**SUPPLEMENTARY INFORMATION**

**Supplementary Figure 1** TUNEL assay detects apoptosis in hair cells.

TUNEL assay revealed that hair cells underwent apoptosis when treated with CuSO4. Nuclei were stained with DAPI. BF: bright field. Scale bar represents 20 μm.

**Supplementary Figure 2** *Tg(corola-eGFP; lyz-Dsred)* transgenic line can mark both neutrophils and macrophages.

In the *Tg(corola-eGFP; lyz-Dsred)* transgenic line, neutrophils co-expressed *lyz-Dsred* and *coro1a-GFP* and showed yellow fluorescence after these two channels were merged, while macrophages only expressed *coro1a-GFP* and showed green fluorescence. Scale bar represents 200 μm.

**Supplementary Figure 3** Most active hair cells are polar in pairs and are sensitive to flow in the P-A direction.

(A) Most hair cells that respond to the flow in the opposite direction come in pairs.

(B) The fluorescence intensity of hair cells responding to the P-A direction was significantly higher than that of hair cells responding to the A-P direction.

For (A, B), comparisons were performed using one-way ANOVA, with Tukey’s multiple comparisons test. All error bars show mean ± S.E.M.

**Additional File Movie 1** A larva with excellent rheotaxis is analyzed by the behavior analysis software.

This video shows how the software analyzed the video of a larva with excellent rheotaxis and output 87.83 points.

**Additional File Movie 2** A larva with poor rheotaxis is analyzed by the behavior analysis software.

This video shows how the software analyzed the video of a larva with poor rheotaxis and output −0.69 points.