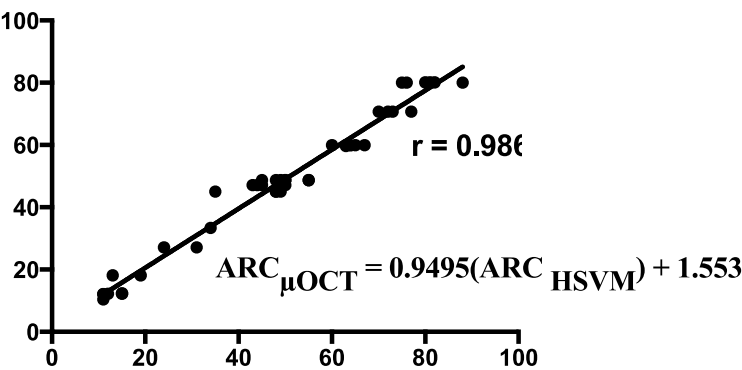


719 SUPPLEMENTARY FIGURE:

720 SUPPLEMENTARY FIGURE 1:



721

722 **Supplemental Figure 1:** Correlation of ARC from all WT and mutant samples comparing

723 HSVM and μOCT. n=42 data points (one data point from each tracheal sample).

724

725 **VIDEO LEGENDS:**

726 **Supplementary Video 1:** Representative HSVM of tracheal ROI from *Ccdc39*<sup>-/-</sup> mice (Top

727 Panel) and *Ccdc39*<sup>+/+</sup> littermate control mice (Lower Panel). Playback rate is 30 fps

728 **Supplementary Video 2.** Representative  $\mu$ OCT video of tracheal ROI from *Ccdc39*<sup>+/+</sup>

729 littermate control mice (Left Panel) and *Ccdc39*<sup>-/-</sup> mice (Right Panel). Playback rate is 40 fps

730 **Supplementary Video 3:** Representative HSVM of tracheal ROI from *Dnah5*<sup>-/-</sup> (Top Panel) and

731 from *Dnah5*<sup>+/+</sup> littermate control mice (Lower Panel). Playback rate is 30 fps.

732 **Supplementary Video 4.** Representative  $\mu$ OCT video of tracheal ROI from *Dnah5*<sup>+/+</sup> littermate

733 control mice (Left Panel) and *Dnah5*<sup>-/-</sup> mice (Right Panel). Playback rate is 40 fps

734 **Supplementary Video 5.** Representative  $\mu$ OCT video of tracheal ROI from *Dnah5*<sup>+/+</sup> littermate

735 control mice (Left Panel) and from *Dnah5*<sup>-/-</sup> mice (Right Panel) after addition of standardized

736 fluid load. Playback rate is 40 fps

737 **Supplementary Video 6.** Representative HSVM video of tracheal ROI from *Wdr69*<sup>-/-</sup> mice

738 (Top Panel) and *Wdr69*<sup>+/+</sup> littermate control mice (Lower Panel). Playback rate is 30 fps

739 **Supplementary Video 7.** Representative  $\mu$ OCT video of tracheal ROI from *Wdr69*<sup>+/+</sup>

740 littermate control mice (Left Panel) and *Wdr69*<sup>-/-</sup> mice (Right Panel). Playback rate is 40 fps

741 **Supplementary Video 8.** Representative  $\mu$ OCT video of tracheal ROI from *Wdr69*<sup>+/+</sup>

742 littermate control mice (Left Panel) and from *Wdr69*<sup>-/-</sup> mice (Right Panel) after addition of

743 standardized fluid load. Playback rate is 40 fps.

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