Supplementary Figure S9. TBS treatment rescues a synaptic loss in CA1_{PV} from AD mice. (a) Synaptophysin (SYT)-labeled presynaptic terminals (pink) in the CA1 hippocampus from control and AD mice, in which eGFP was expressed in the CA1_{PN} (green). (b, c) Presynaptic terminals (b) and postsynaptic spines (c) in the CA1_{PN} were analyzed in the CA1 sl region from control and AD mice. The mice were treated with (AD/TBS) or without (AD/non-TBS). Data are mean ± SEM (n = 4 mice per group, *p < 0.001, t-tests). (d) Representative images of a CA1 hippocampus from control and AD mice that expressed eGFP in CA1_{PV} cells. The mice were treated with (AD/TBS) or without (AD/non-TBS). Images show the spines in the PV dendritic branches in the CA1 sl region, a terminal projection zone of ECI\_PN. (e) Spine densities in the CA1_{PV} of AD are reduced and rescued by TBS treatment. Data are mean ± SEM (n = 4 mice per group, *p < 0.001, t-tests). In this study, AD/ECII_{PN}^{ChrR2+} (AD mice) mice were crossed with the CaMK-II\alpha-Cre (a) or the PV-Cre (d) mice and stereotaxically injected with 2 μl of a high titer of the lenti-eGFP^{loxP/loxP} virus particles (3 × 10^{11} genomic particles/ml) in the CA1 region, resulting in eGFP expression in the CA1_{PN} or the CA1_{PV} of AD/ECII_{PN}^{ChrR2+} mice. Presynaptic terminals and the dendritic branches (20 μm segment) from the CA1_{PN} (50 segments per animal) and the CA1_{PV} (50 segments per animal) in the sl region were studied. The averaged spine densities (spines per 10 μm² length of dendrites) was analyzed 25 days after 35-days TBS treatment.

so: stratum oriens; sp: stratum pyramidale; sr: stratum radiatum; sl: stratum lacunosum; sm: stratum moleculare.