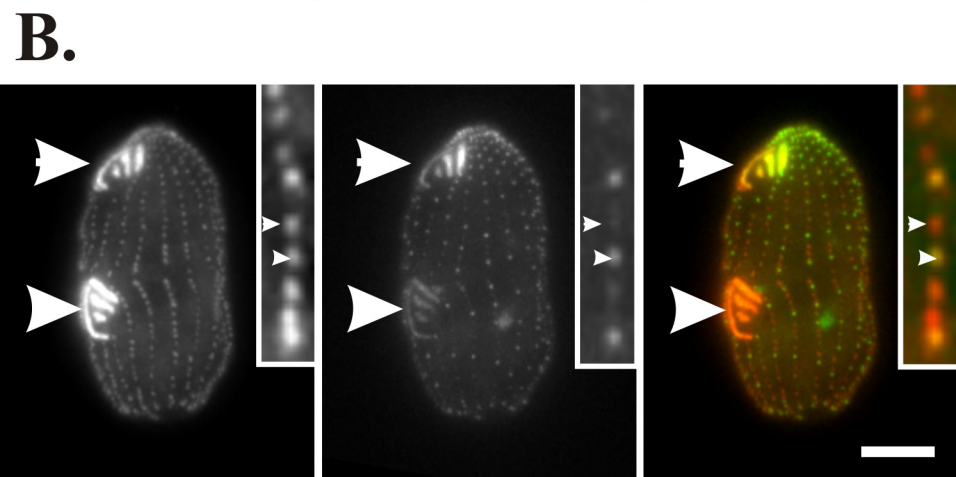
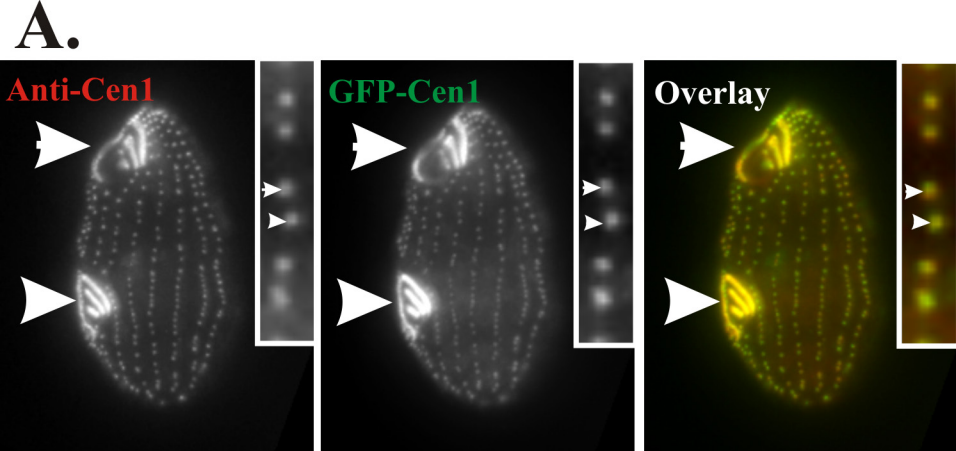


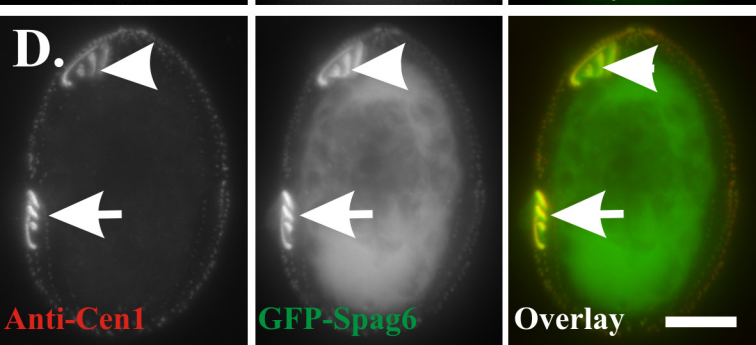
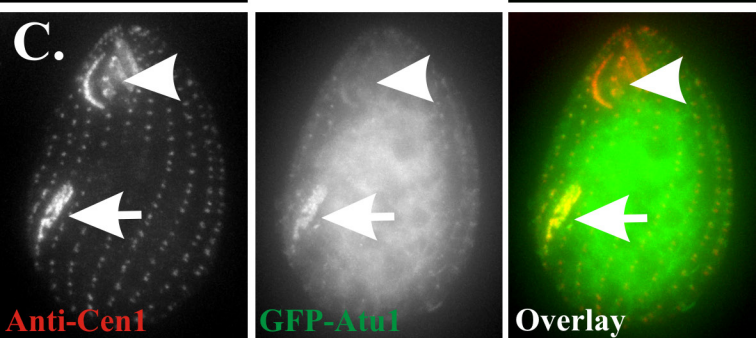
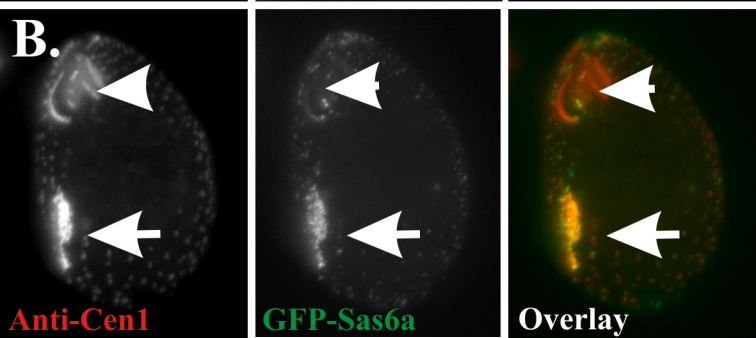
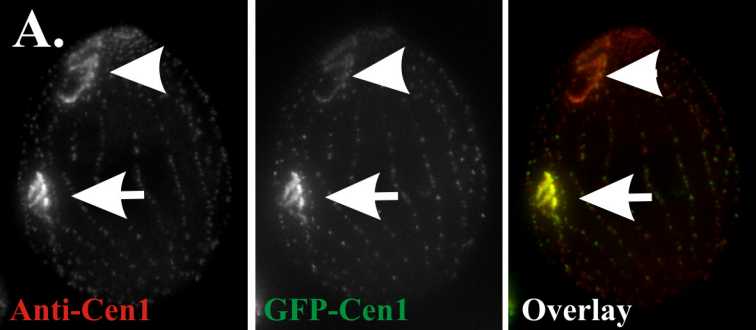
Supplemental Material

Figure S1. Repression of GFP-Cen1 in cells with uniform basal body signal. (A) GFP-Cen1 was expressed in *Tetrahymena* cells for 12 hours prior to imaging. Basal bodies and oral apparatuses are uniformly labeled with GFP-Cen1 (green) and anti-Cen1 fluorescence (red). New basal bodies (arrow) are positioned anterior relative to mature basal bodies (arrowhead). The mature oral apparatus (arrowhead) is of similar GFP-Cen1 and anti-Cen1 intensities compared to the new oral apparatus (arrow). (B) In contrast, after five hours of repression of GFP-Cen1 in cells with uniform basal body GFP-Cen1 signal new basal bodies contain dim GFP-Cen1 signal compared to old basal bodies that retain bright GFP-Cen1. Scale bar, 10 μm .

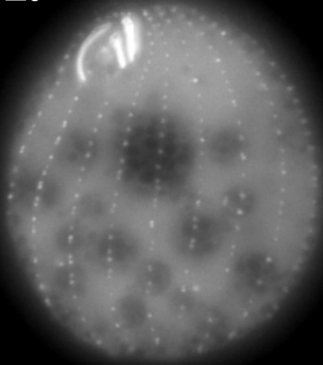
Figure S2. Stable and dynamic exchange of proteins at the oral apparatus. Oral apparatus labeling exhibits the same pattern as found with GFP fusion protein loading at individual basal bodies. After two hours of GFP-fusion protein induction, anti-Cen1 (red) was imaged relative to GFP-Cen1 (A), -Sas6a (B), -Atu1 (C), and -Spag6 (D) (green). Cells with an old OA (arrowhead) and a new OA (arrows) were imaged. Cen1 and Sas6a labeled the old OA with low fluorescence signal while the new OA was brightly labeled. Atu1 conservatively incorporated into the new OA leaving a dim old OA. Spag6 labeled both the old and new OAs equally. Cortical basal bodies were not included in the projection images. Scale bar, 10 μm .

Figure S3. GFP-Spag6 localizes to basal bodies prior to decorating cilia. (A) After two hours ($t = 2$ hrs) of GFP-Spag6 expression, all basal bodies are equally labeled with GFP fluorescence (also see Figures 2 and 3). (B) After four hours ($t = 4$ hrs) of expression, both basal bodies and cilia were labeled with GFP-Spag6. Scale bar, 5.0 μm .





A.



2 hrs

B.



4 hrs

