

Description of Additional Supplementary Files

Supplementary Movie 1. *Tg(bactin2:Arl13b-GFP)* embryos expressing GFP in motile cilia were microinjected at one-cell stage with control MO and subjected to time-lapse imaging for 2 min (67 frames/sec) with a multiphoton confocal microscope. Dorsal view anterior to the left. Scale bar = 7.5 μm .

Supplementary Movie 2. *Tg(bactin2:Arl13b-GFP)* embryos expressing GFP in motile cilia were microinjected at one-cell stage with *cx43* MO and subjected to time-lapse imaging for 2 min (67 frames/sec) with a multiphoton confocal microscope. Dorsal view anterior to the left. Scale bar = 7.5 μm .

Supplementary Movie 3. *Tg(foxj1a:GCaMP6s)* embryos expressing a calcium indicator (GCaMP6s) in ECs were microinjected at one-cell stage with control MO and subjected to time-lapse imaging for 3 min (20 frames/min) with a confocal microscope. Dorsal view anterior to the left. Scale bar = 20 μm .

Supplementary Movie 4. *Tg(foxj1a:GCaMP6s)* embryos expressing a calcium indicator (GCaMP6s) in ECs were microinjected at one-cell stage with *cx43* MO and subjected to time-lapse imaging for 3 min (20 frames/min) with a confocal microscope. Dorsal view anterior to the left. Scale bar = 20 μm .