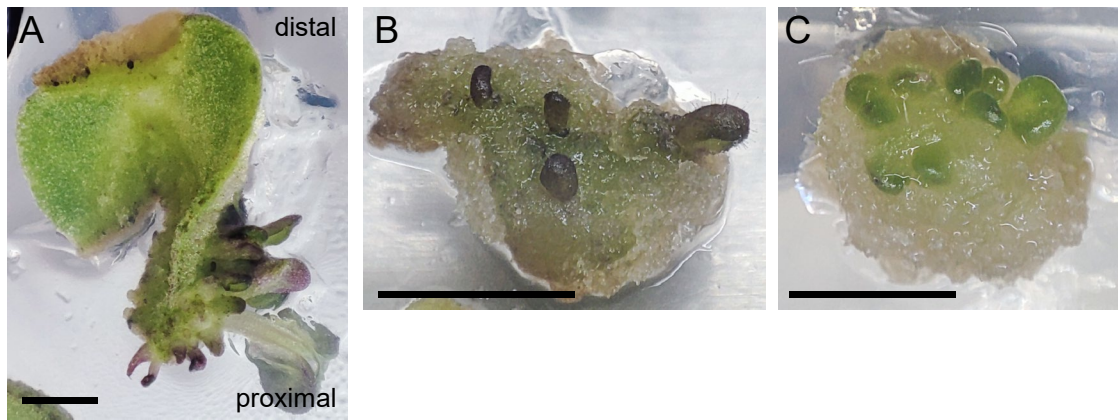
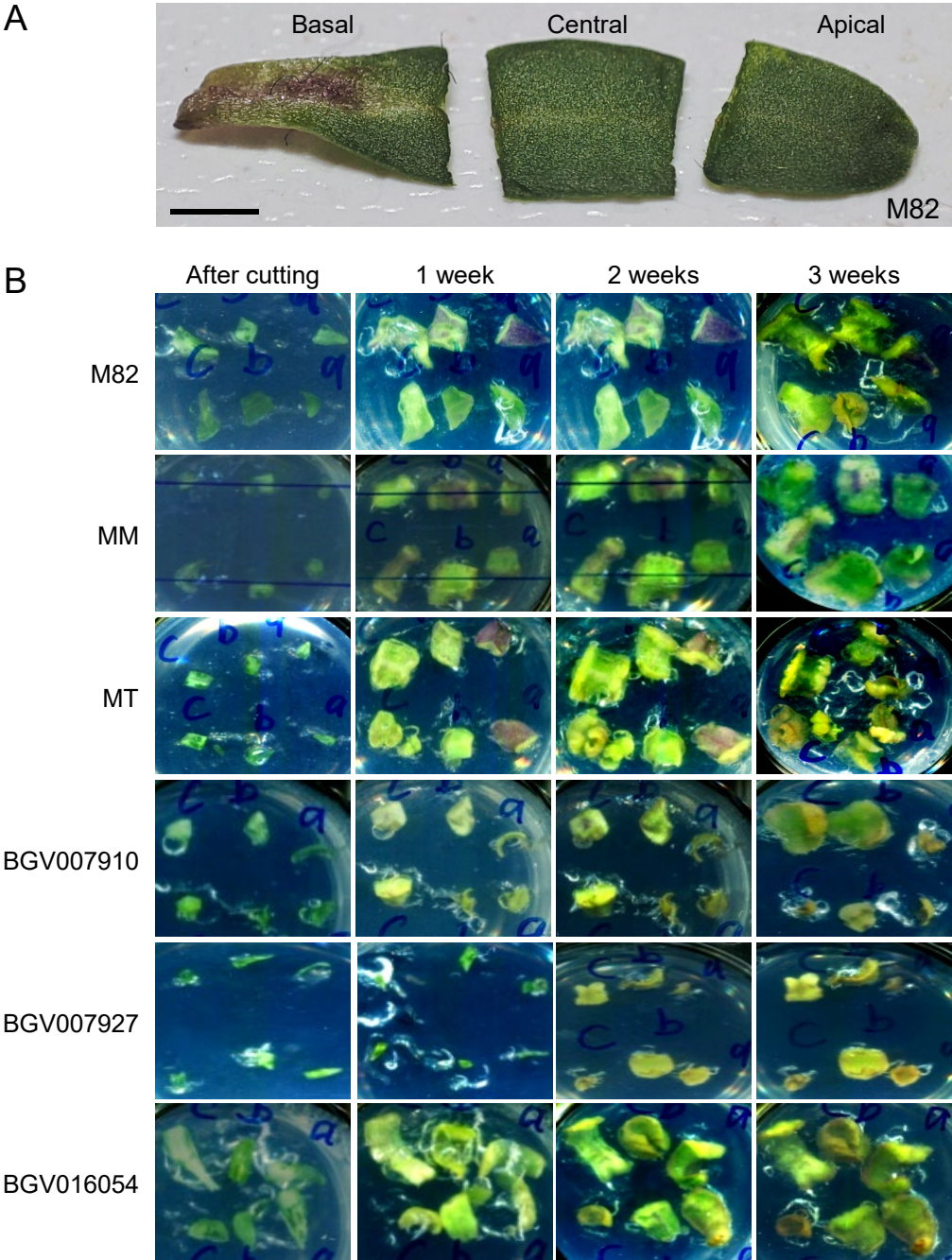


## Supplemental Figure S1



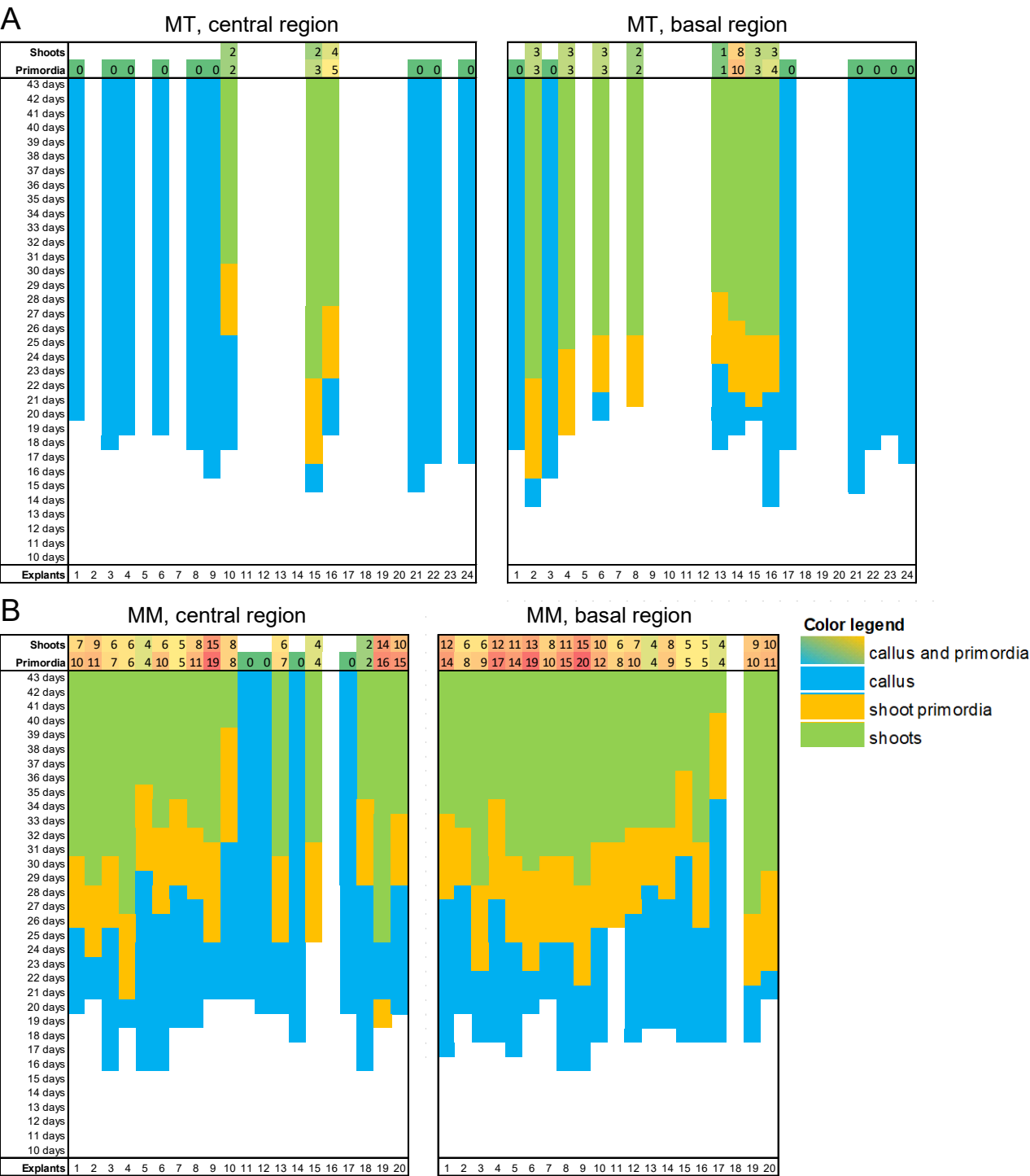
**Suppl. Fig. S1. Hormone-induced shoot formation in M82 and MT tomato cultivars (cont.).** Representative images of shoot formation in M82 (A, B) and MT (C) tomato cotyledon explants. Scale bars: 3 mm.

Supplemental Figure S2



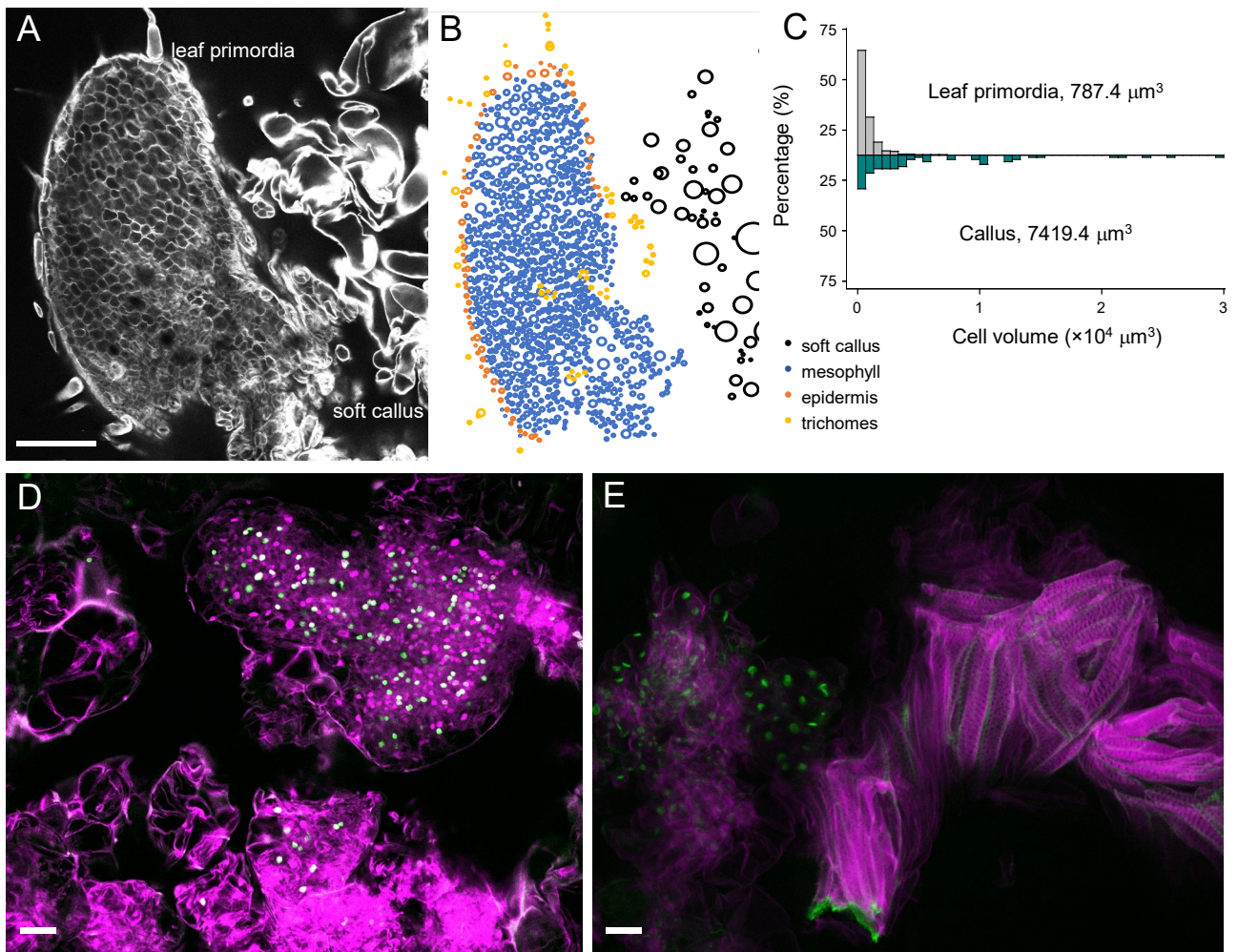
**Suppl. Fig. S2. Experimental design to determine the effects of genotype and explant region on hormone-induced callus and shoot formation.** (A) Apical, central, and basal regions of the cotyledon used as explants. M82 is shown as a representative example of the genotypes studied. (B) Representative images of explant incubation in supplemented medium for the six genotypes studied in this work. Scale bars: 3 mm..

Supplemental Figure S3



Suppl. Fig. S3. Timing of callus and shoot formation in individual tomato explants of MT (A) and MM (B).

## Supplemental Figure S4



**Suppl. Fig. S4. Cellular analysis of de novo leaf formation in tomato cotyledon explants.** (A) A representative image of a leaf primordium and adjacent callus tissue in M82 cotyledon explants at 3 weeks. (B) Graphical representation of individual cell coordinates within the leaf primordium and adjacent callus indicated in B; bubble size represents cell volume. (C) Histogram of cell sizes from B. (D) Detailed observation of a globular callus tissue (green, 12 h EdU; magenta, SR 2200 cell wall staining) where de novo formed xylem cells are clearly visible (E). Scale bars: 40  $\mu\text{m}$ .