATGG | GCACAGACATACAGAGGAATGG |
| OTS-R6 | GTCTGTCTACGCTGGTCCGA | TGCCTTGGCTCTCAGGTCTC |
| OTS-R7 | GTCACAAGTGCGGCTCTAA | AGTACATGGAACACAGCAGATT |
| OTS-R8 | GCCGATACAAGTTACCAGACA | GCACAGGAAGGTGAGAAGG |
| OTS-R9 | AGTGGCATCAGTGACCTATTCC | GCAGTTCCTCTCGCATCTCTAT |
| OTS-R10 | TCCGTTCCGTTGATGTCCATAT | CGGCAGGAAGTCCAATAAGGT |

**Table S6.** Primer design for OTS detection at the miR-17-92 locus

|  |  |  |
| --- | --- | --- |
| **OTS (miR-17-92)** | **Forward primer** | **Reverse primer** |
| OTS-M1 | GACATGACATGCGAGAGGATT | GACACATCACAGGAGAGGAAC |
| OTS-M2 | AAGGCAGAGTCCTACCTACTAA | GGGATTTCTGGCATACATTAGAG |
| OTS-M3 | TTGTGATGCTGCTGCTACC | TCTTCTTCTGGCTGTAACTGTT |
| OTS-M4 | CAGCAACGCCAGATCCTTA | GGTGGTCGTCAGAACTCTC |
| OTS-M5 | CACACTCGGCATCCTAATCTA | TCCGTGTTCAGTGATGTCATT |
| OTS-M6 | TGTGGATGTTAGCGACTTGGA | TTGGACTGATGGAGCAGATTCT |
| OTS-M7 | CTCTCCACTCTGGTACACTGA | GCCACGAAGACAAGTTCTGT |
| OTS-M8 | CACTCTTCCGTCCTCCTCAT | TGCCATCTGCTCCTACAACT |
| OTS-M9 | AGAGCACAAGGCAGGGATAG | TCCAGCCAATGAGACCACTT |
| OTS-M10 | GCAGAGGTTGGTTCATTAGGTT | TAAGCCACGGTGTAATTAGCAA |