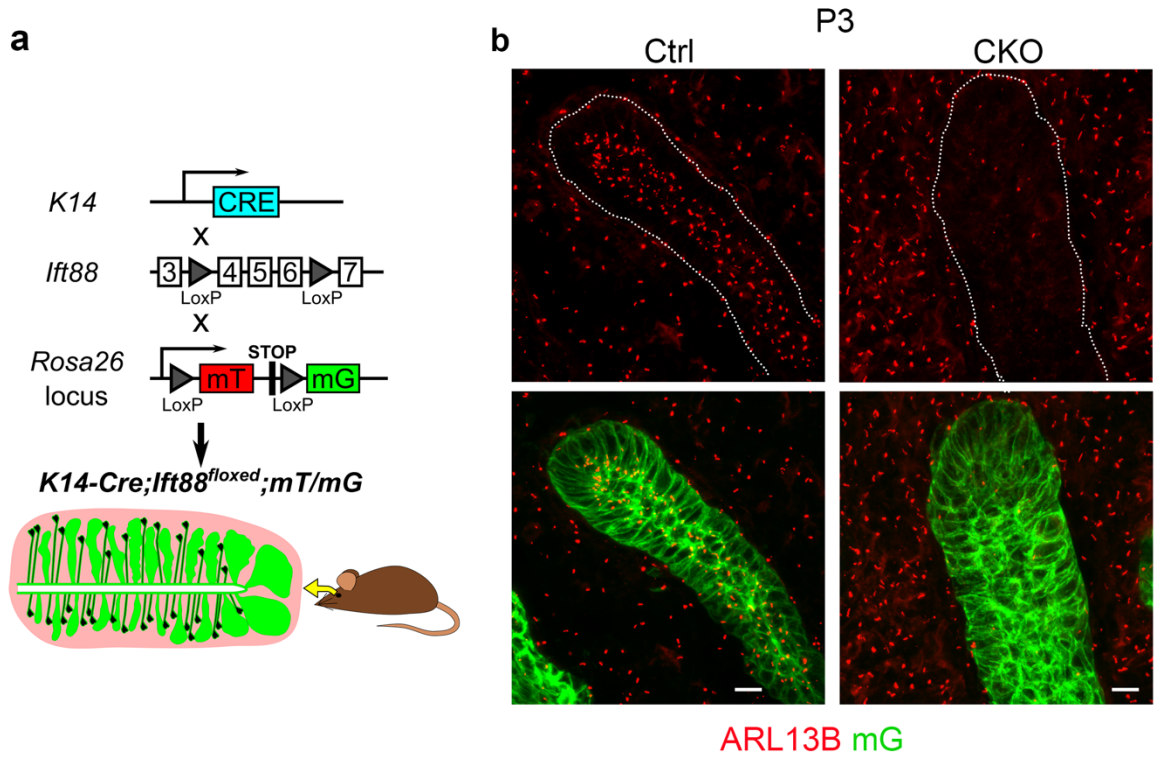
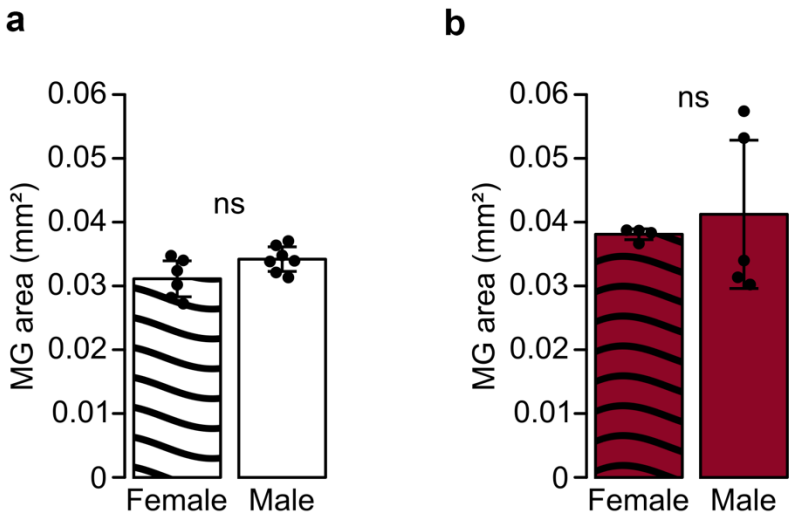


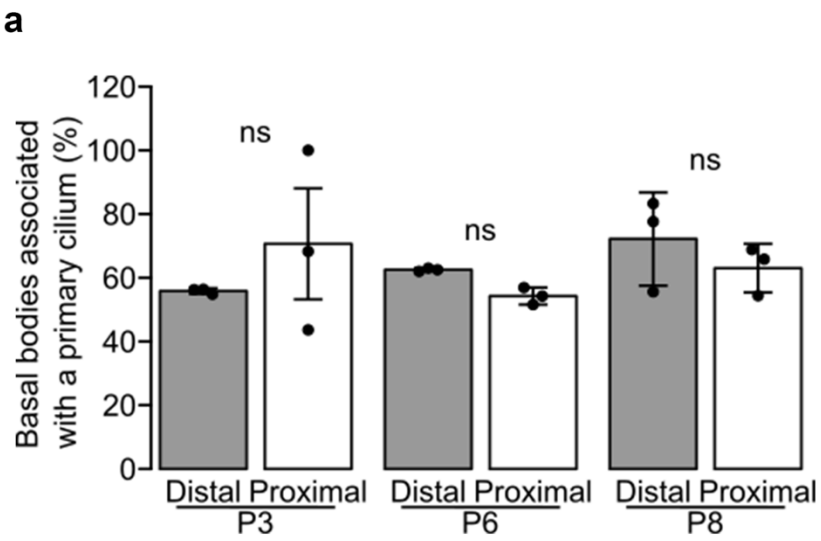
Supplement Figure 1

Supplement figure 1: Genetic deletion of *Ift88* in K14-expressing cells leads to primary cilium ablation in MGs. (**a**) Breeding strategy to generate conditional ciliary mutant and visualize Cre expression. (**b**) Representative MG sections of control and cKO mice at P3. MGs (surrounded by white dotted line) express the mG reporter. Primary cilia were stained with an anti-ARL13B antibody, respectively. Scale bar; 10 μm.



Supplement Figure 2

Supplement figure 2: MG size is not sex-dependent during MG development. MGs were stained with ORO in whole mount tarsal plates females in control (**a**) and cKO (**b**) mice at P8. Per mouse, MG area was determined by averaging the MG area of all individual MGs in the upper and lower eyelids. Data were presented as mean ± SD (n=6 females and 7 males for control mice; n=4 females and 5 males for cKO mice). Statistical significance was assessed using Mann Whitney test. ns, non-significant, $P \geq 0.05$.



Supplement Figure 3

Supplement figure 3: Primary cilia are homogeneously distributed with MGs during early steps of MG development. The percentage of basal bodies associated with a primary cilium was quantified in the distal half and in the proximal half of MGs at P3, P6 and P8 (n=3 for each age). Data were presented as mean ± SD. Statistical significance was assessed using Wilcoxon signed rank test (distal vs proximal). ns, non-significant, $P \geq 0.05$.