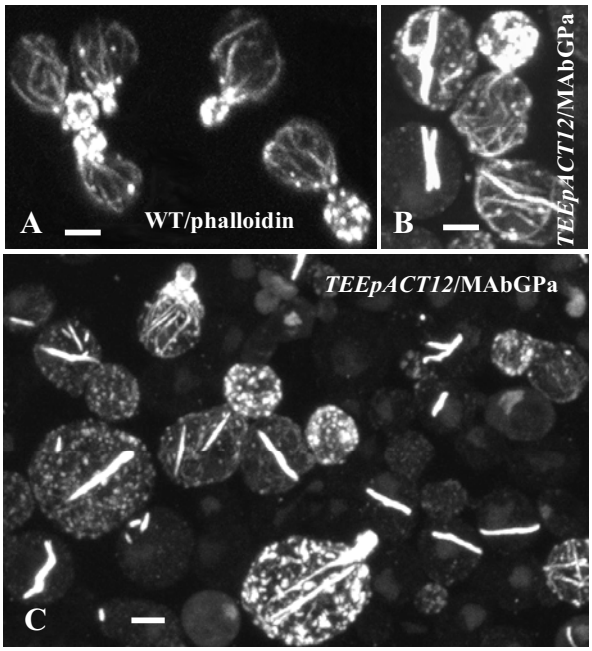
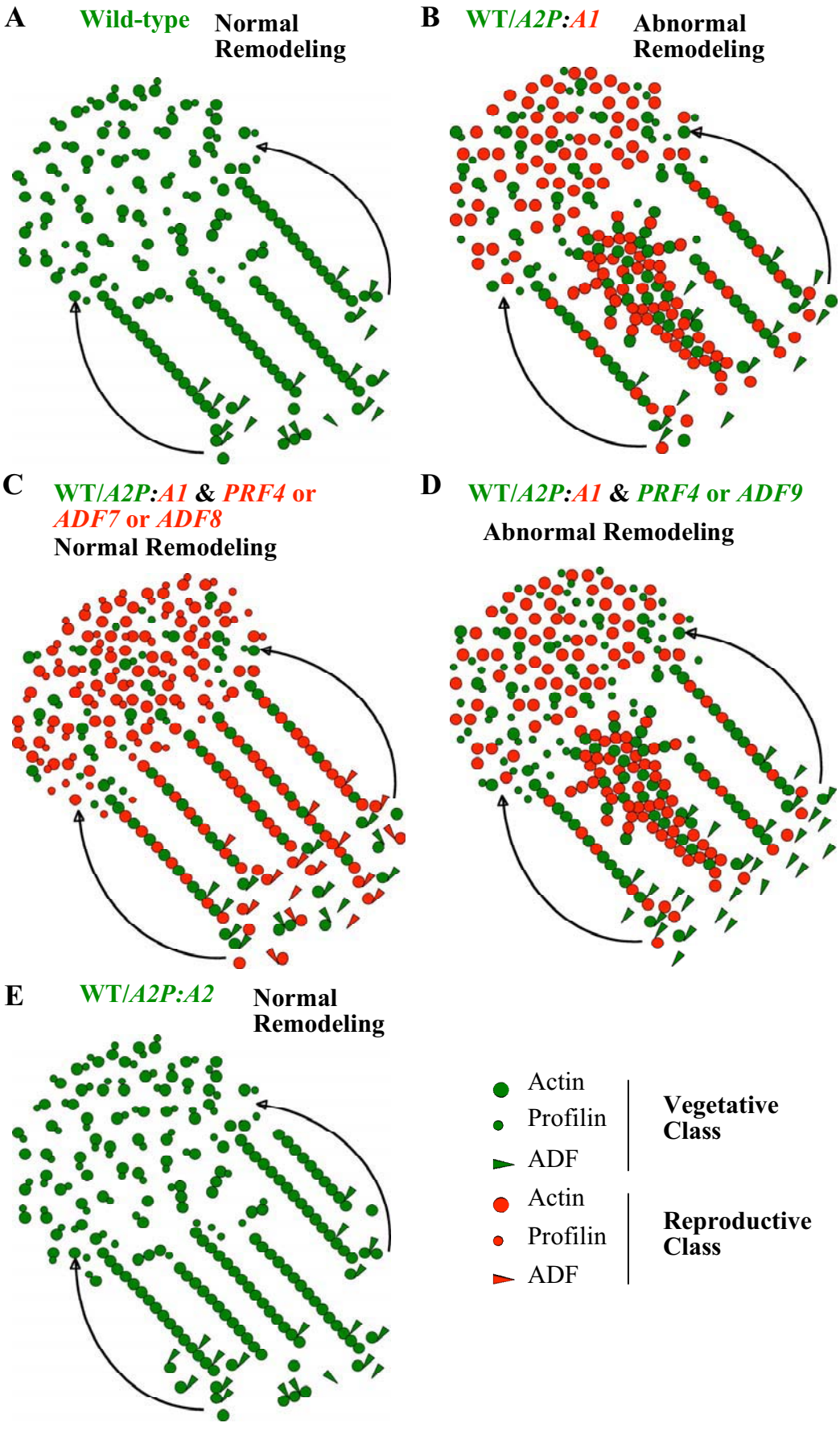
Supplemental Figures. Kandasamy et al. 2007. Class-specific Interaction of Profilin and ADF Isovariants with Actin in the Regulation of Plant Development.



Supplemental Figure 1. Actin localization in yeast cells.

(A) Wild-type yeast cells stained with Texas Red-conjugated phalloidin.

(B) and **(C)** Yeast cells transformed with *TEEpACT12* and expressing pollen-specific ACT12 protein. Note the plant actin is organized into thick filament-like structures in a few cells in (B). Labeled with the plant actin-specific antibody MAbGPa. Bars = 1 μm.


A
Wild-type
Normal Remodeling
B
WT/A2P:A1
Abnormal Remodeling
C
WT/A2P:A1 & PRF4 or ADF7 or ADF8
Normal Remodeling
D
WT/A2P:A1 & PRF4 or ADF9
Abnormal Remodeling
E
WT/A2P:A2
Normal Remodeling
Actin
Profilin
ADF
Vegetative Class
Actin
Profilin
ADF
Reproductive Class

Supplemental Figure 2. Models for class-specific interaction of PRF and ADF isovariants with actin and regulation of actin assembly.

Vegetative class actin (large circle), profilin (small circle) and ADF (triangle) proteins are shown in green and the respective reproductive proteins are shown in red.

(A) Wild-type. Normal levels of expression of vegetative actin and vegetative or constitutive ABPs in non-reproductive cell types result in regular polymerization of actin.

(B) Ectopic expression of *A2P:A1* (ACT1) in wild-type plants. Misexpression of reproductive actin in vegetative cells may result in poor interaction of the reproductive actin monomers with the endogenous vegetative ABPs, causing an imbalance between these cytoskeletal components and abnormal actin polymerization.

(C) Ectopic coexpression of *A2P:A1* and *A2P:P4* or *ADF7* or *ADF8*. Co-overproduction of reproductive actin and reproductive ABPs and their proper interaction may balance out these two cytoskeletal components and result in normal, but high, actin polymerization.

(D) Coexpression of *A2P:A1* and *A2P:P1* or *ADF9*. Co-overproduction of reproductive actin and vegetative ABPs still may result in their weak interaction, and accumulation of high levels of non-bound actin monomers leads to abnormal polymerization.

(E) Overexpression of *A2P:A2* (ACT2). Overproduction of ACT2 in vegetative cells leads to normal polymerization of actin into more filaments. The endogenous ABPs might be sufficient enough to buffer actin polymerization even with excess amounts of ACT2.