

Supporting Information

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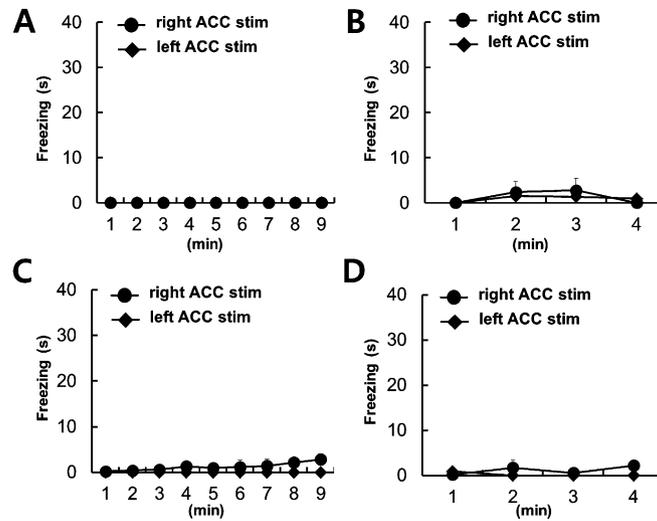
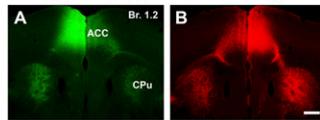


Fig. S1. Anterior cingulate cortex (ACC) stimulation alone does not evoke freezing behavior. (A and B) Electrical stimulation in left ($n = 7$) or right ($n = 5$) ACC evoked no freezing behavior in mice without the presence of demonstrator mice during observational fear conditioning ($F_{1,10} = 0$, $P = 1$; A) and on the next day during the 24-h contextual memory test ($F_{1,10} = 0.108$, $P = 0.749$; B). (C and D) Electrical stimulation in left ($n = 4$) or right ($n = 4$) ACC evoked no freezing behavior in mice when the demonstrator mice received no foot shocks during the conditioning phase ($F_{1,6} = 2.603$, $P = 0.158$; C) and 24-h later during the memory recall test ($F_{1,6} = 1.152$, $P = 0.324$; D). Error bars represent SEM.

Phal injection sites in the left and right ACC



Distribution of Phal-labelled corticothalamic axons from ACC

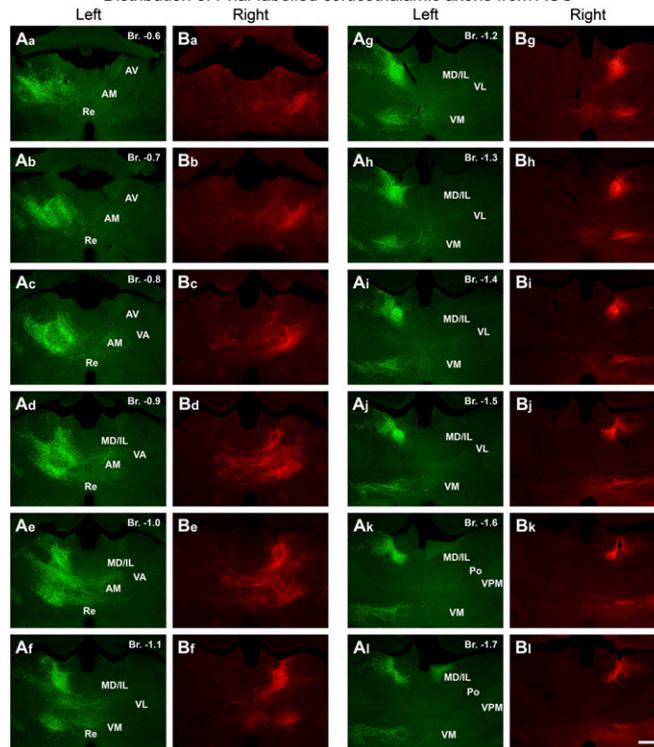


Fig. S2. No difference in the corticothalamic projections of the left and right ACC. The anterograde tracer *Phaseolus vulgaris leucoagglutinin* (Phal) was injected into the left (A, green) and right (B, red) ACC at the same anteroposterior level. The anterior thalamic regions receiving ACC fibers are shown on coronal sections with 100- μ m intervals. No difference can be observed in the thalamic innervation patterns between the left and right sides. The corticothalamic fibers are distributed in the anteromedial (AM; A, a-e and B, a-e) and mediodorsal/intralaminar (MD/IL; A, d-l and B, d-l) thalamic nuclei (respectively). Corticothalamic axons from both left and right ACC target the contralateral AM (A, b-e and B, b-e) to a lesser extent. AV, anteroventral thalamic nucleus; CPU, caudate putamen (striatum); Po, posterior thalamic nucleus; Re, reuniens thalamic nucleus; VL, ventrolateral thalamic nucleus; VM, ventromedial thalamic nucleus; VPM, ventral posteromedial thalamic nucleus. (Scale bars, 500 μ m.)

