**Supplemental Figure 3**

### A

![Gene A](AT2G27260)  
![Gene B](RGP2)  
![Intergenic region](SCL13)  
![Intergenic region](UBL5)  

**Collect ssRNA-seq reads** mapped to each intergenic region.

**Extend** to next 10-nt bin if $\text{FPKM}_{\text{bin}} \geq 1$ & $\text{FPKM}_{\text{ext}} \geq 1$.

**Select overhangs** with:
- length $\geq 200$ nt
- $\text{FPKM}_{\text{stress}}/\text{FPKM}_{\text{NC}} \geq 2$

### B

**Gene A** → **Intergenic region** → **Gene B**

**ssRNA-seq reads**

**Contiguous assembly** from both ends.

**NC Stress**

### C

**Gene A**  
**Gene B**

- **Transcript 3' UTR extension of gene A**
- **Transcript 5' UTR extension of gene B**
- **Ambiguous extension**
Supplemental Figure 3. Identification of stress-induced 3' UTR extensions.

(A) Examples of dehydration stress-induced 3' UTR extensions. Blue and pink colors represent read abundance of forward strand and reverse strand, respectively. Extended 3' UTRs are depicted by red rectangles. (B) Schematic diagram showing computational pipeline for identification of stress-induced 3' UTR extensions. See Methods for details. (C) Schematic diagram showing 5' UTR extensions (top), 3' UTR extensions (middle) and ambiguous extensions (bottom). (D) Number of transcripts with 5'/3' UTR extensions in ABA treatment and dehydration stress (ambiguous extensions are excluded). (E) Validation of dehydration stress-induced 3' UTR extensions (A) using RT-PCR. Primer set P1+P2 indicates transcripts with canonical and extended 3' UTRs. Primer sets P3+P4 and P5+P6 indicate extended 3' UTRs. ACT2 mRNA served as a positive control. (F) Number of transcripts with shortened 5'/3' UTRs in ABA treatment and dehydration stress. The shortenings were defined as 5'/3' UTR shortenings in stressed samples compared to NC.