

Figure 3-figure supplement 2

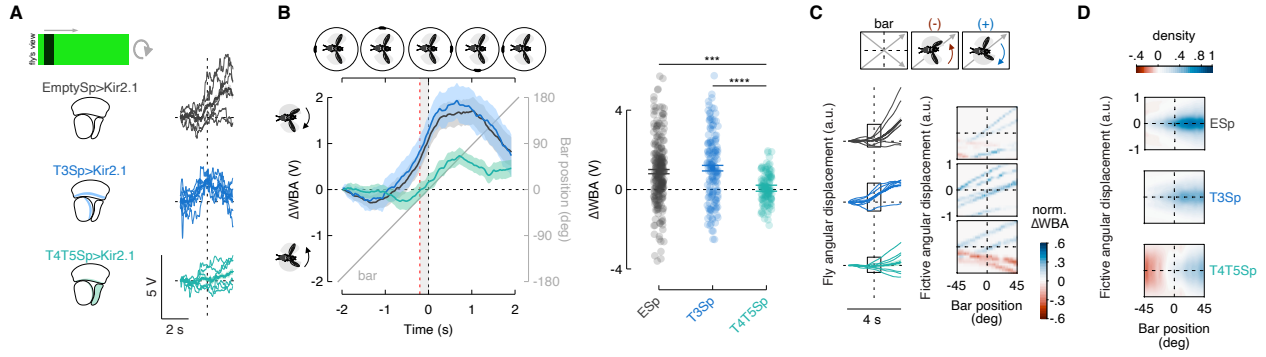


Figure 3-figure supplement 2. Hyperpolarization of T3 does not compromise the syn-directional response. **(A)** Left: representation of the visual stimulus (dark bar revolving at 90° s^{-1}). Middle: schematic representation of the optic lobe regions where Kir2.1 channels were expressed in the three genotypes tested. Right: single trials (3 repetitions \times 2 directions) of ΔWBA responses (thin lines) to rotation of a luminance-defined bar in three representative flies (T4/T5Sp>Kir2.1 data are reproduced from Keleş et al., 2018). Thick line represents the mean (responses to CCW rotations were reflected and pooled with CW responses). Vertical dashed lines indicate when the bar is at the fly's visual midline while the horizontal ones represent $\Delta\text{WBA} = 0$. **(B)** Left: population average time-series steering responses (mean \pm s.e.m.) in the three genotypes tested (T4/T5Sp data replotted from Keleş et al., 2018) to a luminance-defined bar. Gray shaded region (between vertical red and black dashed lines) represents a 200 ms time window before the bar crosses the fly's visual midline ($n = 44$ EmptySp>Kir2.1, $n = 26$ T3Sp>Kir2.1, $n = 22$ T4/T5Sp>Kir2.1). T4/T5Sp>Kir2.1 reduces syn-directional anticipatory steering, whereas T3Sp>Kir2.1 shows normal syn-directional steering. Right: dot plot average ΔWBA values across the 200 ms time window per trial. Dark dots indicate the mean and the horizontal bars indicate s.e.m. ($F_{(2,89)} = 14.48$, $p < .0001$; EmptySp vs T3Sp, $p = .94$, Cohen's $d = -.12$; EmptySp vs T4/T5Sp, $p < .0001$, Cohen's $d = .58$; T3Sp vs T4/T5Sp, $p < .0001$, Cohen's $d = .70$). **(C)** Left: arbitrary fly angular displacement (thin lines) resulting from the integration of ΔWBA values over time in three representative flies. Thick lines represent the mean. Right: Plot of the normalized fly angular displacement within the gray shaded boxes highlighted to the left as function of the bar position. Color-code represents direction and magnitude of the normalized ΔWBA (red: counter-directional; blue: syn-directional). **(D)** Heatmaps of flies' steering effort at the population level in the three genotypes as function of the fictive fly angular displacement and bar position. EmptySp and T3Sp flies show a strong syn-directional response (blue blob) while T4/T5Sp flies show a late counter-directional response and a weak syn-directional response.