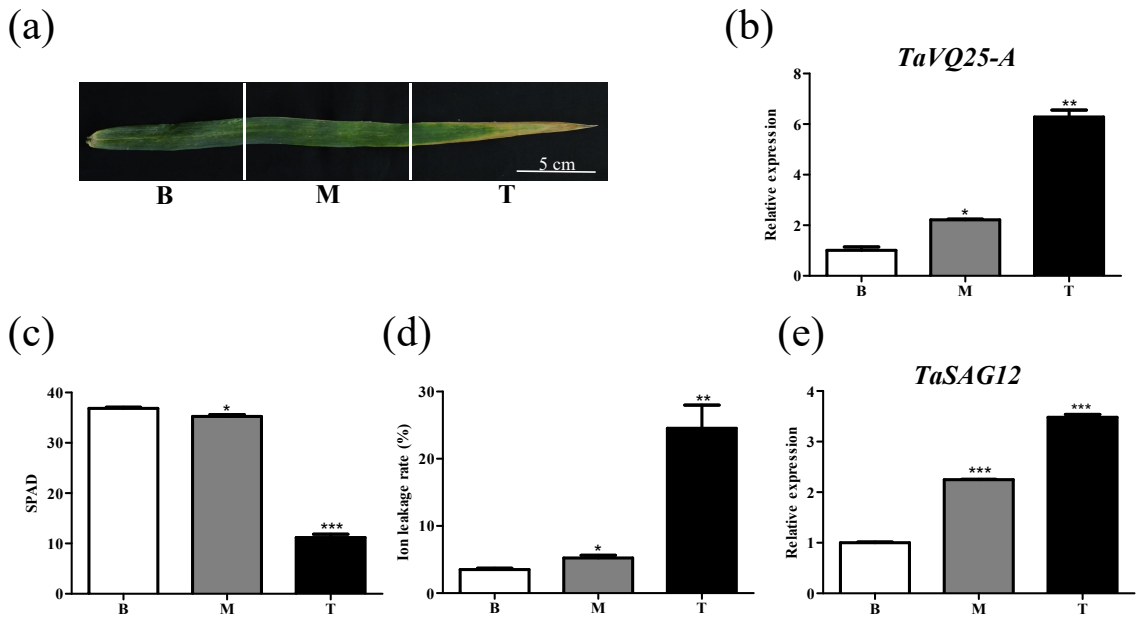


		VQ motif	
		FxxxVQxxTG	
TaVQ25-A	MEHGEGRHEAAIRAVQRAFAKEWRGAGATPPFRVYRVEFRFRELVRITCGAGTATT		57
TaVQ25-B	MEHGEGRHEAAIRAVQRAFAKEWRGAGATPPFRVYRVEFRFRELVRITCGAGTATT		57
TaVQ25-D	MEHGEGRHEAAIRAVQRAFAKEWRGAGATPPFRVYRVEFRFRELVRITCGAGTAST		57
TaVQ25-A	GSEAVGARKPPCHAAAAHGRREAPVEECFLYSSWFSAPILSPASMPAGMDPHHGAL		113
TaVQ25-B	GAFAR...AEVHAAAAHGRREAPVEECFLYSSWFSAPILSPASMPAGMDCHHGAL		109
TaVQ25-D	ATTITQ...APPAAAAHGRCEAPVEECFLYSSWFSAPILSPASMPAGMDCHHGAL		109

**Figure S1.** Alignment of TaVQ25-A, TaVQ25-B and TaVQ25-D amino acid sequences.



**Figure S2.** *TaVQ25-A* expression in different parts of a senescent wheat flag leaf.

(a) Different parts (B: base, M: middle, and T: tip) of a senescent wheat leaf.

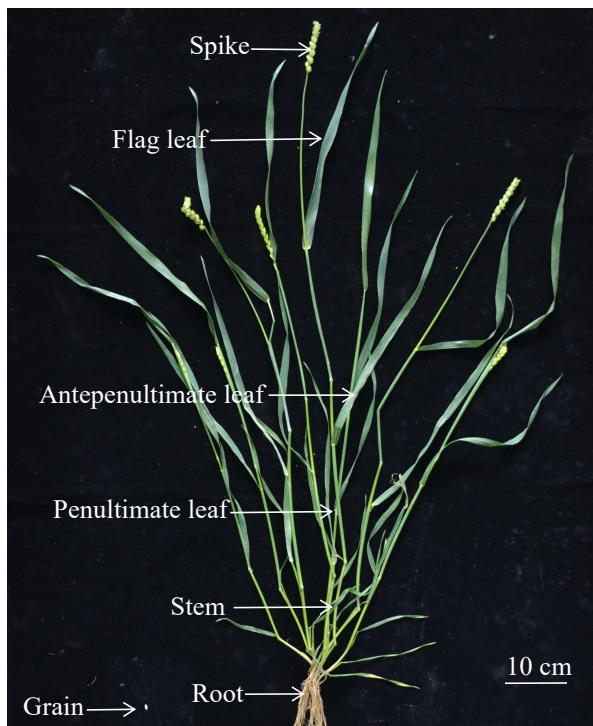
(b) Expression of *TaVQ25-A* in different parts of a senescent wheat leaf.

(c, d) Chlorophyll content (c) and ion leakage rate (d) of different parts of a senescent wheat leaf.

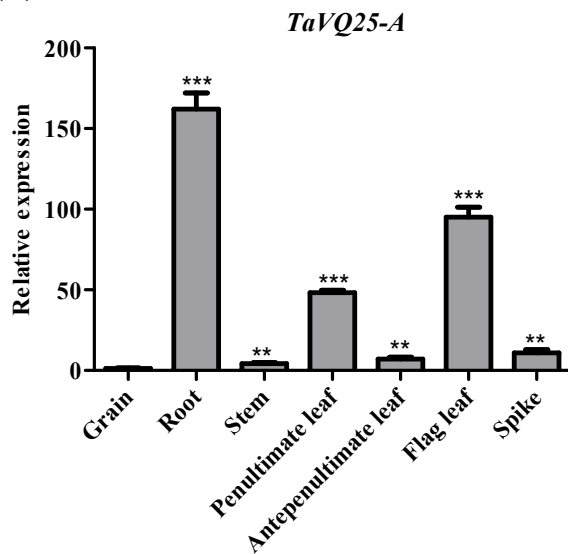
(e) Expression of senescence up-regulated marker gene *TaSAG12* in different parts of a senescent wheat leaf.

Data and error bars represent means  $\pm$  SE. Student's *t*-test, \* $P < 0.05$ , \*\* $P < 0.01$ , \*\*\* $P < 0.001$ . All of the experiments have been repeated at least three times independently.

(a)



(b)

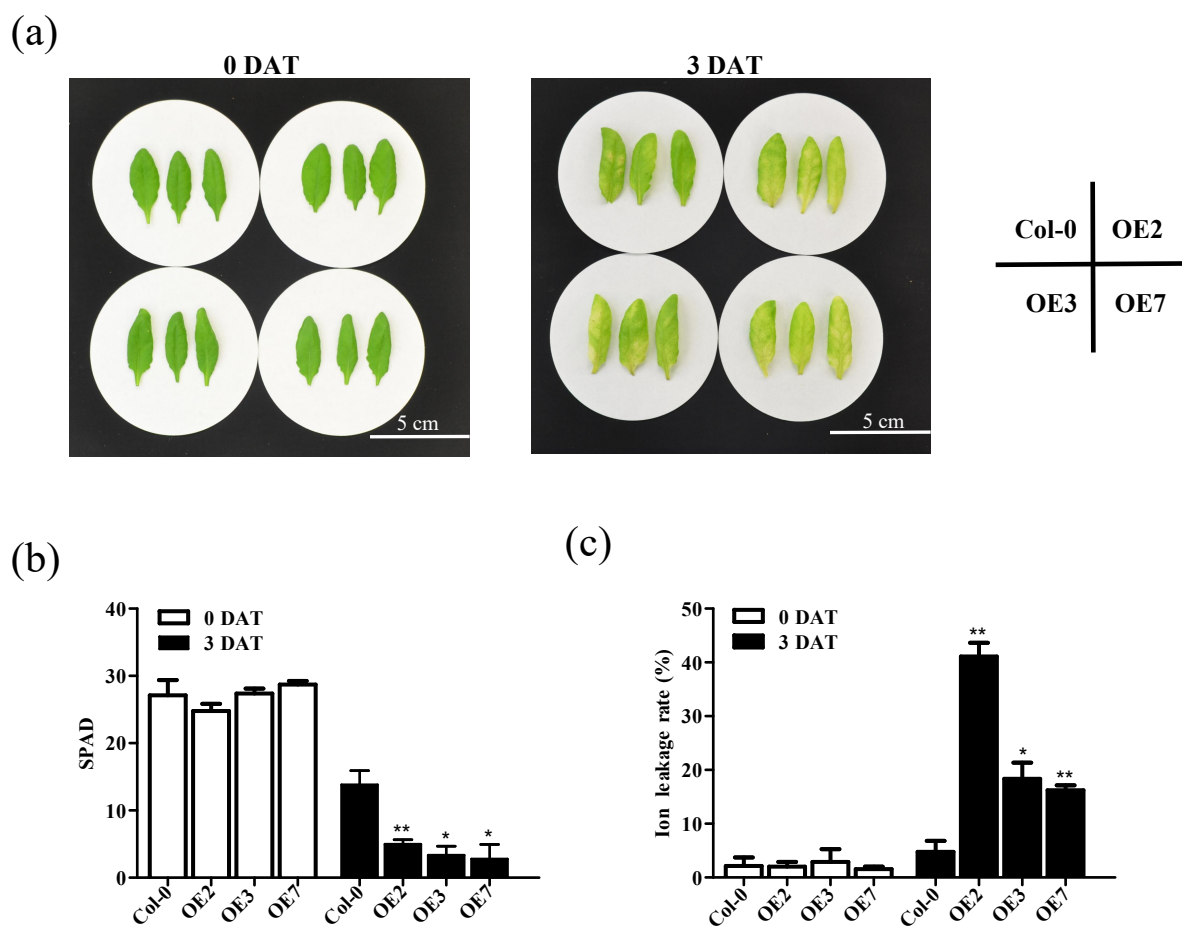


**Figure S3.** Expression pattern of *TaVQ25-A*.

(a) Different tissues of a wheat plant.

(b) Expression of *TaVQ25-A* in different wheat tissues.

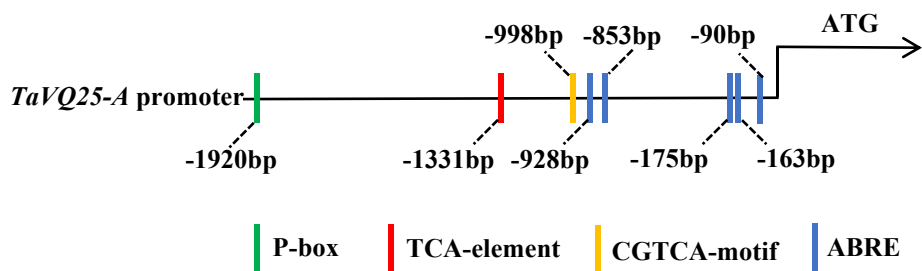
Data and error bars represent means  $\pm$  SE. Student's *t*-test, \* $P < 0.05$ , \*\* $P < 0.01$ , \*\*\* $P < 0.001$ . All of the experiments have been repeated at least three times independently.



**Figure S4.** Overexpression of *TaVQ25-A* promotes dark-induced leaf senescence.

(a) Detached leaves of 4-week-old Col-0 and *TaVQ25-A*-OE plants were treated with darkness for 3 days. (b, c) Chlorophyll content (b) and ion leakage rate (c) of leaves from 4-week-old transgenic plants as well as Col-0 before and after dark treatment.

Data and error bars represent means  $\pm$  SE. Student's *t*-test, \* $P < 0.05$ , \*\* $P < 0.01$ , \*\*\* $P < 0.001$ . All of the experiments have been repeated at least three times independently.



**Figure S5.** Promoter analysis of *TaVQ25-A* in PlantCARE.

The localization of *cis*-elements in *TaVQ25-A* promoter region. P-box is involved in GA responsiveness, TCA-element is involved in SA responsiveness, CGTCA-motif is involved in MeJA responsiveness, and ABRE is involved in ABA responsiveness.