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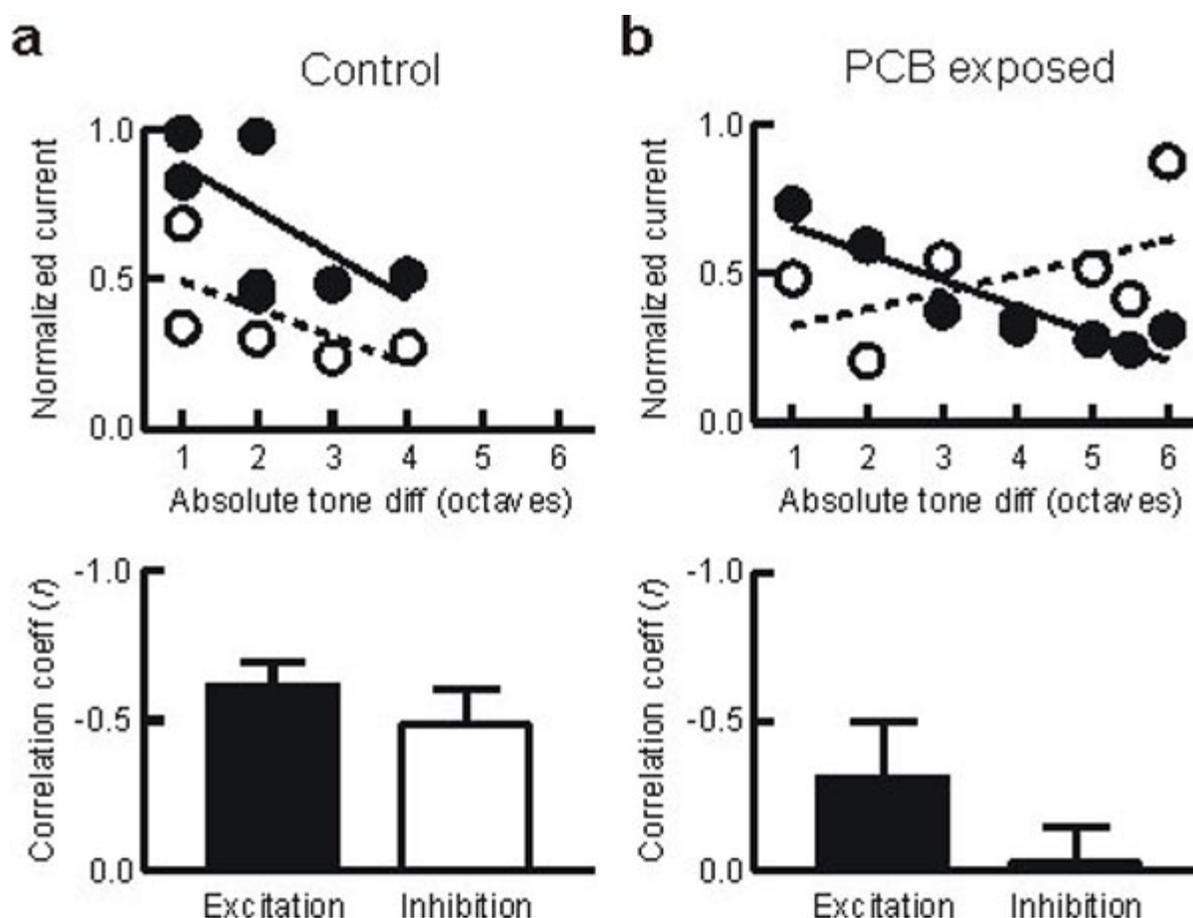
## Supporting Information

### Files in this Data Supplement:

[SI Figure 6](#)

[SI Figure 7](#)

[SI Figure 8](#)



**Fig. 6.** Disruption of frequency tuning profiles after PCB exposure. (a) Inverse correlation between tone distance (in octaves) from best frequency and normalized excitatory (filled circles) and inhibitory (open circles) currents in control animals. (Upper) Normalized currents from one A1 neuron (same cell as shown in Fig. 3a Upper). Currents were normalized to the magnitude of excitation or inhibition at the best frequency. Linear correlation coefficients: excitation, 0.68; inhibition, 0.64. (Lower) Summary of correlation coefficients for excitation ( $0.62 \pm 0.08$ ) and inhibition ( $0.49 \pm 0.11$ ) for control cells ( $n = 16$ ). (b) As in a but for PCB-exposed animals. (Upper) Normalized currents from same cell as shown in Fig. 3b Upper. Linear correlation coefficients: excitation, 0.91; inhibition, -0.51. (Lower) Summary of correlation coefficients for excitation ( $0.31 \pm 0.18$ ) and inhibition ( $0.03 \pm 0.12$ ) for PCB-exposed cells ( $n = 10$ ).

### SI Figure 7

**Fig. 7.** RF selectivity in tone and noise-exposed groups. (a) (*Upper*) Continuity of RF (see Fig. 2d legend) in control noise-exposed rats; 55% of the sites were continuous. (*Lower*) Continuity in noise-exposed PCB95 rats; only 35% of the sites were continuous ( $P < 0.003$ ). (b) Bandwidths as a function of attenuation. Red, tone-exposed; blue, noise-exposed; open circles, controls; filled diamonds, PCB95 group. \*,  $P < 0.02$ .

### SI Figure 8

**Fig. 8.** There is no peripheral hearing loss in PCB95-exposed animals. (a) ABRs to clicks. Shown are peak latency differences for controls (orange) versus PCB95-exposed rats (blue). There was no significant difference between the groups for any of the peak latencies. (b) ABR thresholds to simple tones, using 5-dB steps; thresholds were identical and stable across rats for both groups. (c) ABR results were confirmed with cortical thresholds that once again were identical between groups. All three panels show mean results from all three sound-exposure experiences (quiet, tone-exposed, and noise-exposed). Auditory experience did not alter any of the above results.