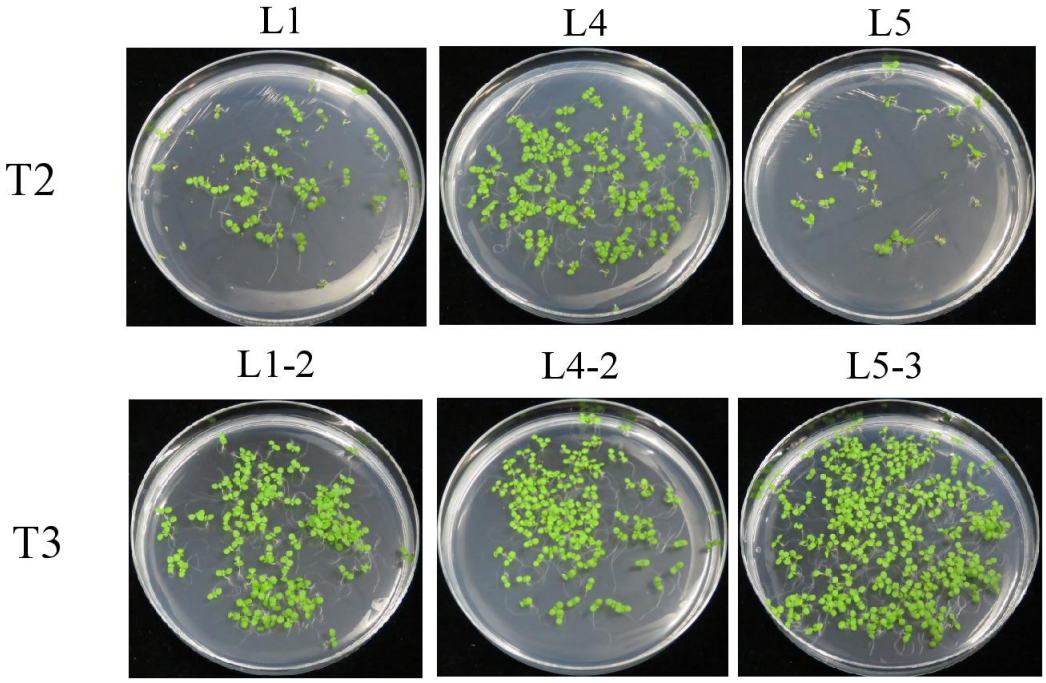



**Figure S1 Screening of single-copy and homozygous transgenic *Arabidopsis*.**

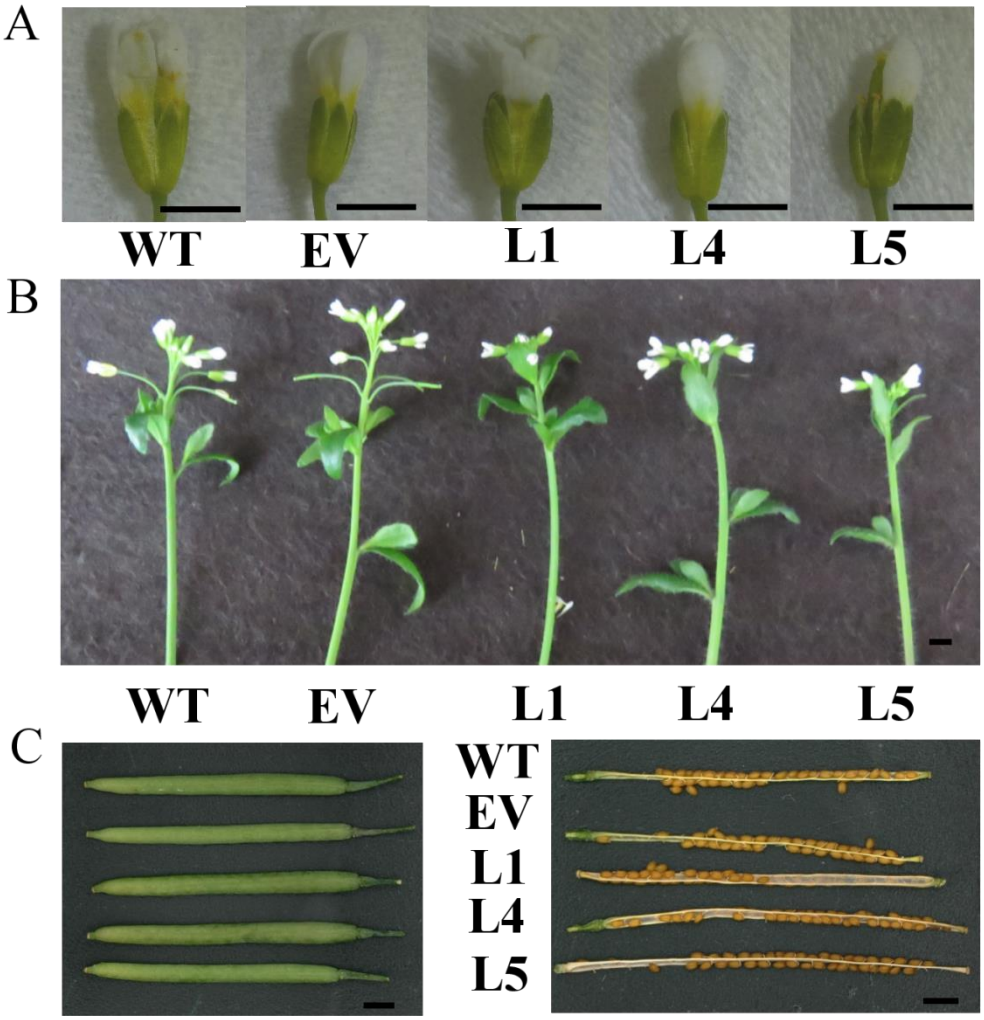



**Figure S2 The floral organs and fruit pods of *MeNINV1*-overexpressing *Arabidopsis* lines.** (A) Flower, (B) inflorescence, and (C) fruit pods and seeds. L1, L4, and L5 are *MeNINV1* transgenic *Arabidopsis* lines. EV is a pCAMBIA1300-GFP transgenic *Arabidopsis* line. WT is wild-type *Arabidopsis*. Bar = 0.5 cm.

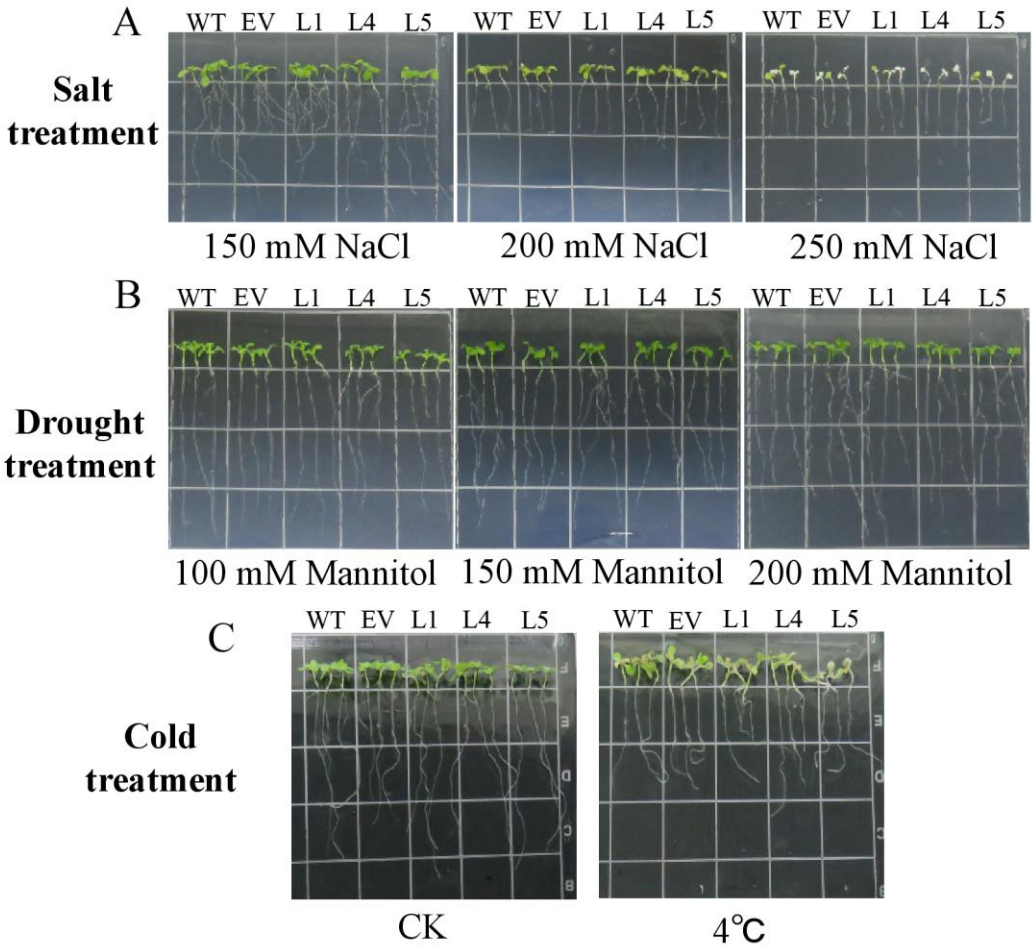



**Figure S3 Resistance analysis of *MeNINV1*-overexpressing *Arabidopsis* lines.** (A) Salt stress analysis. (B) Drought stress analysis. (C) Cold stress analysis. L1, L4, and L5 are *MeNINV1* transgenic *Arabidopsis* lines. EV is a pCAMBIA1300-GFP transgenic *Arabidopsis* line. WT is wild-type *Arabidopsis*.

**Table S1 The primers used in the study**

| Name | Sequence 5'-3' |
|---|---|
| pDR195-M1-F | TATGCGGCCGCATGAATACTAGTAGTTG(*Not* I) |
| pDR195-M1-R | ATAGTCGACTCAGGCTTGCTTCTGG(*Sal* I) |
| 1300-M1-F | TATGGTACCGGCTTGCTTCTGGGATC(*Kpn* I) |
| 1300-M1-R | CGCGTCGACATGAATACTAGTAGTTGTATTGTA(*Sal* I) |
| pDR195-F | CGCCCAATACGCAAACCG |
| pDR195-R | GATGTGCTGCAAGGCGATTAA |
| 1300-F | GTTGATACATATGCCCGTCG |
| 1300-R | CTCGCCCTTGCTCACCAT |
| MeNINV1-qPCR-F | TTTGTTACCCTGCTTTGGAAC |
| MeNINV1-qPCR-R | AGAAACTGCCCTCTGTGCTAA |
| AtACTIN2-qPCR-F | CGTTTGTGGGAATGGAAGCT |
| AtACTIN2-qPCR-R | TTGCTCATACGGTCAGCGATA |