## **Description of Additional Supplementary Files**

File Name: Supplementary Movie 1

**Description:** Example infrared videomicrography recordings of optokinetic responses in Ctrl and Tau zebrafish at 5 days post-fertilization, shown at 3 x actual speed for clarity. The video is a collage of two separate recordings for Ctrl and Tau zebrafish, made in response to identical stimuli; a linear rendering of the stimulus is shown at the top of the image for comparison. Quantitative analysis in a statistically robust sample of zebrafish is shown in Figure 6.