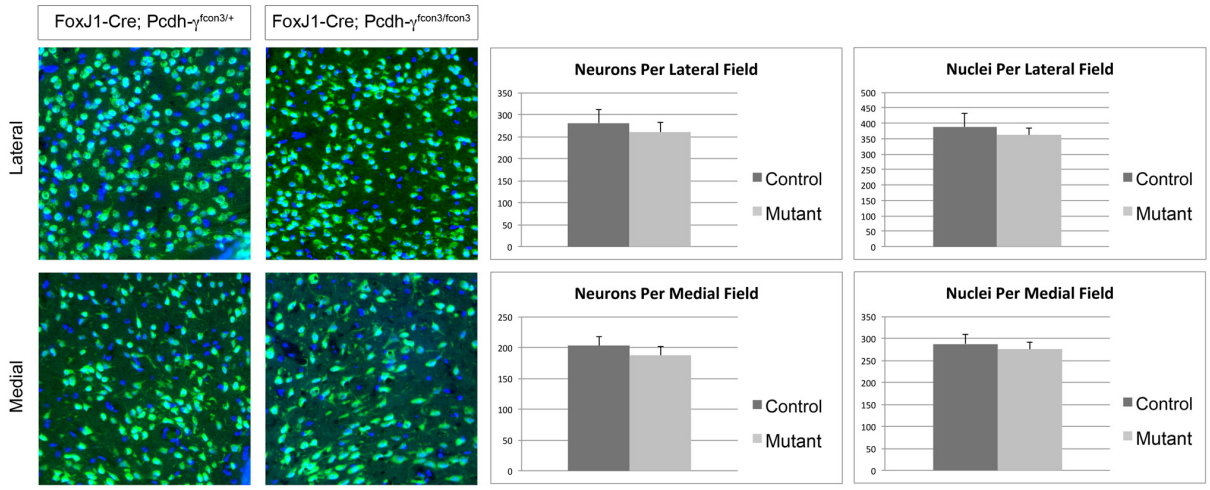
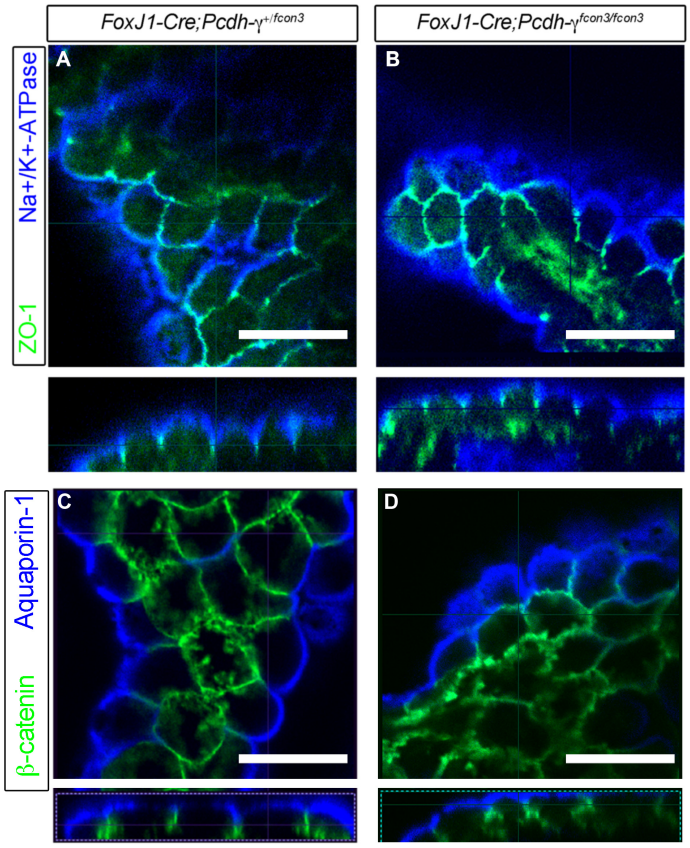
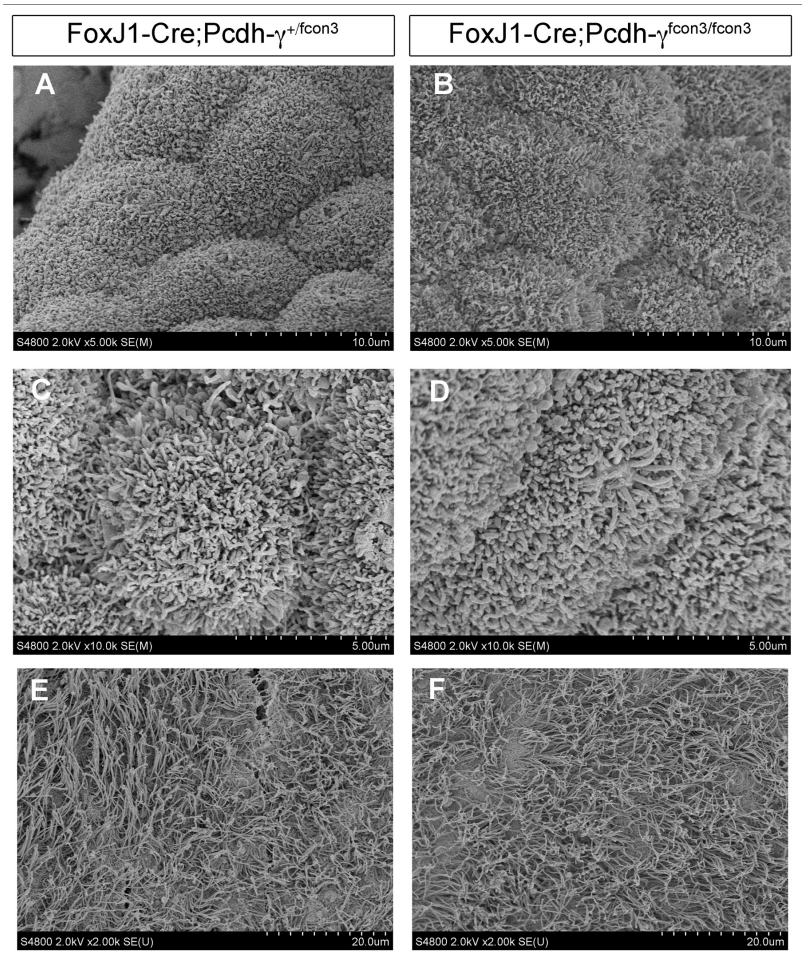


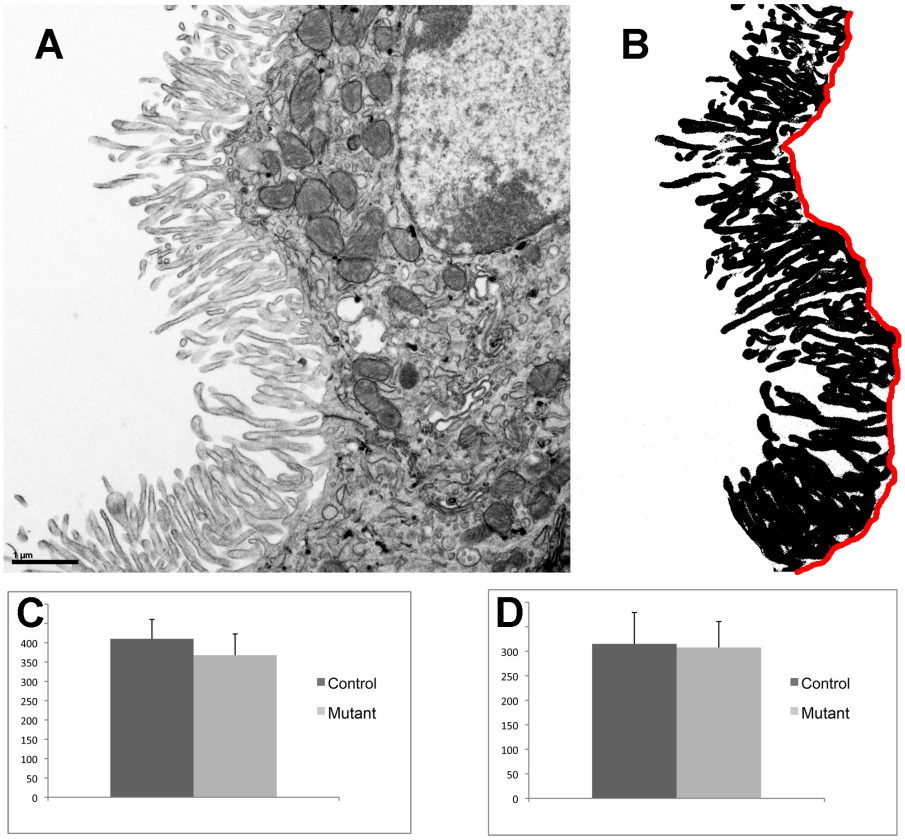
Supplemental Figure S1: *FoxJ1-Cre; Pcdh-γ$^{fcon3/fcon3}$* mice have normal periventricular cell and neuron density. Micrographs were taken from coronal cryosections lateral and medial to the lateral ventricles in *FoxJ1-Cre; Pcdh-γ$^{fcon3/+}$* and *FoxJ1-Cre; Pcdh-γ$^{fcon3/fcon3}$* mice to compare nuclear (DAPI) and neuronal (NeuN) density. Twelve medial and 12 lateral fields were quantified per genotype. Graphs show no significant difference in cell or neuron density in mutants compared to controls.



Supplemental Figure S2: Grossly normal localization of sodium/potassium ATPase, aquaporin-1, β-catenin, and ZO-1 in *FoxJ1-Cre; Pcdh-γ$^{fcon3/fcon3}$* mutant choroid plexus. (A, B) show confocal micrographs taken from whole mount preparations of *FoxJ1-Cre; Pcdh-γ$^{fcon3/+}$* and *FoxJ1-Cre; Pcdh-γ$^{fcon3/fcon3}$* mice stained for Na^+/K^+-ATPase and ZO-1. (C, D) show confocal micrographs taken from whole mount preparations of *FoxJ1-Cre; Pcdh-γ$^{fcon3/+}$* and *FoxJ1-Cre; Pcdh-γ$^{fcon3/fcon3}$* mice stained for aquaporin-1 and β-catenin. In both cases, the localization of all markers remains intact in the *FoxJ1-Cre; Pcdh-γ$^{fcon3/fcon3}$* mutant choroid plexus. Below each image taken from a z-stack is a 90° rotated image taken from along the horizontal line in the main image.



Supplemental Figure S3: SEM reveals no obvious defects in *FoxJ1-Cre; Pcdh-γ$^{fcon3/fcon3}$* mutant choroid plexus or ependymal surface morphology. SEM micrographs comparing surface morphology of *FoxJ1-Cre; Pcdh-γ$^{fcon3/fcon3}$* choroid plexus (B,D) to control (A,C) at 5,000x (A,B) or 10,000x (C,D) magnification. (E,F) SEM micrographs comparing surface morphology of *FoxJ1-Cre; Pcdh-γ$^{fcon3/fcon3}$* ependyma to control ependyma at 2,000x magnification. Mutant ependyma exhibit plentiful, if slightly less organized, cilia.



Supplemental Figure S4: Normal microvillus length and density in *FoxJ1-Cre; Pcdh-γ$^{fcon3/fcon3}$* mutant chroid plexus epithelial cells. (A) is a representative electron micrograph taken for quantification of microvilli length and area. To quantify microvilli area, the microvilli were excised from the remainder of the image and colored black in Photoshop (B). A line was drawn in Photoshop along the cell surface (B) so that microvilli area per unit cell surface length could be calculated using NIH Image/J. (C) is a graph of average microvillus length taken by measuring individual microvilli (n=120 measurements per genotype). (D) is a graph of average microvilli area per unit cell length (n=23 cells per genotype). No significant difference is seen between genotypes.