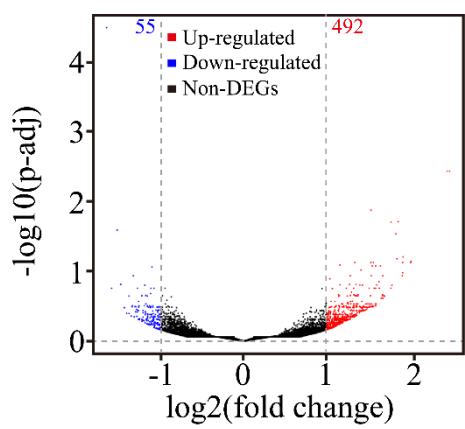
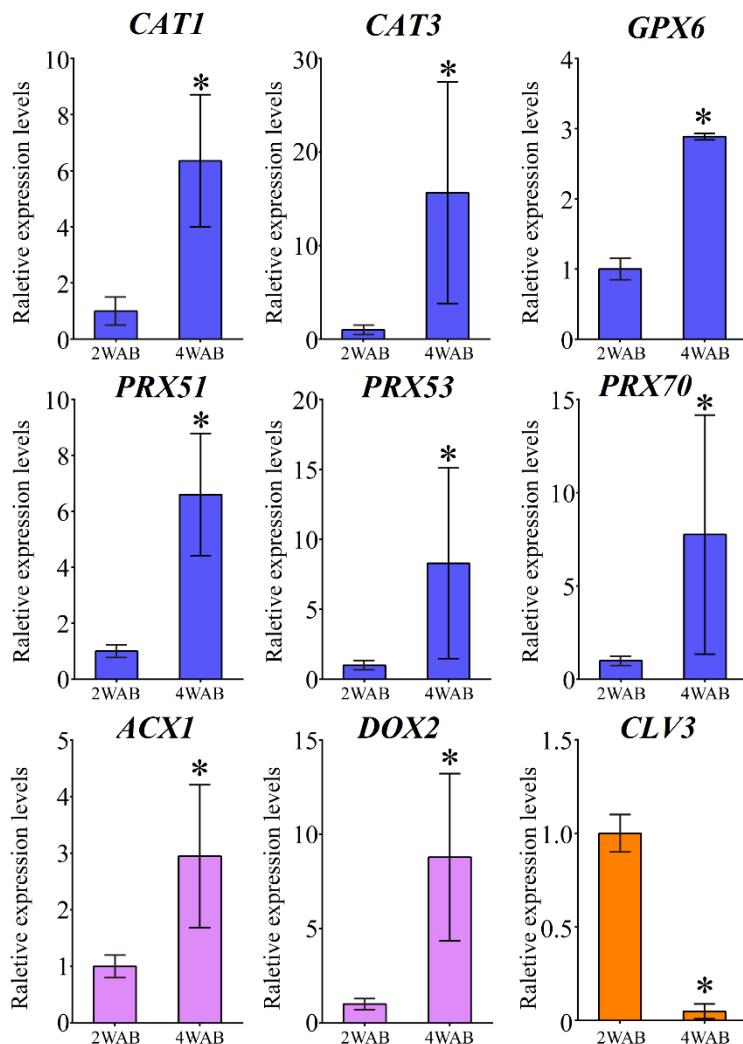


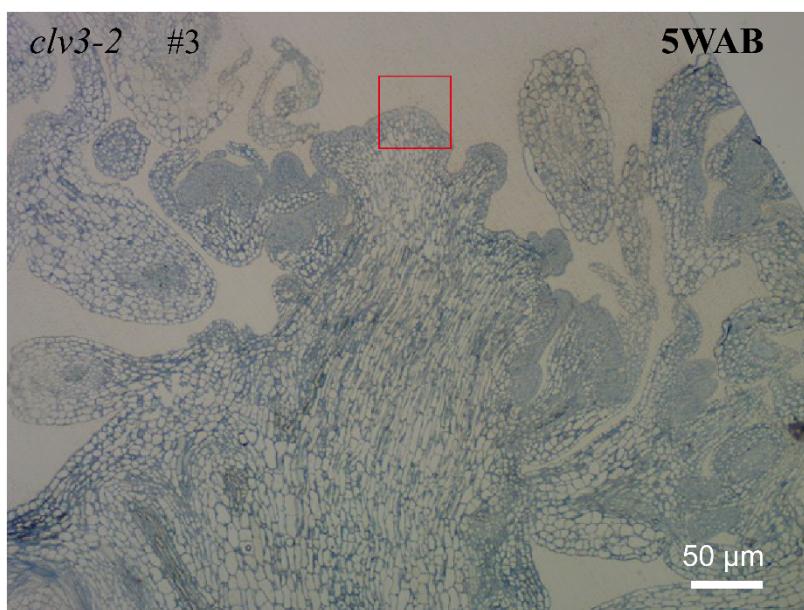
Supplementary Figure 1 | Spatiotemporal expression patterns of *WUS* from 4 WAB to 6 WAB. No GUS signals were observed. Scale bars = 50 μ m.



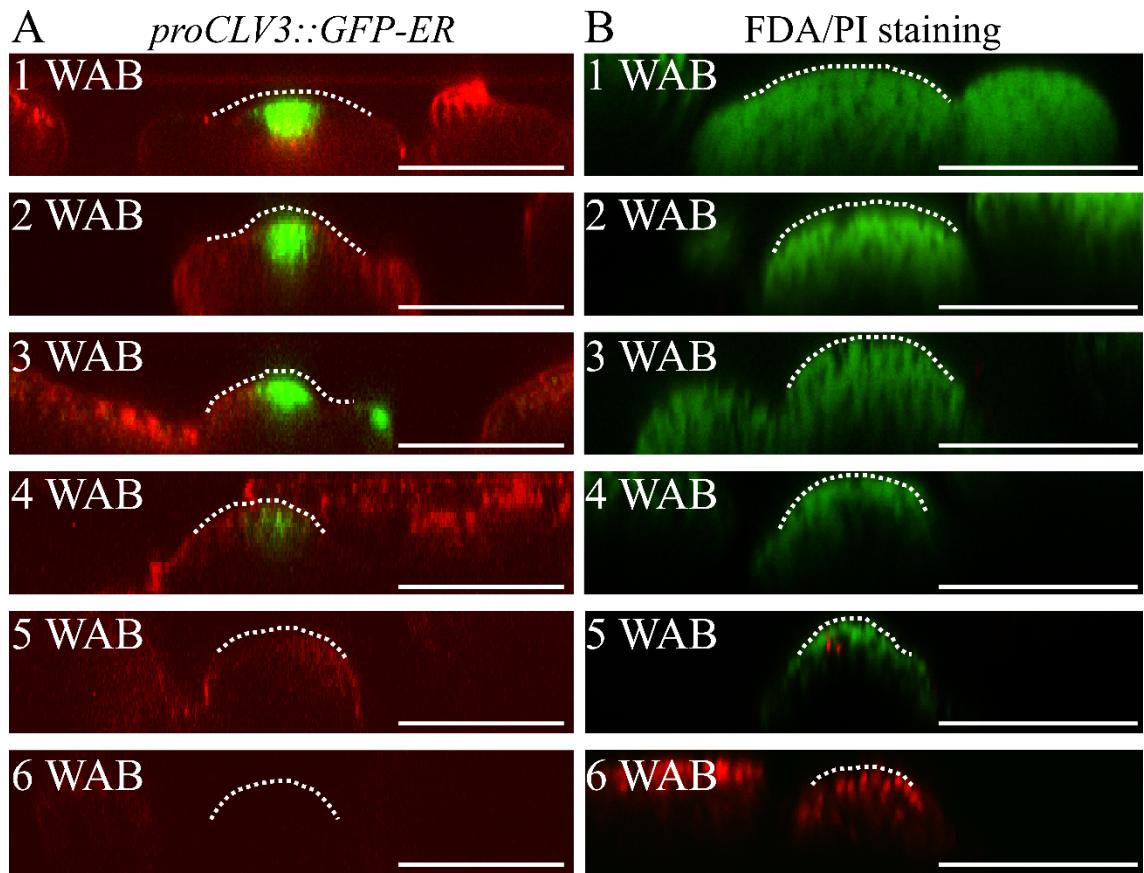
Supplementary Figure 2 | Volcano plot of DEGs isolated from RNA-seq data sets. The numbers of up- and downregulated DEGs are indicated.



Supplementary Figure 3 | Validation of ROS-related DEGs and stem cell marker gene *CLV3* in wild-type plants at 2 WAB and 4 WAB. Blue and pink colors indicate ROS clearance- and ROS production-related DEGs, respectively. Orange color shows the expression of *CLV3*. Error bars denote S.D. Two-tailed Student's t-test was performed. *: $p < 0.05$.



Supplementary Figure 4 | Histological section shows the observed location of TEM in the *clv3-2* IM domain at 5 WAB. The red box shows the observed area. Scale bar = 50 μm .



Supplementary Figure 5 | Magnifying images of side views of *CLV3* expression patterns and FDA/PI staining. **(A)** Magnifying images of side views of *CLV3* expression patterns using *proCLV3::GFP-ER* line (Figure 4C). **(B)** Magnifying images of side views of FDA/PI stained IMs (Figure 5E). White dotted lines indicate SAM shapes. Scale bar = 50 μm in **(A)** and **(B)**.

Supplementary Table 1 | Primer sequences used in this study.

Gene name	Forward (5'-3')	Reverse (5'-3')	Annotation
<i>proBFN1</i>	CACCGTTGAAATTAAGTATTACCTGC	ATCTCAAAGTTGAAACTTATATAATG	Cloning of 2.0 kb promoter
<i>CAT1</i>	GATGATAAGCTACTCCAGACCC	TTGTTGTGGTGAGCACATTAG	Gene validation by using Real time PCR
<i>CAT3</i>	CTTGTGGTCCTGGAATCTACT	AGGATCAAACTTGAGGGTAG	
<i>GPX6</i>	GGAATCAAGAGCCTGGTACTAA	TTTGTACCGTTAACATCAACC	
<i>PRX51</i>	GGATTGCACACCGTCATTAAG	TGAGTTGGTTGAGATCAAAGGT	
<i>PRX53</i>	AAACGCAACATTTACTCTGGG	CAACAACGTTGAATCCTCTAGC	
<i>PRX70</i>	AGGGACAGATTCTTCAACTACG	AGGTACGACGTATCAAATTGGT	
<i>ACXI</i>	GAGGATATGAAGATCGTCTGGG	TCATTGAGACGAAGCTCGATAA	
<i>DOX2</i>	TATCGACGGAGAAGATAGACCT	TCATCATCTGTCAACTCTCCC	
<i>CLV3</i>	GTTCAAGGACTTCCAACCGCAAGATGAT	CCTCTCTGCTCTCCATTGCTCCAACC	
<i>ACTIN2</i>	GAAAAGATCTGGCATCACACTTATA	ACATACATAGCGGGAGAGTTAAAGGT	Inner reference