Supplementary Figure 4  No apparent defects in centrosome structure and microtubule polymerization dynamics in Dcx<sup>−/−</sup> (a) No apparent defect in appearance of the centrosome in Dcx<sup>−/−</sup> neurons. Dissociated migrating SVZ<sub>a</sub> neurons were fixed and stained for centrosomal markers. Note the pair of centrioles seen with centrin labeling (green, pair of arrows) and the pericentriolar matrix seen with pericentrin labeling (red, arrowhead). Hoechst stain (blue) shows nucleus. Scale bar 5 µm. (b, c) No apparent defect in plus-end microtubule dynamics in Dcx<sup>−/−</sup> neurons. Migrating SVZ<sub>a</sub> neurons were infected with a lentivirus encoding End-Binding protein 1 (EB1)-tagged GFP. Distinct punctate signals were observed in the leading process (b, arrowheads), and could be observed in time-lapse analysis to move away from the nucleus (dashed circle). Time-lapse analysis of each punctum for every 10 sec from 10 cells of each genotype (total n > 240 from each genotype) showed no significant difference in this movement. P > 0.05, Student t-test. (d, e) No difference in leading process retraction or growth following acute application then washout of the microtubule depolymerizing agent nocodazole. Nocodazole was added at time zero, and time-lapse analysis was obtained for 50 min (every 5 min) to capture rate of process retraction. Subsequently, the drug was washed out and time-lapse analysis for 3-hours (every 5 min) to capture rate of process re-extension. No significant differences were noted. n = 33 wt and 61 mutant cells. Averaged from 2 trials. P > 0.05, Student t-test. Error bar = s.e.m.