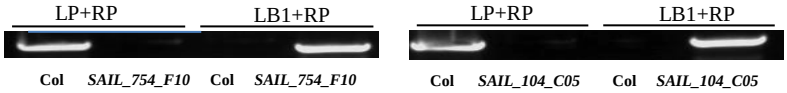
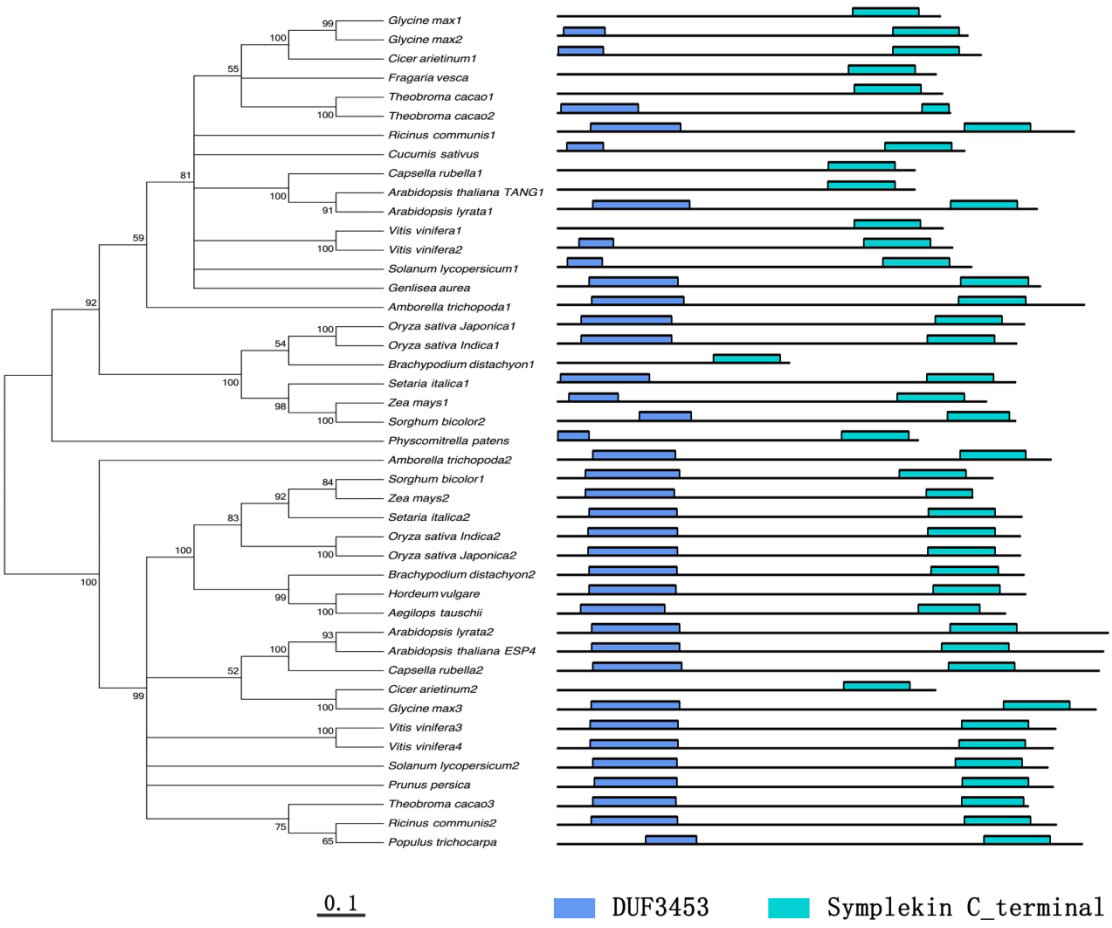
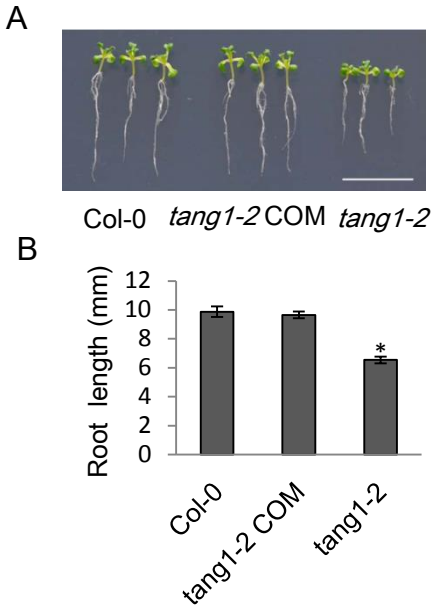


Supplemental Figure S1. Identification of *tang1-2* and *tang1-3* mutants. T-DNA insertions were confirmed by PCR using T-DNA-specific and flanking primers (For primer sequences listed in Table S1 in the supplementary material).

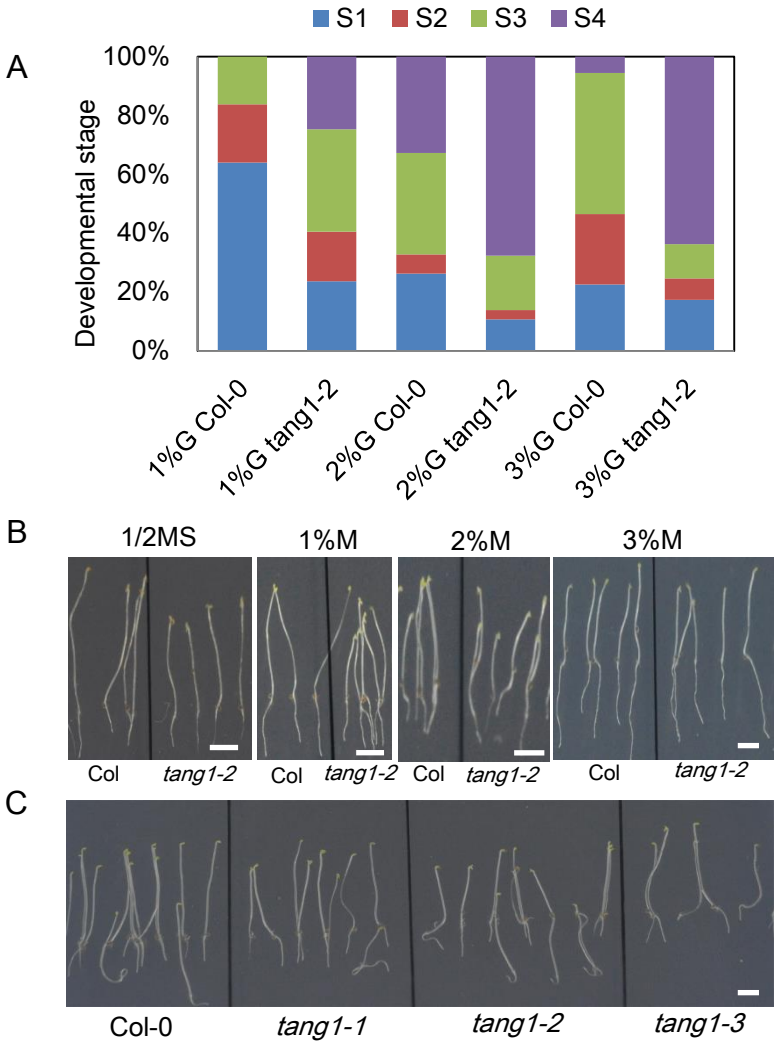


Supplemental Figure S2. Phylogenetic tree of TANG1 protein. Neighbour - Joining phylogenetic tree generated by 1,000 replicates of bootstrap analysis of plant TANG1 proteins using MEGA5.2 software.



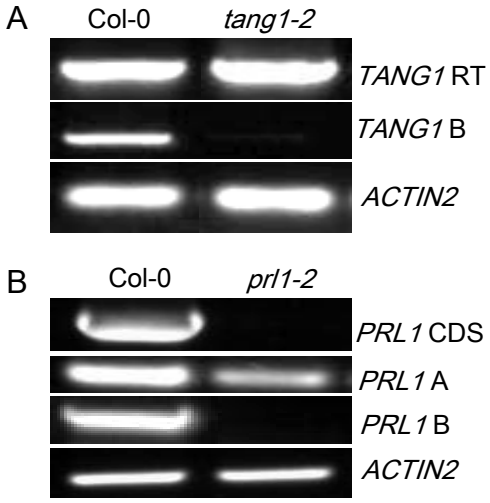
Supplemental Figure S3. Overexpression of *TANG1-GFP* complemented the phenotypes of *tang1-2*.

A. The phenotype of 12-d-old seedlings of Col-0, *tang1-2* and *tang1-2*COM. *tang1-2*COM is *tang1-2* transformed with the wild-type *TANG1 CDS* sequence. Bar = 1cm.
B. The root length of 12-d-old seedlings of Col-0, *tang1-2* and *tang1-2*COM. *P < 0.05 compared with Col-0 (One Way ANOVA). Data represents mean ± SD (n > 15).



Supplemental Figure S4. Dark development analysis of *tang1* mutants.

A. The comparison of development stages between *tang1-2* mutant and Col-0. Seedlings were grown on media with glucose as indicated in the dark for 16 days (n > 50).
B. Dark development phenotype of seedlings grown on media without sugar. The plants were grown on 1/2 MS, or 1/2 MS supplemented with different concentration of mannitol as indicated for 16 days. Bar = 0.5cm.
C. Dark development phenotype of Col-0 and *tang1* mutants grown on 1/2 MS media containing 3% M for 16 days. Bar = 0.5cm.



Supplemental Figure S5. Expression analysis of *PRL1* and *TANG1* gene in *prl1-2* and *tang1-2*, respectively.

A. Expression analysis of *TANG1* in *tang1-2* mutant. cDNA was prepared from 14-d-old wild-type Col-0 and *tang1-2* seedlings. The *ACTIN2* gene was used as a reference for the relative mRNA levels.
B. Expression analysis of *PRL1* in *prl1-2* mutant. cDNA was prepared from 20-d-old Col-0 and *prl1-2* seedlings. The *ACTIN2* gene was used as a reference for the relative mRNA levels.

Table S1. Primers used for T-DNA identification

Primer	Forward	Reverse
tang1-2(*SAIL_754_F10*)	AAAACATGCGTTAGGAACACG	GCTGTCAATTCTGGCTACCAC
tang1-3(*SAIL_104_C05*)	CTGCAATGTGACAGGATTTTG	TGCAGCATCAGACATTACTGC
LB1	GCCTTTTCAGAAATGGATAAATAGCCTTGCTTCC	

Table S2. Markers used in *TANG1* mapping

Marker	Forward primer	Reverse primer	Restriction enzyme
T17H3	TACAGGATTACCATATGCATGG	AAGAGCAAGCTCAAACTTAAGC	
CIW12	AGGTTTTATTGCTTTTCACA	CTTTCAAAAGCACATCACA	
Indel-1	GTATTTTGGCTTTCCACTAGG	AGAATAACCAATCAAACTAAAC	
SNP-1	TGCCATCAGAGTTCAAATGTC	TCTTTATTGGGGTTCATATGTC	
At1g27595CAPS	CAGGATCTACAAACTTCTCGT	TGGATAGCAATCAGTACCTCG	HindIII
*At1g27595splicing	CAGGATCTACAAACTTCTCGT	TCTCCTCCAATAACTTCAACT	

*primer used for checking *tang1-1* alternative splicing.

Table S3. Primers used for plasmid construction

Primer	Sequences
TANG1gBPF	ggggacaagtttgtacaaaaaagcaggctGGAGGAGATGGCAATGCAGGTC
TANG1gBPR	ggggaccactttgtacaagaaagctgggtCTTCGGACATTGATGATTCCACAG
TANG1pBPF	ggggacaagtttgtacaaaaaagcaggctTTATAGCACCAGTTCAACCCCT
TANG1pBPR	ggggaccactttgtacaagaaagctgggtTATTCGTTTCTTTGACAGATCC
TANG1CDSFB1	ggggacaagtttgtacaaaaaagcaggct ATGCCCCAGGGTGAAGATGAT
TANG1CDSRB2	ggggaccactttgtacaagaaagctgggt CGTTAAGGCCGCCCCATAA

Notes: lower case sequences represent the Gateway adaptors

Table S4. Primers used for RT-PCR and quantitative real-time RT-PCR

Primer	Forward	Reverse
Tang1RT	TATACCGTGCATTCTCCGACTC	CCGTTCAATAGCCAACTTTCC
TangQRT	CCTTCCCTCACTGCTTATGCGAATC	CCGCCCCATGAATAGACGAAGTTG
ACTIN2	ATCACCGCTCTTGCACCTAGCA	TTCCTGTGAACAATCGATGGACCTG
CAB4	GTCAACGGACGATGGGCTAT	CCAGCATCGTACCACTCAGGA
SIS3	TTGTTGACAATGGTCTTGCTTC	AAGCCCACAGAAATGGATACAG
HXK1	GAATCCAGGCGAACAGATTCTTGAG	GTGCATAGCCGACATGTGAGGAG
TPS1	GGTGTCACAAAGGGAGCTGC	CATCTTCGTCCTTCCCCAAG
RGS1	TTTCCTCCCCCTTGTTTTGTT	ATGAAGGCCTGCAACTGGG
GPA1	TGAACGTTTGCGAGTGGTTC	GGCGCCGTGTTCTGGTAATA
AKIN10	TCCCCGTGAAATAATGACGG	CATACCATCTGCGCTGCTGT
AKIN11	TCCTATGCGCACACCTGAAG	TCCAAGAGCCCATTTTCGAT
PRL1	GGATGGTGTGATGGTCACTG	GATTCCAACAAGAGCTTTGAGTT
APL3	CACACGGATGTTTCTTGGGA	GGTAACTATCCGCTCCTAAC
Atβ-Amy	CGGCCGGTGAACTACGTTATCCT	CCTCCGGCTTGTCATTGTATTCTCC
PRL1 CDS	CACTTCACTTCTCTTTCTCTC	ATGAAGAGATTAGTGAGATTCC
PRL1 A	GAACCCATCGAAGCACAGTC	TGGACCAACAACAATAGCAC
PRL1 B	CCAGAGTGGCATGCACCATG	GAAGCGCCTAATCTCCTTTGG
TANG1 B	CAGGATCTACAAACTTCTCGT	TGGATAGCAATCAGTACCTCG