Supporting Information

Dubrovsky *et al.* 10.1073/pnas.0712307105

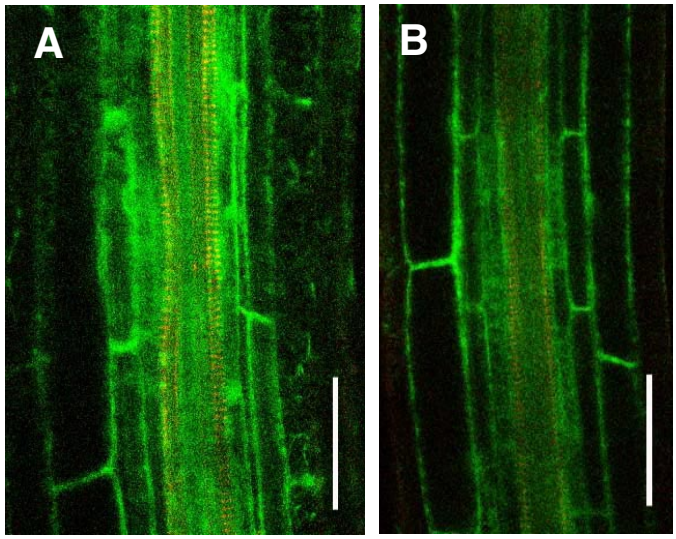

Fig. S1. Auxin activates DR5 response in all xylem-adjacent pericycle cells. Treatment with natural IAA (*A*) and synthetic 2,4-D (*B*) induces DR5 response in all pericycle cells adjacent to the xylem pole. Shown is neutral red staining of live roots; red shows protoxylem. (Scale bars: 25 μm.)

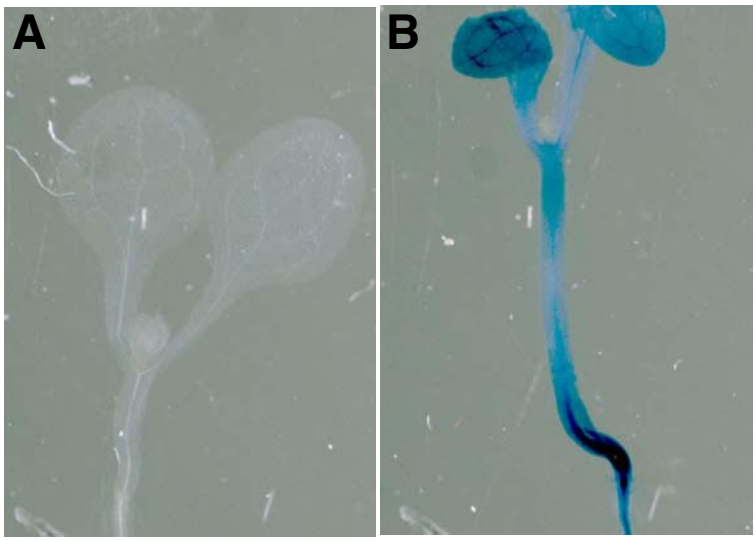

Fig. S2. Activation of *iaaM* expression by *RPS5* promoter leads to increased hypocotyl elongation. (*A*) Control seedling without iaaM activation. (*B*) Activation of *iaaM* expression leads to increased hypocotyls elongation. GUS staining accompanies *iaaM* expression. (Magnification: ×5.)

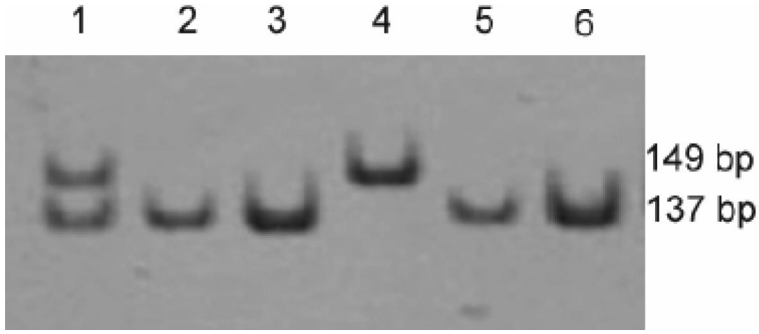

Fig. S3. Genotyping of F_2 segregating plants. PCR products from *alf 4–1* homozygous (lanes 2, 3, 5, and 6), *ALF4/alf 4–1* heterozygous (lane 1), and *ALF4* Col-0 (lane 4) plants are shown.

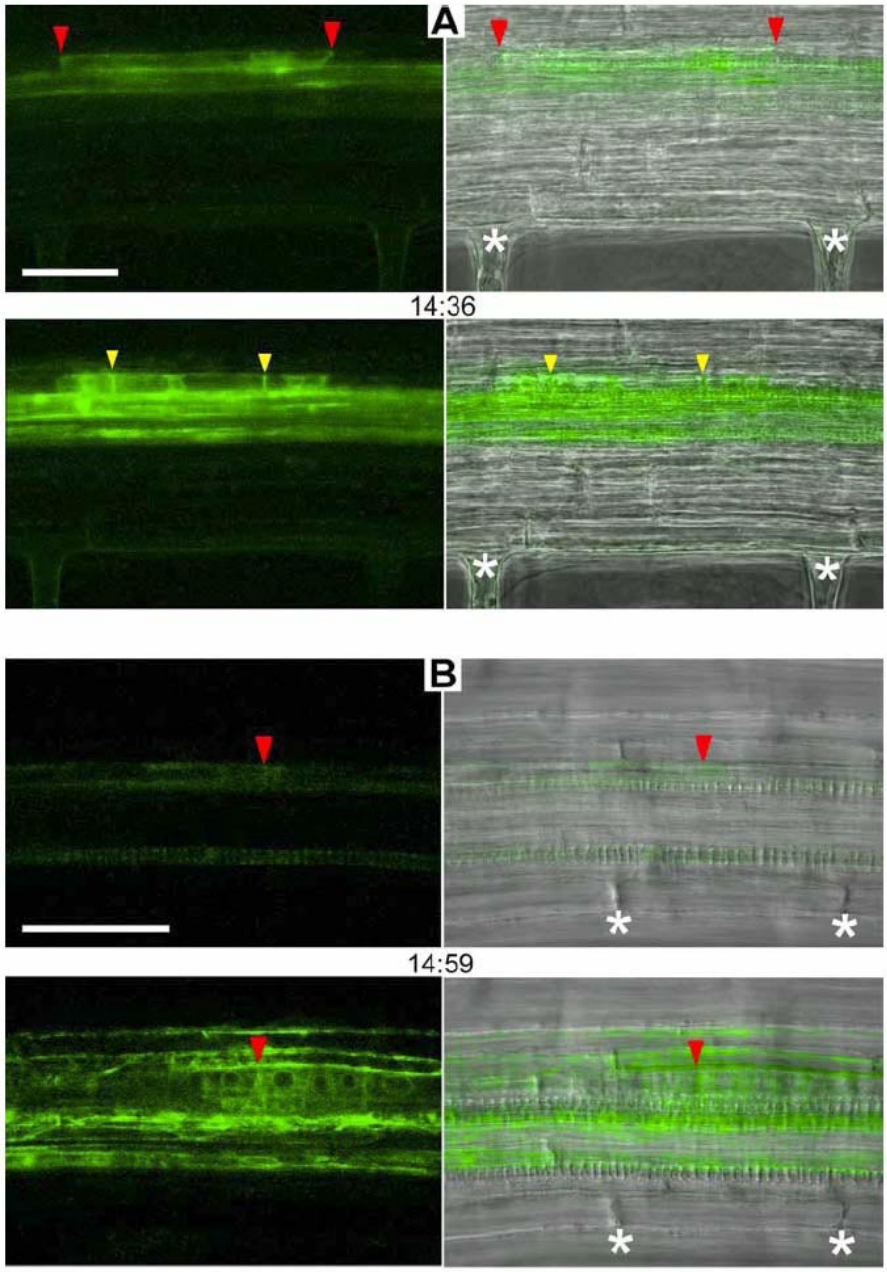

Fig. S4. Time-lapse analysis of live roots shows that pericycle founder cells can be defined by their increased *DR5* activity ($n = 13$). Longitudinal unicellular (*A*) and bicellular (*B*) longitudinal types of lateral root initiation are shown. (*Left*) Confocal images showing GFP expression in founder cells or primordia. (*Right*) The same images merged with a phase-contrast image (*A*) or DIC (*B*) image taken at the same focal plane. Numbers indicate time in hours and minutes from the beginning to the end of the observations. Red arrowheads indicate end walls of founder cells. Yellow arrowheads indicate new cell walls formed as a result of cell division. Asterisks show reference points (cell walls or root hairs) used to verify that images are taken at the same focal plane at the beginning and the end of observations. At the beginning of the experiments plants were 6 days old (*A*) and 7 days old (*B*). (Scale bars: 25 μm.)