

**Legends to Movies:****Movie S1:**

The movie shows dynamics of AUX1-YFP in *Arabidopsis* lateral root cap cells. Note movement of AUX1-YFP- positive structures to and from the cell surface. The movie represents 86 frames acquired at 6 sec/frame and played at 15 frames/sec.

**Movie S2:**

The movie shows drastically reduced dynamics of AUX1-YFP in *Arabidopsis* lateral root cap cells treated with auxin transport inhibitor TIBA 50  $\mu$ M for 30 min. The movie represents 24 frames acquired at 6 sec/frame and played at 15 frames/sec.

**Movie S3:**

The movie shows normal dynamics of AUX1-YFP in *Arabidopsis* lateral root cap cells treated with excess auxin (NAA 10  $\mu$ M) for 30 min. The movie represents 59 frames acquired at 6 sec/frame and played at 15 frames/sec.