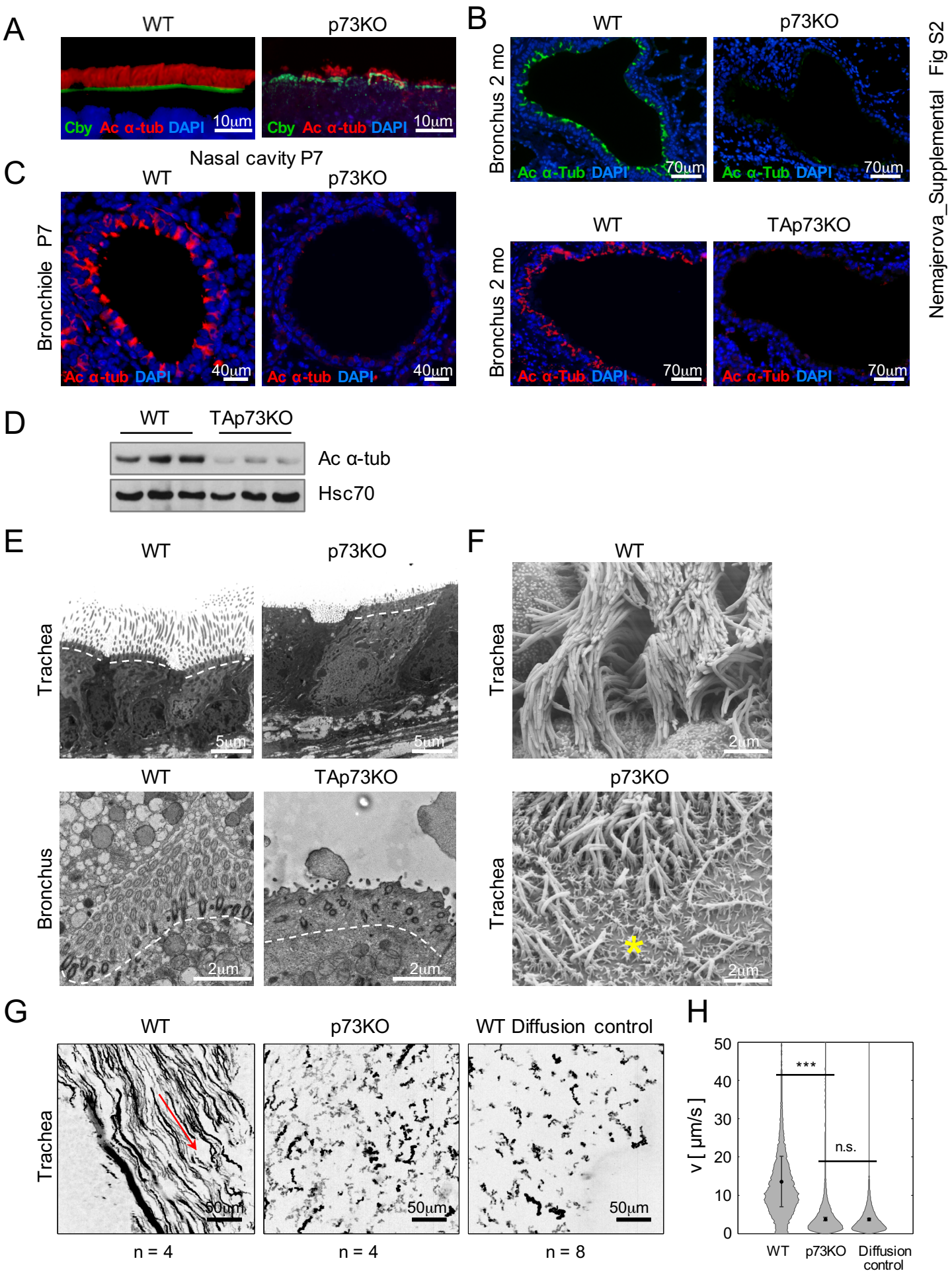

Nemajerova_Supplemental Fig S2

Supplemental Figure S2 (related to Fig. 2)**. Airway epithelia of p73KO and TAp73KO mice exhibit severe defects in ciliogenesis**

(**A-C**) Sections of nasal cavity, bronchus and bronchiole from WT and p73KO littermates at P7 and 2 months, respectively, immunostained for axonemal marker Ac α-Tub and basal body marker Cby. DAPI counterstain. Cilia in more distal airways (bronchus and bronchioles) are almost completely missing (**B and C**).

(**D**) Immunoblot analysis of lung lysates from 8 wk old WT and TAp73KO mice shows significant reduction in levels of Ac α-Tub protein in KO lungs, consistent with their ciliary defects. n = 3 mice per genotype, Hsc70 as loading control.

(**E and F**) Photomicrographs of transmission electron microscopy (TEM) (**E**) and scanning electron microscopy (SEM) (**F**) from trachea and bronchus of 8 wk old p73KO and TAp73KO mice with corresponding WT littermates. The abundant long broom-like cilia characteristic for WT cells are completely absent in p73-deficient MCCs, with far fewer and shorter ciliary stumps still formed. In contrast, the interspersed microvilli at the apical surface are preserved (*).

(**G and H**) p73 depletion causes severe mucociliary clearance defects. Vital p73KO and WT tracheae were opened and immersed in a solution containing fluorescent microspheres whose movement were tracked by high-speed confocal microscopy.

(**G**) Bead trajectories collected from 2000 image frames over 32 sec. Particles in WT tracheae have long, directed trajectories along a flow field (arrow). In contrast, directional movements in p73KO are strongly reduced and indistinguishable from dead WT trachea (Diffusion control).

(**H**) Particle velocities collected from all measurements (n= 18,186, n=22,838 and n=14,970 tracks for WT, KO and control, respectively) shown as vertical histograms. WT mean velocity significantly differs from KO and Diffusion control ($p<0.0001$), while KO is indistinguishable from control. See also Supplemental Fig. S2F, G and Supplemental Movie S2.