



Supplementary information, Figure S11 Cofilin 1 reverses the ciliary defects in zebrafish injected with *NudC* MO-2. Embryos were injected with *Ctrl* MO (4 ng), *cofilin 1* MO-2 (2.5 ng), *NudC* MO-2 (4 ng), or *NudC* MO-2 (4 ng) plus *cofilin 1* mRNA (25 pg) and harvested at the indicated times. (A, B) Bright-field micrographs showing body curvature and pericardial edema (arrow) in zebrafish injected with *cofilin 1* MO-2 at 72 hpf. Ectopic expression of *cofilin 1* mRNA rescues these ciliary phenotypes induced by *NudC* MO-2. Scale bar, 500 µm. (C, D) Percentage of the different expression patterns of *cmlc2* (C) or *lefty2* (D) mRNA reveals that cofilin 1 morphant displays defective left-right asymmetry. Exogenous expression of *cofilin 1* mRNA reverses the defective left-right asymmetry induced by *NudC* MO-2. (E, F) Immunofluorescence with anti-ace-tub antibody (green) at 8 ss shows that *cofilin 1* mRNA inhibited abnormal cilia elongation in *NudC* morphant. Scale bar, 10 µm. Cilia length in KV is measured by Image J software. Each bar represents mean ± SD of three independent experiments. n, sample size. ** $P < 0.01$; *** $P < 0.001$.