

Table S6. A list of primers and gRNA sequences used in this study, related to STAR Methods.

| Names of gRNA or primer | Sequence 5'-3' | Purpose | Information |
|-------------------------|---------------------------------------|--|---|
| NSGT_no_deletion F1 | AGTCTTTGAGTTGCCACAA | NSGT haplotype V deletion genotyping | Three-primer PCR (F1, F2 and R1) |
| NSGT_common R1 | GTGTACGTAATGACAGTCGACT | NSGT haplotype V deletion genotyping | The product from deletion haplotype is about 3.5kb |
| NSGT_deletion F2 | TACTAGAGAGCTCATACACAGGC | NSGT haplotype V deletion genotyping | and without deletion is about 2 kb. |
| fw3.2_dup F1 | GCTCCTGGATGTGTATCAGGTGAC | fw3.2 duplication genotyping | F1+R1 amplifies from single-copy and duplication; |
| fw3.2_dup F2 | AACGCCATCCAGAGAAGACGAAC | fw3.2 duplication genotyping | F2+R1 only amplifies in duplication (~300bp product). |
| fw3.2_dup R1 | CTA CAG GAA CTA TGA AAC TGT GTA CTC | fw3.2 duplication genotyping | |
| fw3.2-F1 | CACGCTCTGGTCTTCTCCACACC | SIKLUH genotyping | WT band is 690bp |
| fw3.2-R1 | CCCTTTTACCCTAACATGTCCATCGG | SIKLUH genotyping | |
| MADS1_geno-F1 | CACAATTGATGCTGGATCAGC | eJ2 weak allele genotyping | |
| MADS1_geno-R1 | CGGAGTAATCTATTAGATTCTGC | eJ2 weak allele genotyping | |
| SLK_RT-F | TTACTTTTCTAAGAGAAGAAATGG | j2 transposon allele genotyping | |
| j2_geno2_rev | CCGTCTTTCTGTTTGTAGC | j2 transposon allele genotyping | |
| j2_geno4_rev | GAATCCACTTAAGAACTCTTACC | j2 transposon allele genotyping | |
| 00g179240_F | ATGGTTCGAGGTAACCCAG | sb1 CR-1 allele genotyping/ STM3 sequencing | Digest PCR product with BslI, WT (367bp+22bp)/Mut (389bp) |
| sb1_ch01-1-R | ATTATATCTGGATGAAGTACAACC | sb1 CR-1 allele genotyping/ STM3 sequencing | |
| CR-STM3-geno-F2 | AGTACTAATCCCTCATCTAGA | sb1 CR-1 genotyping | Digest PCR product with BslI, WT (242+138)/Mut (380) |
| CR-11-geno R1 | AGATCTGATACGATCTGAACG | sb1 CR-1 genotyping | |
| SL3.0-RB-R | ATCAAACCTCATTAGTCAAGAAGC | Genotyping/sequencing of TM3 in sb1 CR-1 | PCR amplification of TM3 specific region, forward primer is CR-STM3-geno-F2 |
| STM3_3p-R | TTCATATAGTTTCTCTGGAG | Genotyping/sequencing of TM3 in sb1 CR-1 | Sequencing primer for TM3 PCR product |
| Jip56-TM3_F5 | TTGGGCTGTTAAAAGGTTACAGG | sb1 CR-del genotyping | No amplification in WT, 625bp in mutant |
| Jip56-TM3_R | CTCAGTGTGACATATTCTCATCAT TTCTAGTGTCCG | sb1 CR-del genotyping | |
| RT-PCR-STM3-F3 | TCAATCTGGATATTGAGC | qRT-PCR | |
| RT-PCR-STM3-R3 | AGACTTGCATCTTTGAGCC | qRT-PCR | |
| RT-PCR-TM3-F4 | TACAGTATATGCAGCATGAG | qRT-PCR | |
| RT-PCR-TM3-R4 | TTAGTCGCTCAACCTGTTC | qRT-PCR | |
| qRT-UbI-middle-F | CGTGGTGTGCTAAGAAGAG | qRT-PCR | |
| qRT-UbI-middle-R | ACGAAGCCTCTGAACCTTTC | qRT-PCR | |
| Solyc03g114940_gRNA1 | ATGAAGAGAAGAGATTTTC | CRISPR guide targeting <i>KLUH</i> exon1 | |
| Solyc03g114940_gRNA2 | CTTGAAGCTGAATCGTTAA | CRISPR guide targeting <i>KLUH</i> exon1 | |
| Solyc03g114940_gRNA3 | AGTATTCTCTCGAGTTTC | CRISPR guide targeting <i>KLUH</i> exon1 | |
| Solyc03g114940_gRNA4 | ACTGTTCTTCACAGAGCGA | CRISPR guide targeting <i>KLUH</i> exon1 | |
| sb1_gRNA1 | GAAAGTAACTTGTCGCTTG | CRISPR guide targeting the <i>STM3/TM3</i> common exon | |
| sb1_gRNA2 | GTCTCTATACGCCCTCATCT | CRISPR guide targeting the <i>STM3/TM3</i> common exon | |
| sb1_gRNA3 | GCATCAGCATCTAACACGA | CRISPR guide flanking <i>STM3/TM3</i> locus | |
| sb1_gRNA4 | GTATTATTCTTATACACTT | CRISPR guide flanking <i>STM3/TM3</i> locus | |
| sb1_gRNA5 | GCCTACATACACTGTGTCGG | CRISPR guide flanking <i>STM3/TM3</i> locus | |
| sb1_gRNA6 | CTTTGTGATGGCCCTATAA | CRISPR guide flanking <i>STM3/TM3</i> locus | |