

**Supplemental Figure 1. Bodyweight data for males and females undergoing AIE and indomethacin treatment.** All rats gained weight across the study with females weighing less than males at every timepoint. Indomethacin treatment did not impact bodyweight measures at any timepoint across either sex or within either treatment group. AIE-treated males did weigh significantly less than water-treated control counterparts after PND 37, as seen in previous studies. However, this bodyweight reduction was minimal (AIE-VEH males weighed <7% less than to CON-VEH males), and there were no differences in bodyweight between AIE and CON-treated females. Data are expressed as mean±SEM.

**Supplemental Figure 2. A.** Basal forebrain cholinergic neurons include the medial septum, ventral diagonal band, medial forebrain bundle, and the horizontal diagonal band of Broca, +0.7 mm to +0.2 mm anterior-posterior (AP) (highlighted in green) from bregma. **B.** The superior and inferior blades of the granule cell layer of the dorsal dentate gyrus were assessed for quantification of VAcHT, DCX, HMGB1, and COX-2 (highlighted in gray). Somatostatin interneurons which regulate activity in the dorsal dentate gyrus are located immediately superior to the inferior blade in the hilar region. Thus, the hilus was quantified selectively for somatostatin. As such, all references to the hippocampus selectively refers to these respective subregions. These hippocampal subregions were visualized on coronal sections using the AP coordinates from bregma -3.14 mm to -3.80 mm with the exception of COX-2 which was more selectively quantified from -3.6 mm to -3.6 mm due to the high variability of COX-2+ neurons across the septotemporal axis.