



**Figure S4 Experience-dependent changes in FlincG3 fluorescence at AFD thermosensory neuron endings in response to a temperature ramp.**

(A) Changes in FlincG3 fluorescence at the tips (blue traces) and cell bodies (gray traces) of AFD neurons in response to a rising linear temperature ramp (black dashed lines). The slope of the ramp was  $0.01^\circ$  per s. Bolded blue and black traces indicate the average response, thinner traces indicate responses of individual neurons. Animals were cultivated overnight at temperature ( $T_c$ ) of  $15^\circ$  (top) or  $25^\circ$  (bottom).  $n=11$  and  $n=10$  animals cultivated at  $T_c = 15^\circ$  and  $T_c = 25^\circ$ , respectively. Note that transgenic lines examined here were generated independently from those shown in Figure 3. (B) Area under the curve measurements of the AFD neuron tip are different from measurements in the cell body. Horizontal bars indicate mean area under the curve, top and bottom of vertical bar indicates upper and lower quartile, respectively. \*\* indicates mean different

from 0 at  $p < 0.01$  (mean p-value from bootstrap t-test). # and ## indicate tip different from cell body at  $p < 0.05$  and  $p < 0.01$  respectively (two sample t-test).