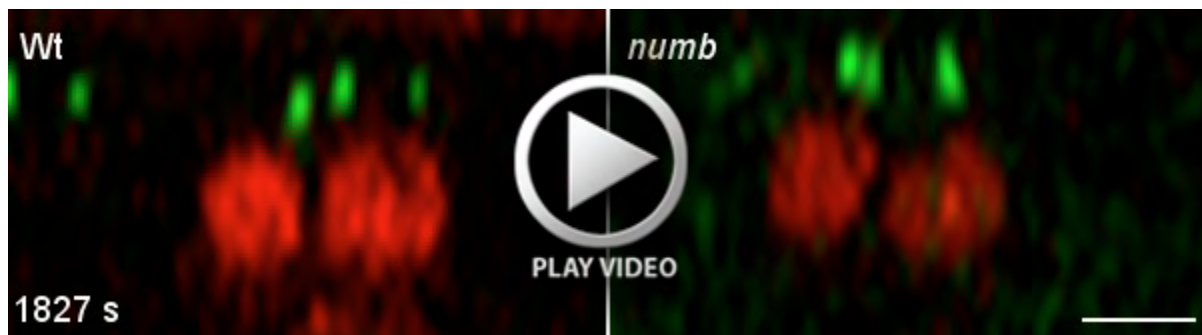


**Fig. S1. Centrosome movement during pI cell division.** (A) The centrosome, the membrane and the chromatin are labelled by GFP::Cnn (green), PH::GFP (green) and His2B::mRFP (red). (B) Schematic of centrosome dynamics during pI cell division.



**Movie S1. Asymmetric movement of the centrosomes during pI cell division.** Time-lapse of His2B::mRFP (red) and GFP::Cnn (green) during pI cell division from metaphase onwards shown in Fig. 1. Left movie is a top view corresponding to a maximum projection along the apical-basal axis of the dividing pI cell (anterior, leftwards; medial, upwards). Right movie is a side view corresponding to a lateral maximal projections (anterior, leftwards; apical, upwards). The chromatids separate at  $t=0$  seconds. The anterior centrosome undergoes a movement underneath the nucleus at  $t=315$  seconds. The posterior centrosome moves towards the apex of the pI cell at  $t=441$  seconds. The anterior centrosome moves towards the apex of the anterior daughter of the pI cell at  $t=819$  seconds. Both centrosomes are located at the cell apex ( $t=1701$  seconds). Scale bars: 5  $\mu$ m.



**Movie S2. Centrosome dynamics in wild-type and *numb* pI cells.** Time-lapse of His2B::mRFP (red, expressed only in the pI cell) and YFP::Asl (green, ubiquitously expressed) during pI cell division from metaphase onwards. YFP::Asl is ubiquitously expressed, the centrioles of surrounding epithelial cells are also labelled. Left movie and right movies are side views corresponding to lateral maximal projections in a wild-type pI cell (left movie) and in a *numb* pI cell, marked by the absence of the nls::GFP expression (green, right movie). In *numb* pI cell, the posterior centrosome movement towards the cell apex is delayed, leading to both centrosomes moving almost simultaneously towards the apical midbody. Anterior is leftwards; apical is upwards. Scale bars: 5  $\mu$ m.



**Movie S3. Centrosome dynamics in wild-type and *crmp* pI cells.** Time-lapse of His2B::mRFP (red, expressed only in the pI cell) and YFP::Asl (green, ubiquitously expressed) during pI cell division from metaphase onwards. YFP::Asl is ubiquitously expressed, the centriole of surrounding epithelial cells are also labelled. Left movie and right movies are side views corresponding to lateral maximal projections in a wild-type pI cell (left movie) and in a *crmp* pI cell (right movie). In *crmp* context, the anterior centrosome movement towards the cell apex is early, leading to both centrosomes moving almost simultaneously towards the apical midbody. Anterior is leftwards; apical is upwards. Scale bars: 5  $\mu$ m.



**Movie S4. Centrosome dynamics in the wild-type and overexpressing D82-Glued pI cells.** Time-lapse of His2B::mRFP (red) and GFP::Cnn (green) during pI cell division from metaphase onwards. Left movie and right movies are side views corresponding to lateral maximal projections in a wild-type pI cell (left movie) and in a pI cell overexpressing D82-Glued (right movie). Upon D82-Glued overexpression, both centrosomes fail to reach the apical midbody. Anterior is leftwards; apical is upwards. Scale bars: 5  $\mu$ m.