

### **Supplemental movies**

**Movie 1.** Cortical ER-network in companion cells from AtSUC2-ER-GFP tobacco (3-D stack).

**Movie 2.** Time-lapse movie showing the dynamics of companion cell ER from AtSUC2-ER-GFP tobacco. Images were captured every 12 sec.

**Movie 3.** Time-lapse movie showing the dynamics of phloem parenchyma from wild type tobacco stained with DiOC<sub>6</sub>. Images were captured every 5 sec.