



**Figure 6 - figure supplement 2 | 4 Hz air-puff stimulation enhances reflexive whisker protraction for at least 30 minutes**

**A.** The variability in whisker movements is illustrated by superimposing the average whisker angle during the 100 trials before 4 Hz air-puff stimulation. The thick line indicates the median. **B.** The first 100 trials after induction of the same experiment as in **A**, showing a clear increase in whisker protraction. Violin plots showing the amplitudes (differences between maximal retraction and maximal protraction in the indicated 200 ms intervals; see **G2**) of individual trials before (**C**) and after (**D**) induction. Obviously, the most prominent whisker movements were observed in the period between 0 and 200 ms after whisker pad air-puff stimulation, as compared to the 200 ms intervals before and after this period ( $n = 16$  mice). Horizontal lines denote the 10<sup>th</sup>, 25<sup>th</sup>, 50<sup>th</sup>, 75<sup>th</sup> and 90<sup>th</sup> percentiles. Fractions of trials with movements exceeding 10° before (**E**) and after (**F**)

induction. Especially the active protraction during the first 200 ms after the stimulus is clearly enhanced. Note that the panels **A**, **C** and **E** are the same as in Figure 1 – figure supplement 1 and are displayed here to illustrate the impact of 4 Hz stimulation on whisker movements. **G1.** Averaged whisker traces (ordered per 100 trials) of seven mice where video data were available for the whole recording, showing less retraction and more protraction after induction. For clarity, only the average of the last 100 trials pre-induction is plotted. Color codes as in panel **H**. **G2.** Differential traces show that whiskers remain further protracted, but that over time this became faster. **H.** 4 Hz air-puff stimulation caused increased whisker protraction during the whole recording (30 min). The switch from retraction to protraction (calculated as the time at which the whisker were back at the resting position after the initial retraction) remained faster throughout the recording (**I**). \*  $p < 0.05$ ; \*\*\*  $p < 0.001$ .