TaSnRK2.4, a SNF1-type serine-threonine protein kinase of wheat (*Triticum aestivum* L.) confers enhanced multi-stress tolerance in Arabidopsis

Xinguo Mao[1] Hongying Zhang[1, 2] Shanjun Tian[1, 3] Xiaoping Chang[1] Ruilian Jing [1*]

1. The National Key Facility for Crop Gene Resources and Genetic Improvement, Institute of Crop Science, Chinese Academy of Agricultural Sciences, Beijing 100081

2. College of Agronomy, Northwest A & F University, Yangling 712100, Shaanxi, China

3. College of Agronomy, Sichuan Agricultural University, Yaan 625014, Sichuan, China

Figure Legends and Figures

Fig. S1 Protein abundance of TaSnRK2.4 in different transgenic Arabidopsis lines

TaSnRK2.4 protein abundance in different transgenic Arabidopsis lines. L1 - 6, six transgenic lines; WT, wild type; GFP, *GFP* transgenic line.

Fig. S2 The primary root of *TaSnRK2.4* plant is much longer than that of the two controls

As the prolonged SET for transgenic lines, the WT seeds of were planted one day later than the transgenic lines, and root length of the same aged seedlings wascompared on 7^{th} day. Values are mean ±SE, n=30 plants (F-test *P < 0.05).

Fig. S3 Cell membrane stability of *TaSnRK2.4* plants under adverse stress conditions

Comparison of CMS (%) for *TaSnRK2.4* plants and controls following PEG and high salinity stresses.

Fig. S4 Comparison of photosynthetic potential for *TaSnRK2.4* plants and controls under moderate drought stress

Fv/Fm ratios for six transgenic lines were higher than the two controls; values for three lines were significantly higher. Values are mean ± SE (n=20 plants).

Fig. S1

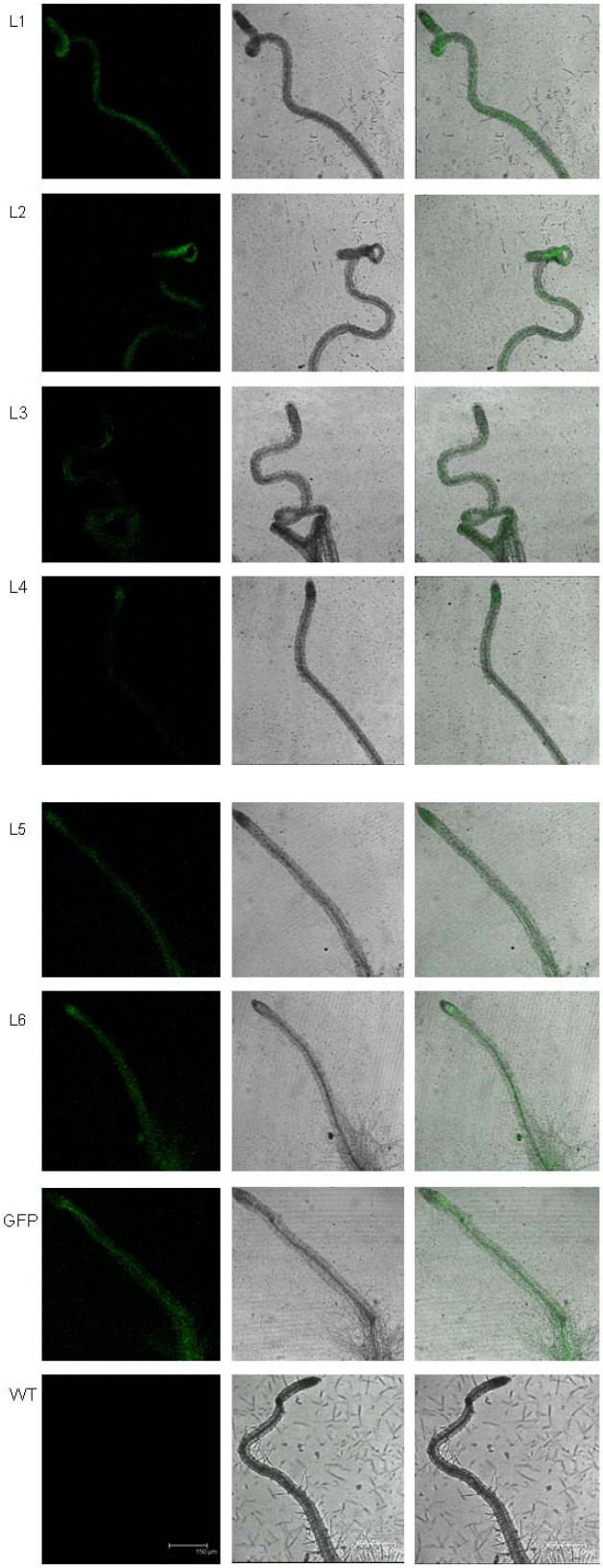


Fig. S2

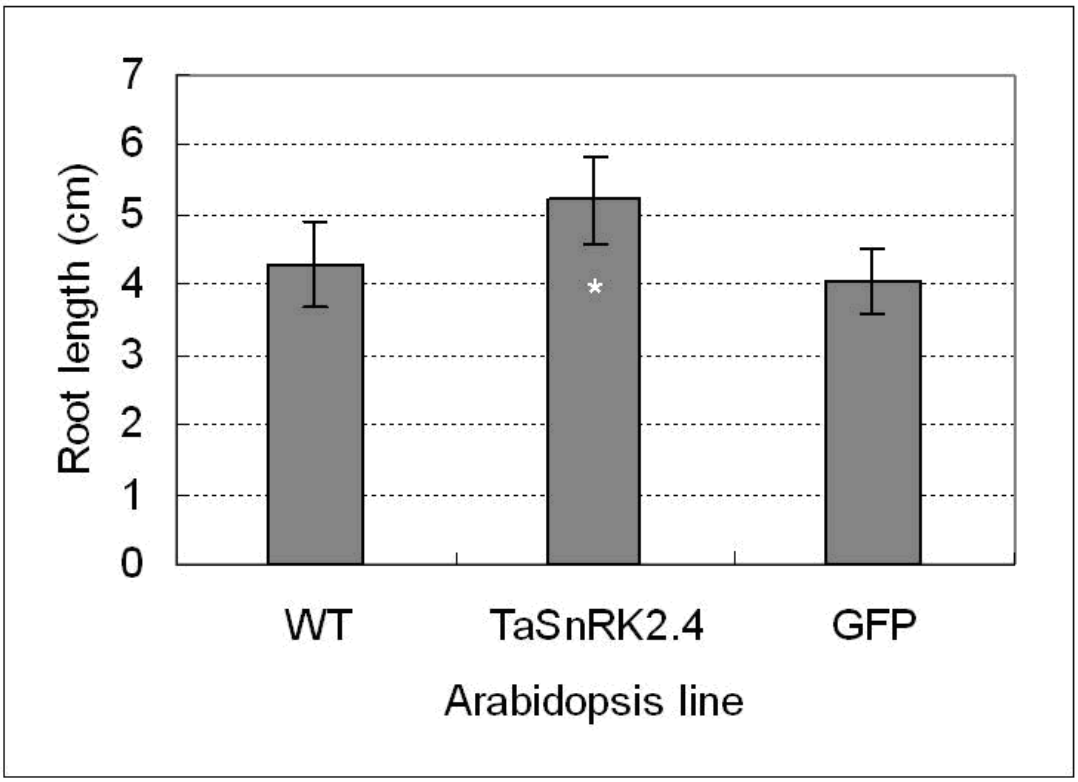


Fig. S3

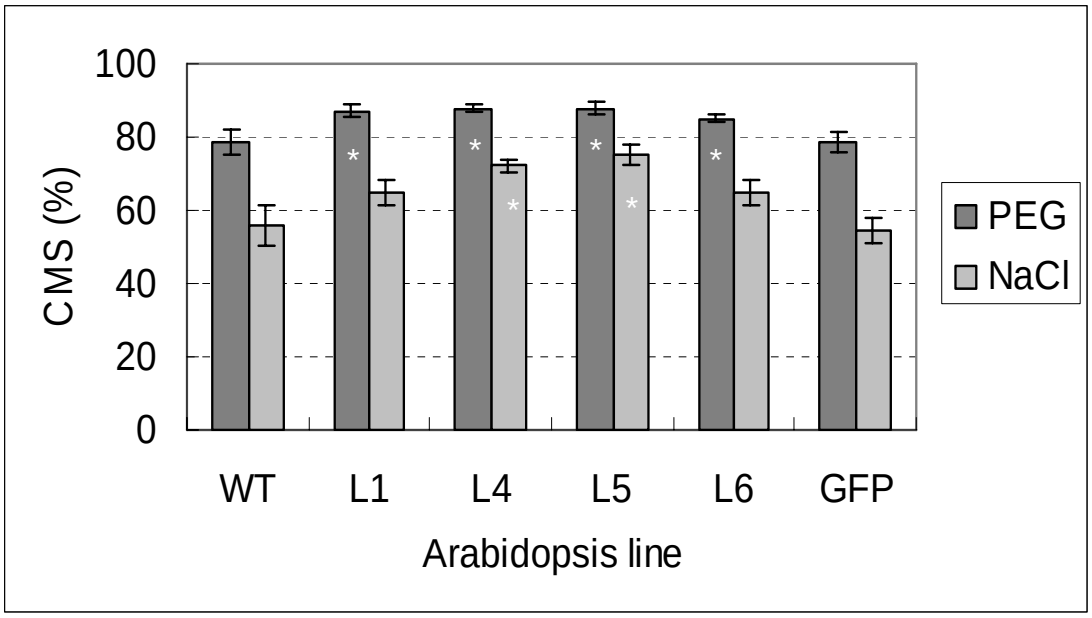
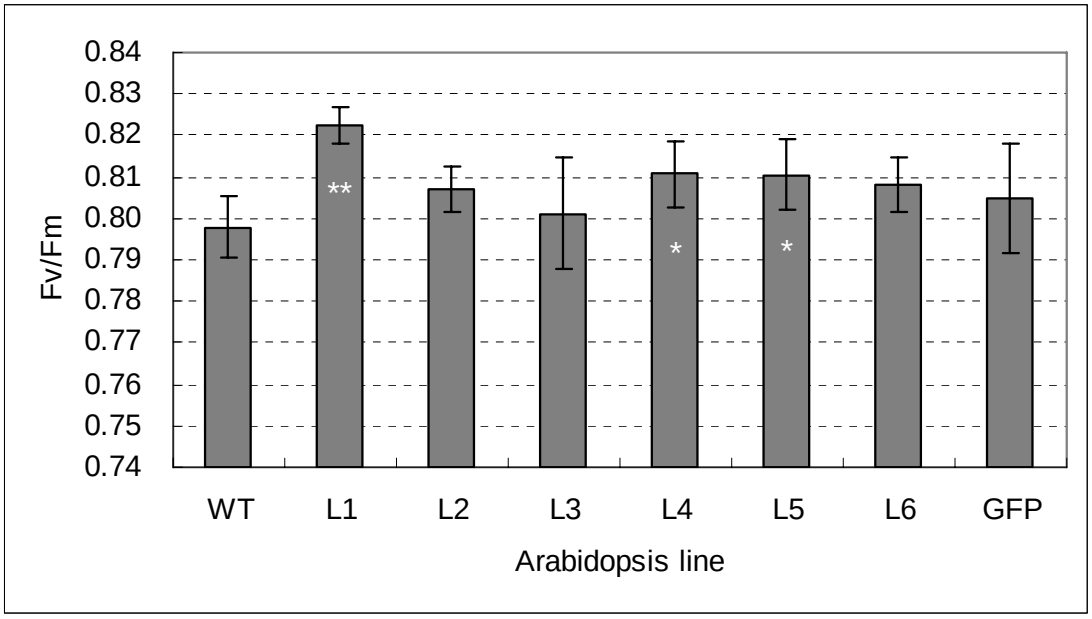

100
80
60
40
20
0
CMS (%)
WT
L1
L4
L5
L6
GFP
Arabidopsis line
PEG
NaCl
*

Fig. S4


0.84
0.83
0.82
0.81
0.80
0.79
0.78
0.77
0.76
0.75
0.74
Fv/Fm
**
*
*
WT
L1
L2
L3
L4
L5
L6
GFP
Arabidopsis line