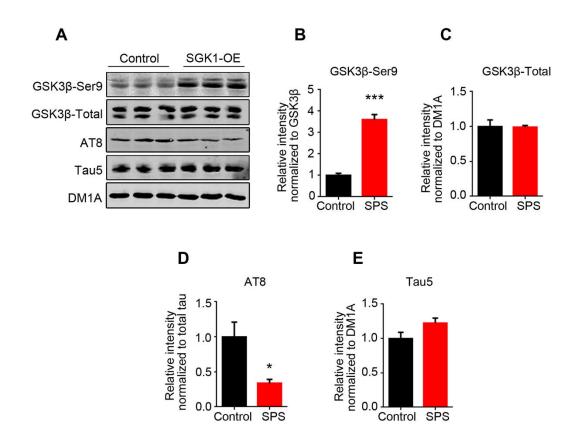
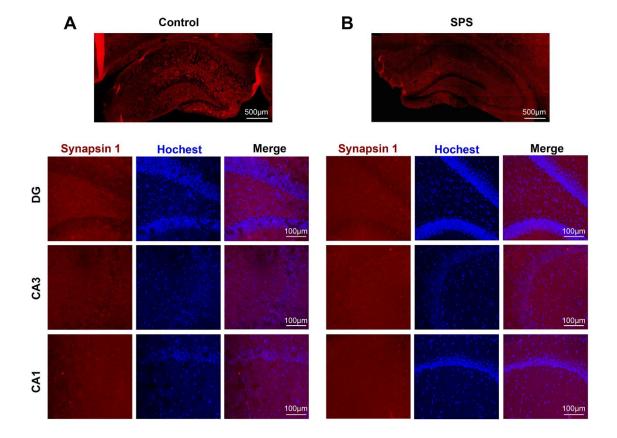
## **SUPPLEMENTARY FIGURES**



Supplementary Figure 1. Overexpression of SGK1 inhibits the GSK3 $\beta$  in HEK293/tau cells. HEK293/Tau cells were transfected with SGK1. (A) Western blot was performed to detect GSK3 $\beta$  and tau. SGK1 overexpression increased phosphorylation of GSK3 $\beta$  at Ser9 and decreased phosphorylation of tau at Ser202/Thr205 (AT8). (B–E) Quantitative analysis for blots in A.



Supplementary Figure 2. Synapsin 1 in hippocampus of SPS rats. Immunofluorescence images stained with synapsin 1 (red) in hippocampus of control (A) and SPS rats (B). Nuclei were counterstained in hochest (blue). Upper row scale bar, 500μm; lower row scale bar, 100μm