Supplemental Table and Figures

Supplemental Table I. Root gravitropic curvature in Columbia, Ws, *pid-9*, *rcn1*, *rcn1 pid-* , and *rcn1 PID*.

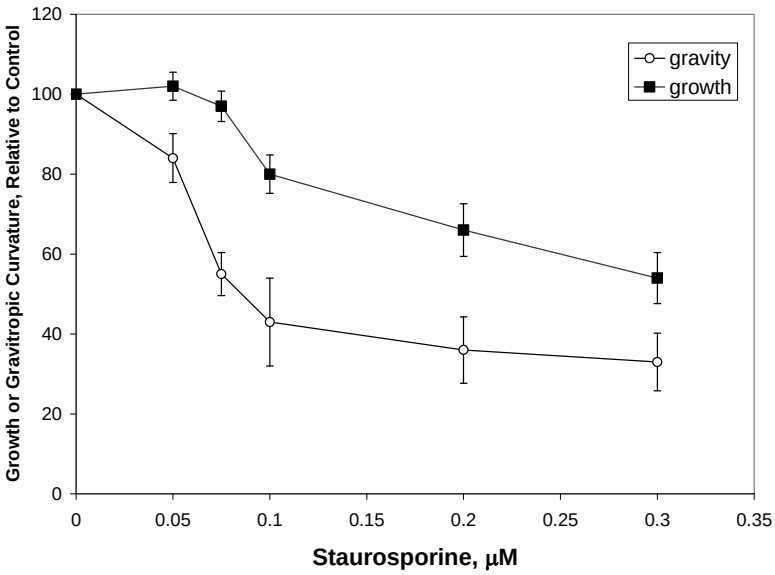
Root Gravitropic Curvature, Degrees			
Genotype	**3 hours**	**6 hours**	**24 hours**
Columbia	34.9 ± 2.7	67.7 ± 4.2	83.9 ± 3.8
pid-9	23.2 ± 2.2[a]	45.0 ± 2.8[a]	74.3 ± 3.9
Ws	28.8 ± 4.3	47.0 ± 3.9	76.9 ± 6.3
rcn1	8.3 ± 1.6[b]	18.8 ± 2.4[b]	58.3 ± 5.5[b]
rcn1 PID	15.2 ± 2.1[a]	21.2 ± 5.5[a]	59.2 ± 4.8[a,c]
rcn1 pid-9	18.8 ± 3.2[a,d]	32.3 ± 4.2[a,c,d]	83.7 ± 6.5[d]

[a] – Indicates significant difference as compared to Columbia with $P < 0.005$.

[b] – Indicates significant difference as compared to Ws with $P < 0.05$.

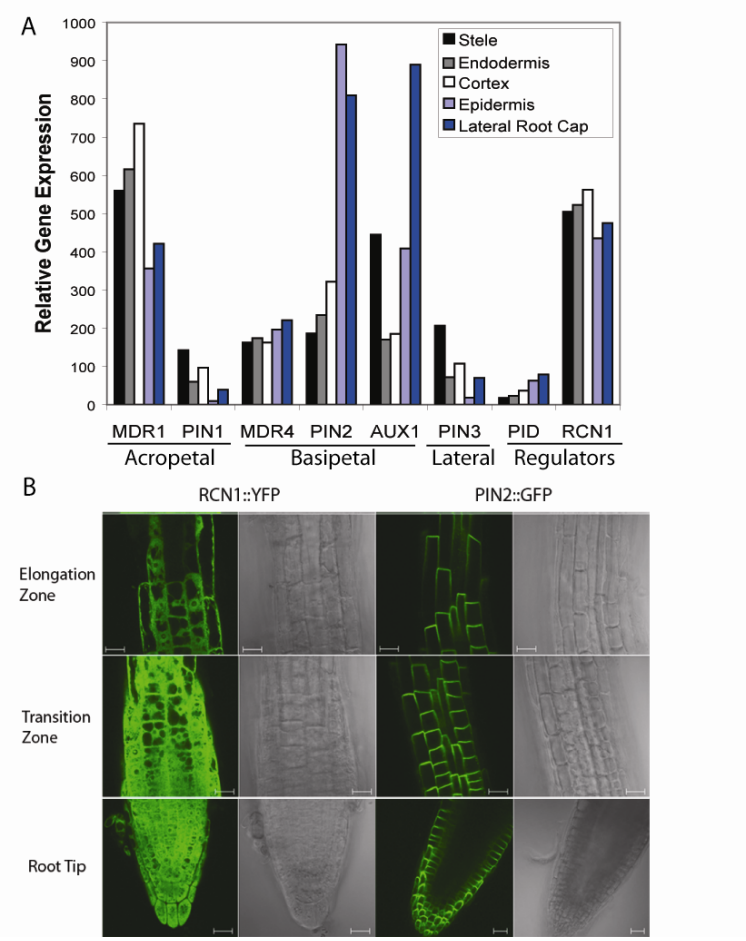
[c] – Indicates significant difference as compared to *pid-9* with $P < 0.05$

[d] – Indicates significant difference as compared to *rcn1* with $P < 0.05$.

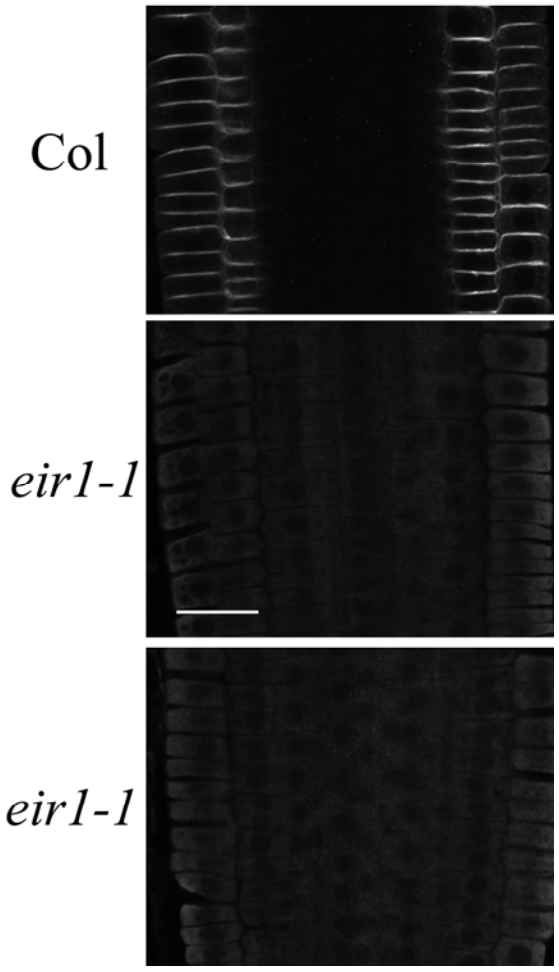


Supplemental Figure 1. Effects of staurosporine on root gravity response and growth.

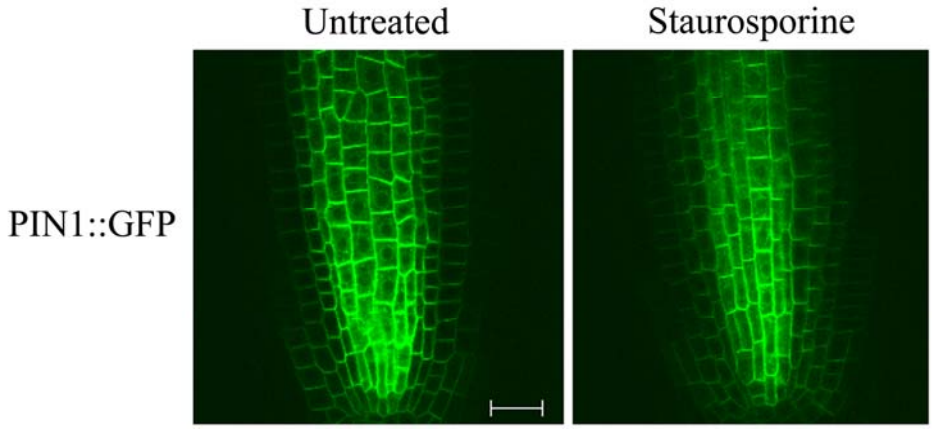
Seedlings were transferred to medium containing staurosporine at the indicated doses for 12 hours. Root elongation and gravitropic curvature 3 h. after reorientation was measured with seedlings transferred to a range of staurosporine concentrations. These values were normalized relative to the untreated control to facilitate comparison. Each value represents the average $\pm$ standard error for at least 19 seedlings from 3 separate experiments.



Supplemental Figure 2. Expression of auxin transport proteins and their regulators. (A) Using the on-line data set from (Birnbaum et al., 2003), the expression of root auxin transport proteins is compared to *RCN1* and *PID* gene expression. For clarity, the graph presents only data for Stage 2, which corresponds to the transition zone. The results are grouped for genes with the highest expression in tissues in which acropetal, basipetal, or lateral transport occurs. Expression levels in cells that participate in acropetal transport are shown in shades of black and gray, while levels observed in cells that mediate basipetal transport are shown in white and blue colors. The ATG numbers for these genes are as follows: MDR1/ABCB19 (At3G28860), PIN1 (At1G73590), ABCB4/MDR4 (At2G47000), PIN2 (At5G57090), AUX1 (AtG2G38120), PIN3 (At1G70940), PID (At2G34650), and RCN1 (At1G25490). (B) RCN1-YFP is localized in the same cells as PIN2-GFP. Localization of RCN1-YFP and PIN2-GFP were examined by confocal microscopy. Individual optical sections are shown for each image capture at three positions in the root as indicated. Scale bars are 20 µm.



Supplemental Figure 3: PIN2 antibody does not show membrane localized signal in the *eir1-1/pin2* mutant. Immunolocalization was performed in Columbia and *eir1-1* mutant seedlings at the same time and with identical conditions. Confocal images taken at the same settings are shown. The scale bar is 20 μm.



Supplemental Figure 4: PIN1::GFP localization is unaffected by staurosporine treatment. Seedlings were transferred to media with and without 0.2 µM staurosporine for 18 hours and then imaged by confocal microscopy with images captured at identical settings. Scale bar is 20 µm.