**Table S1. Segregation analysis of *tcd7* mutant phenotype in the F2 population**

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| Cross | Observed numbers of F2 plants | χ2(3:1) | *P* |
| Total | Green | Albino |
| Pei'ai 64S × *tcd7* | 453 | 335 | 118 | 0.21 < 3.84 | 0.52 > 0.05 |

= 3.84

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| **Table S2. Sequences of molecular markers used for cloning**  |
| **Markers** | **Upstream sequence** | **Downstream sequence** |
| MM3645 | GGGTCAGCTGCACACATAGAACC | TCTTCAGCTCTCCCTCTCCTTCC |
| MM3705 | GAACATCGTCGGAGTCCAAT | TCCTTTGAACGGTTTGTGTG |
| MM3833 | GCAGTGCACACCACACCATCC | CCCACCTCCAACTCCAATCTCC |
| MM4229 | GTGGCTCTGCTTGAAGCTC | CGCATCATCACAAGGCTCTA |
| RM15419 | GCAGTGCACACCACACCATCC | CCCACCTCCAACTCCAATCTCC |
| ID11413 | CGTGTGCTCACGATAAATAA | ATACAAAGATTTGGGCTGAA |
| ID14867 | GAATCAGTGGTTGGAATGAT | GTGTGCATTTATTGCTGCTA |
| ID14957 | CAGTTGTGTGTACCATGCTC | GACCAGGCTCCTAGAGTGA |
| ID15219 | TCTGTGGGTCTAGTCGTTTT | ATAAGAAGAGAGTTGGCCCT |

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| **Table S3. Sequence for target-joint primers and vector construction** |
| Name of primer |  Primer sequences (5’ to 3’)  |
| Target 1-F | GCCGCTCTTGCTTTAGCAGCTTC |
| Target 1-R | AAACGAAGCTGCTAAAGCAAGAGC |
| Target 2-F1 | GCCGGTGGCCGGGTTGAATTCAT |
| Target 2-R1 | AAACATGAATTCAACCCGGCCAC |
| Target 2-F2 | GTTGCTCTTGCTTTAGCAGCTTC |
| Target 2-R2 | AAACGAAGCTGCTAAAGCAAGAGC |
| Target 3-F1 | GCCGGCCACCATACAAGCATCAGA |
| Target 3-R1 | AAACTCTGATGCTTGTATGGTGGC |
| Target 3-F2 | GTTGAGTGCCCTCCAATGACAGGC |
| Target 3-R2 | AAACGCCTGTCATTGGAGGGCACT |
| U-F | CTCCGTTTTACCTGTGGAATCG |
| gRNA-R | CGGAGGAAAATTCCATCCAC |
| Uctcg-B1’ | TTCAGAGGTCTCTCTCGACTAGTGGAATCGGCAGCAAAGG |
| gRctga-B2 | AGCGTGGGTCTCGTCAGGGTCCATCCACTCCAAGCTC |
| Uctga-B2’ | TTCAGAGGTCTCTCTGACACTGGAATCGGCAGCAAAGG |
| gRcggt-BL | AGCGTGGGTCTCGACCGACGCGTCCATCCACTCCAAGCTC |
| SPML | GCGCGGTGTCATCTATGTTACT |
| SPR | CCCGACATAGATGCAATAACTTC |

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| **Table S4. Primer sequences for RT-qPCR.** |
| Genes | Forward primer |  Reverse primer |
| *TCD7* | TTGAGTGACAATGAAGGGGAA | TTTGACCATAATCATCATCGC |
| *CAO1* | GATCCATACCCGATCGACAT | CGAGAGACATCCGGTAGAGC |
| *HEMA* | CGCTATTTCTGATGCTATGGGT | TCTTGGGTGATGATTGTTTGG |
| *PORA* | TGTACTGGAGCTGGAACAACA | GAGCACAGCAAAATCCTAGACG |
| *YGL1* | CAGTCTCCAATGGCCACCT | TGCTTTCATCAGTGGCTGGT |
| *psaA* | GCGAGCAAATAAAACACCTTC | GTACCAGCTTAACGTGGGGAG |
| *psbA* | CCCTCATTAGCAGATTCGTTTT | ATGATTGTATTCCAGGCAGAGC |
| *rbcL* | CTTGGCAGCATTCCGAGTAA | ACAACGGGCTCGATGTGATA |
| *rbcS* | TCCGCTGAGTTTTGGCTATTT | GGACTTGAGCCCTGGAAGG |
| *V1* | TAGTGGCTGTTGCCAGTGGA | TATCTAGTCTAACCACCAGC |
| *V2* | GAGGAGTTCCTCACGATGAT | AGCATCAATGATAGACTCC |
| *rpoA* | GTGGAAGTGTGTTGAATCAA | TCTCTCTTGATCCGTAACTC |
| *TCD7* | TTGAGTGACAATGAAGGGGAA | TTTGACCATAATCATCATCGC |
| *OsTRXz* | AACTGGAGGAGCTGGTGAG | CTCAGTCCTTAGGGCGTCTT |
| *OSFLN1* | GGACAAGGAAATCCAAGCAA | TCATCTTGGACCGCTCTCTT |
| *OspTAC5* | GGGCGAAGAAGACATGGAGT | CCTTCACCCCGACAAGAGAT |
| *16SrRNA* | CCGTTGGTGTTCTTTCCGAT | TTCAAGTCCGCCGTCAAATC |
| *23SrRNA* | TGTGGGCGTTAGAGCATTGAG | CACTTGGCTACCCAGCGTTTA |
| *rpoA* | GTGGAAGTGTGTTGAATCAA | TCTCTCTTGATCCGTAACTC |
| *rpoB* | TTTGGTTTCGATGTGCA | TATGGTCTAATTCCGAGCGGT |
| *rpoC1* | ATTAGACGCATGCAATTGGC | CAATGGGTCTTAATTCGGGA |
| *rpoC2* | CAATTTACGCGAGGGACTTTCT | TGTAAGATATCCAGCATCCGCC |
| *OsPOLP* | ACCGGTGCTTTCAGGCTTGG | GCTGACTGATAATCACACG |
| *OsRpoTp* | AAGCAGACAGTGATGACATC | ATCACATGCATGCACCCAAA |
| *cab1R* | AGATGGGTTTAGTGCGACGAG | TTTGGGATCGAGGGAGTATTT |
| *LhcpII* | GAAGAAGATCAAGAACGGCC | TTGCCGGGGACGAAGTTGGT |
| *petA* | TGCCATTTAGCGAATAAGCC | CCACATTCAACCCTCCCTTT |
| *psaB* | GAGCAATATCGGTCAGCCACA | ACCACTCAAGGAGCGGGAAC |
| *atpA* | GACAGACTGGCAAAACAGCA | CCGTTCGCGGTACATAAAAT |
| *rps20* | CACGCTCTTCTCCCTCTCCT' | GTAGGAGGCGGACAGGCG |
| *rps7* | GCCAAAATCCATTCCAATTC | GGAGATGTACACGAGGAGATTG |
| *rps16* | CCTCGCGACAGACGTCCTAT | CTCCTCGTTAGGTGCTCCATC |
| *FtsZ* | AAAGGACATAACCTTGCAAG | AGTTTTCCTATTGAACCGTG |
| *OsV4* | ACATGGTCGCCGTCTTCCGC | GCTTGCCAGCACTGTCACGA |
| *ACTIN* | AGGAAGGCTGGAAGAGGACC | CGGGAAATTGTGAGGGACAT |
| *TSV3* | CACGAGAAGGCCCGATACT | GGATGAGCCAAATCAGCAAG |

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| **Table S5. Primer sequences for vector construction** |
|  | Forward primer | Reverse primer |
| pGBKT7-TCD7 | GGGCATATGAGTTCCATGGCAAAGAAGAGCTC | GGCGTCGACTCACTCCACATATAAAAGCTCACTC |
| pGADT7-OsTRX | GGGCATATGGCGCAAGGCGTTCGA | GGCATCGATTCACAATTCATTATCAATGATATTTCTGAT |
| pGADT7-OSFLN1 | CCCATATGTGCTCCCCGAACGGC | CCATCGATTCACCACATAGAAGGCACAT |

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