

### Supplementary Materials:

**Figure S1. Evolutionary tree of TCP proteins.** The phylogenetic tree was generated with the MEGA7.0 program using the bHLH amino acid sequences from *Helianthus annuus* (Ha), *Chrysanthemum nankingense*, and *Arabidopsis thaliana*, with 1000 bootstrap replicates.

**Figure S2. Gene structure of TCPs.** UTRs and CDS are indicated by the green and yellow boxes, respectively. Introns are indicated by the thin gray lines.

**Figure S3. Co-expression network analysis of TCP proteins and correlated proteins.** A, TCPs co-expressed with correlated proteins. B, TCPs co-expressed with each other.

**Figure S4. Expression of cold-related genes after cold stress and identified of *OECnTCP4*.** A, RT-PCR of *CnTCP4* in wild-type and *OECnTCP4* *Arabidopsis* plants. B, 8-day-old seedlings of *OECnTCP4 Arabidopsis thaliana* were exposed to 4°C for 0, 6, and 24 h. Expression of cold-related genes *AtCOR15* and *AtKIN1* were assessed with quantitative real-time RT-PCR. *ACTIN8* was used as the internal control. Values are means  $\pm$  SD.

**Figure S5. Overexpression of *CnTCP4* and *CnTCP13* delayed bolting in *Arabidopsis thaliana*.** Values are means  $\pm$  SD. The different letters represent significant difference at  $p < 0.01$ , according to the paired-samples *t*-test.

**Table S1.** Primers and sequences used in this research.

**Table S2.** Distance and homology matrix of 171 sequences were generated with the DNAMAN program using the full-length amino acid sequences from *Glycine max*, *Oryza sativa*, *Zea mays*, *Chrysanthemum nankingense*, and *Arabidopsis thaliana*.

**Table S3.** The distance and homology matrix of 171 sequences were generated with the DNAMAN program using the bHLH amino acid sequences from *Glycine max*, *Oryza sativa*, *Zea mays*, *Chrysanthemum nankingense*, and *Arabidopsis thaliana*.

**Table S4.** Distance and homology matrix of 23 sequences were generated with the DNAMAN program using the full-length and bHLH amino acid sequences from *Chrysanthemum nankingense*.

**Table S5.** Binding site-prediction results of *TCP* promoters from *Chrysanthemum nankingense* and *Arabidopsis thaliana* using the PlantRegMap website

**Table S6.** *Cis*-acting regulatory element-prediction results of *TCP* promoters from *Chrysanthemum nankingense* and *Arabidopsis thaliana* using the PlantCARE website