

Supplementary materials

**Taurine Transporter dEAAT2 is Required for Auditory Transduction in
*Drosophila***

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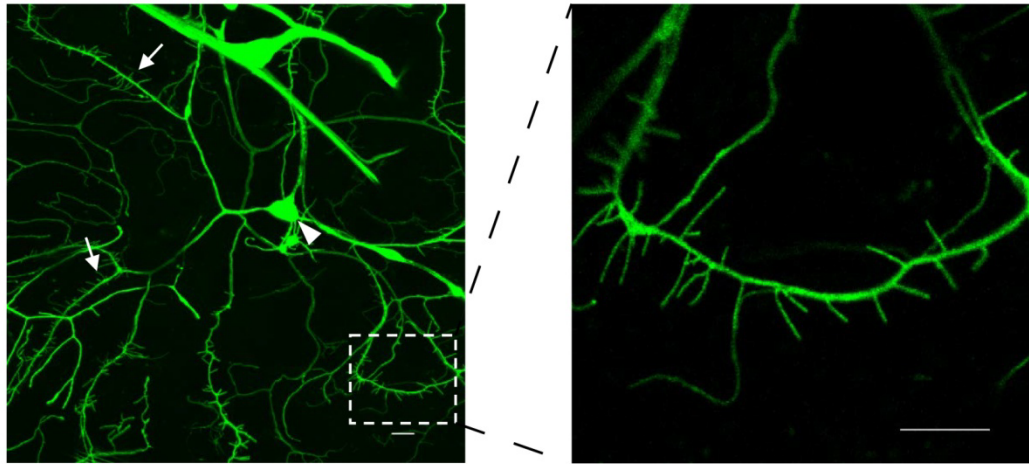
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dEAAT2-Gal4 > UAS-CD8-GFP

A



B

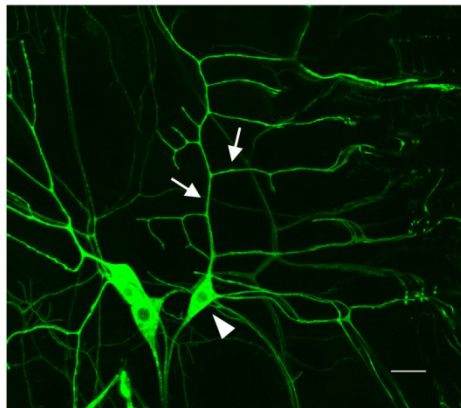


Fig. S1 *dEAAT2* is expressed in multidendritic neurons. **A** Left: class III dendritic arborization (da) neuron (ddaA shown here) labeled by *dEAAT2-Gal4*. Right: high magnification image from region in the left panel showing the spike-like protrusions, which are the hallmark of class III neurons. Arrowhead, cell body; arrows, spike-like protrusions. **B** Class I da neuron labeled by *dEAAT2-Gal4*. Arrowhead, cell body; arrows, dendrite. Green indicates GFP signals. (Scale bars, 10 μm)

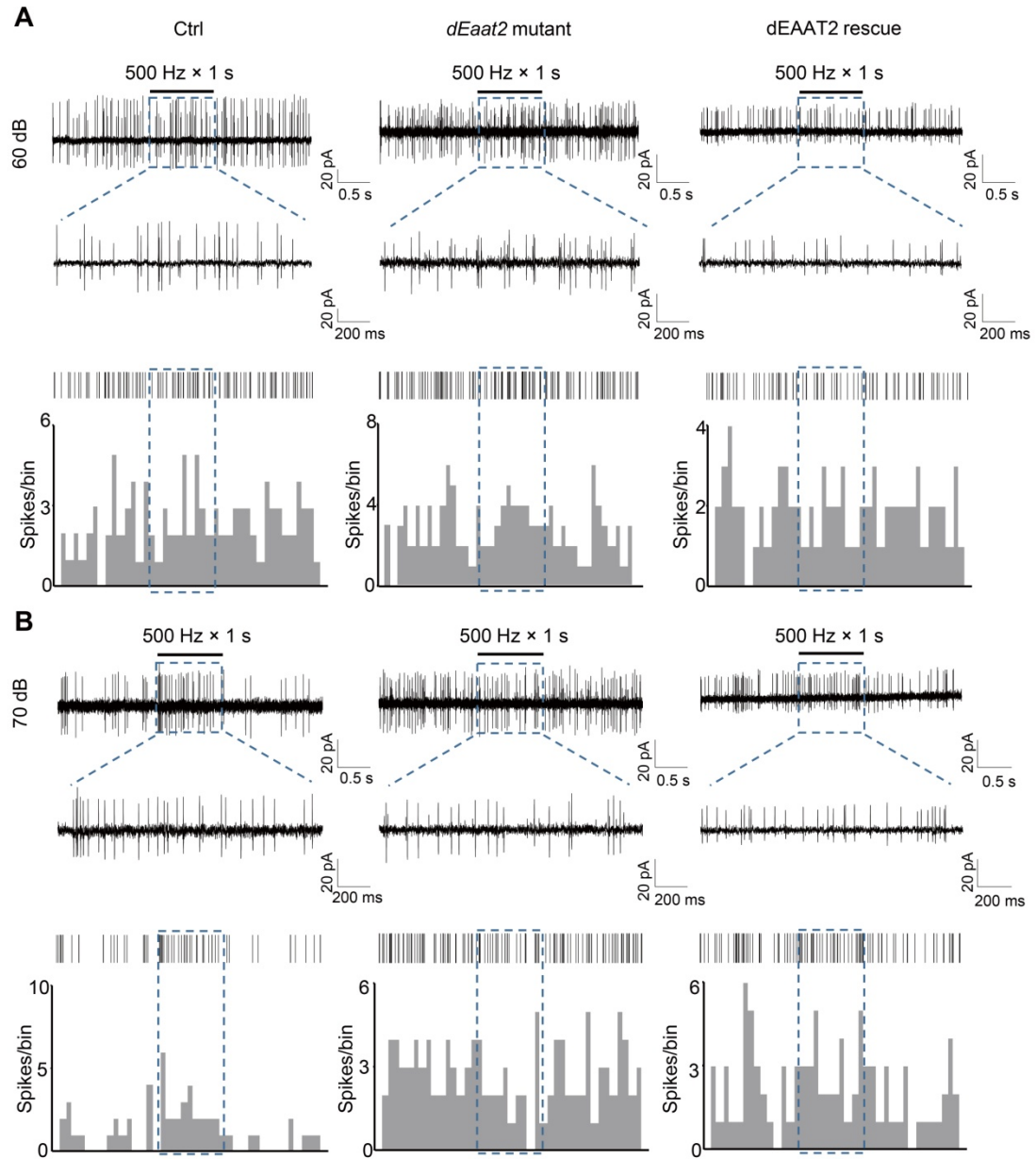


Fig. S2 Action potential firing responses of *vchA* chordotonal neurons to a 500-Hz sound at 60 (**A**) and 70 dB (**B**) in control (left), *dEaat2* mutant (center), and dEAAT2 rescue (right) larvae. Upper panels: original traces; middle panels: raster plots of spikes; lower panels: post-stimulus time histograms of spikes (bin width, 100 ms). Black bars, sound stimulation; blue boxes and dashed lines indicate expanded views of spiking activity during prolonged delivery of a 500-Hz sound. Ctrl: +/+; *NOMPC-Gal4/UAS-CD8-GFP*. *dEaat2* mutant: *dEaat2^{MI}/dEaat2^{MI}*;

NOMPC-Gal4/UAS-CD8-GFP. dEAAT2 rescue: *dEaat2^{MI}/dEaat2^{MI}*;

NOMPC-Gal4/UAS-dEAAT2-EGFP.

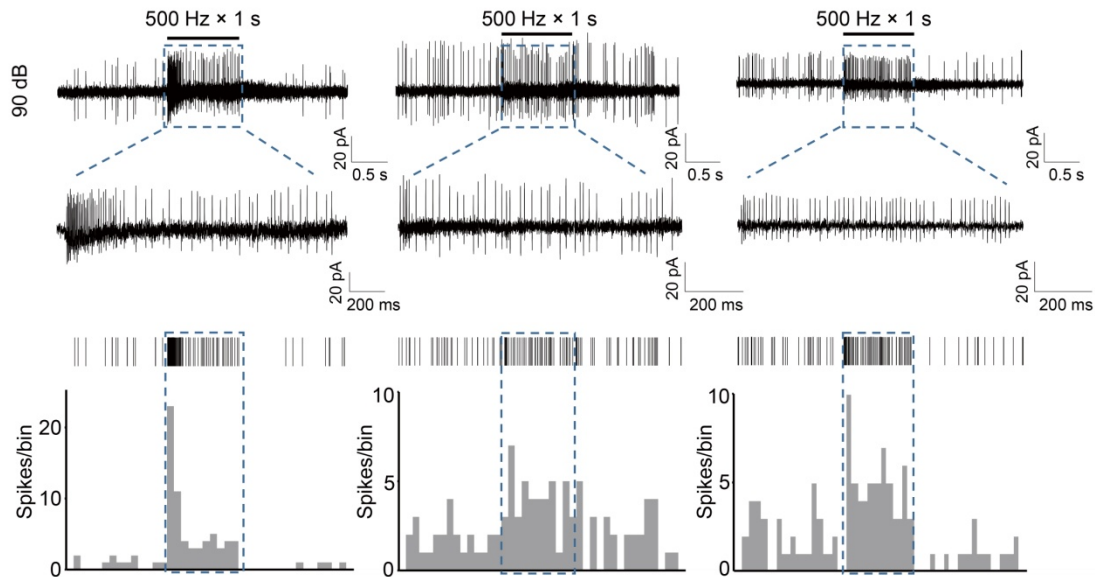


Fig. S3 Action potential firing responses of vchA chordotonal neurons to a 500-Hz sound of 90 dB in control (left), *dEaat2* mutant (center), and dEAAT2 rescue (right) larvae. Upper panels: original traces; middle panels: raster plots of spikes; lower panels: post-stimulus time histograms of spikes (bin width, 100 ms). Black bars, sound stimulation; blue boxes and dashed lines indicate expanded views of spiking activity during a prolonged delivery of 500-Hz sound. Ctrl: +/+;

NOMPC-Gal4/UAS-CD8-GFP. *dEaat2* mutant: *dEaat2^{MI}/dEaat2^{MI}*;

NOMPC-Gal4/UAS-CD8-GFP. dEAAT2 rescue: *dEaat2^{MI}/dEaat2^{MI}*;

NOMPC-Gal4/UAS-dEAAT2-EGFP.

Movie S1 Larval startle response to a 500-Hz sound at 90 dB.