SUPPLEMENTARY DATA

FIG. S1. Control experiments for FITC-WGA staining were performed on non-infected plants. (A) Bright field image of the primary root tip. (B) FITC-WGA staining showing the absence of mycelia on the root surface. (C) Bright field image showing the release of border cells from the root cap. (D) Root cap and border cells were deprived of mycelia as revealed by FITC-WGA staining. BC, border cells; EZ, root elongation zone; RC, root cap. Scale bars: (A,B) = 100 μm; (C,D)= 50 μm.

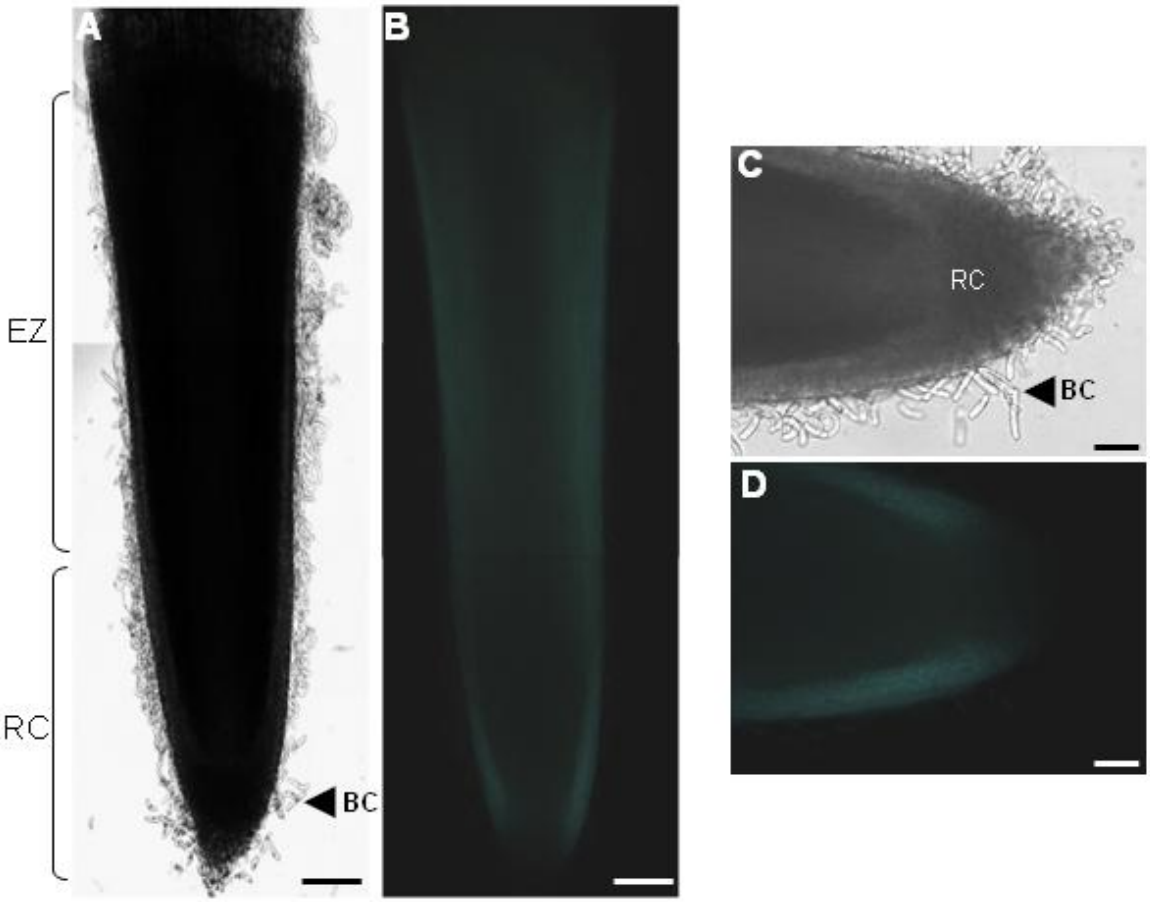


FIG. S2. Quantification of pisatin (mg $g^{-1}$ d. wt) in exudates secreted by root border cells. Values are means ± s.d. from three independent experiments. Means with the same letter are not significantly different ($P > 0.05$, Newman–Keuls test).

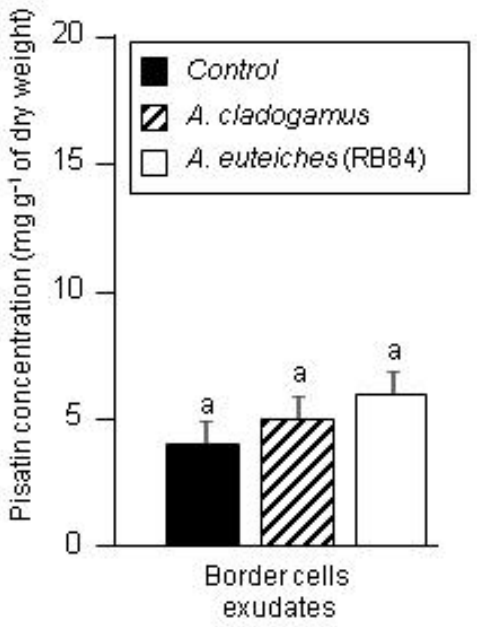
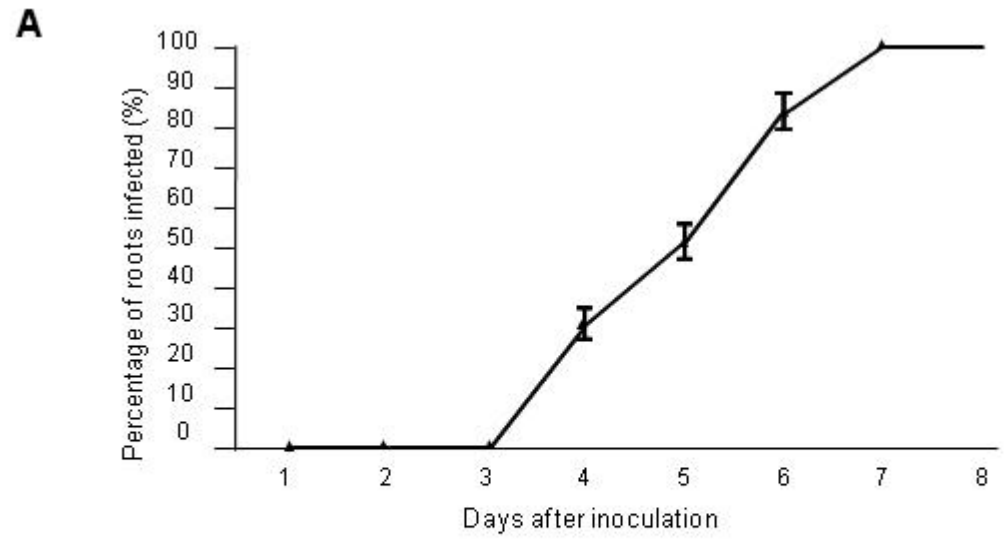


FIG. S3. Susceptibility of root caps to *A. euteiches* after washing off border cells. (A) Removal of root border cells did not increase the sensitivity of the root cap to infection by *A. euteiches*. (B) Root cap turnover and subsequent border cells formation. Washing off root border cells rapidly induces renewed production of border cells by the root cap.



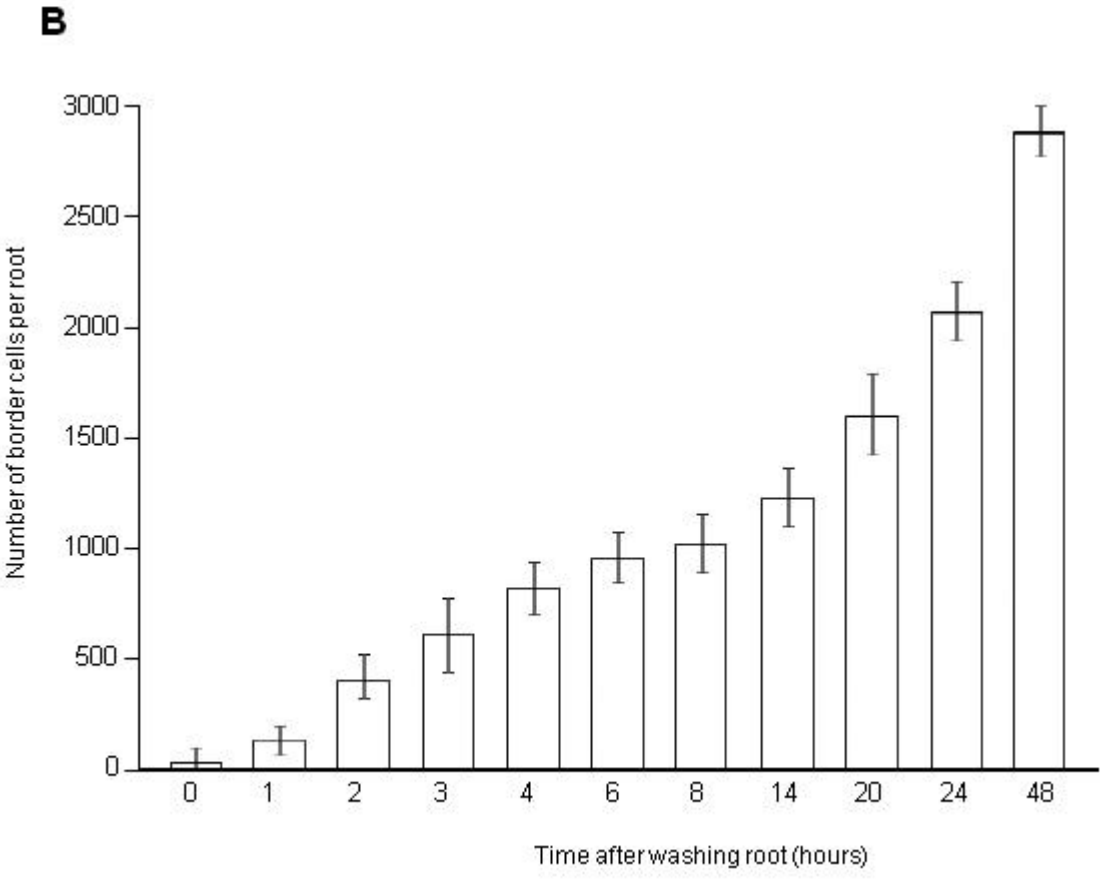



FIG. S4. Border cell morphology determined by flow cytometry in (A) roots inoculated with *A. euteiches* (RB84) and (B) in healthy roots. The results are displayed as side scatter (logarithmic scale, SS log) vs. forward scatter (FS linear) cytograms. A, B, C on the cytograms indicate the three different populations that appeared to be distinguished in border cells. Border cell viability determined by flow cytometry in (C) roots inoculated with *A. euteiches* (RB84) and (D) in healthy roots. The results are displayed as fluorescence (logarithmic scale, FL log) vs. forward scatter (FS linear) cytograms. (E) Calcein staining of root border cells in *P. sativum* indicated that border cells are mostly released as living cells. Scale bar = 20 μm.