

Supplementary Data

Endoplasmic Reticulum Stress Induces Tau Pathology and Forms a Vicious Cycle: Implication in Alzheimer's Disease Pathogenesis

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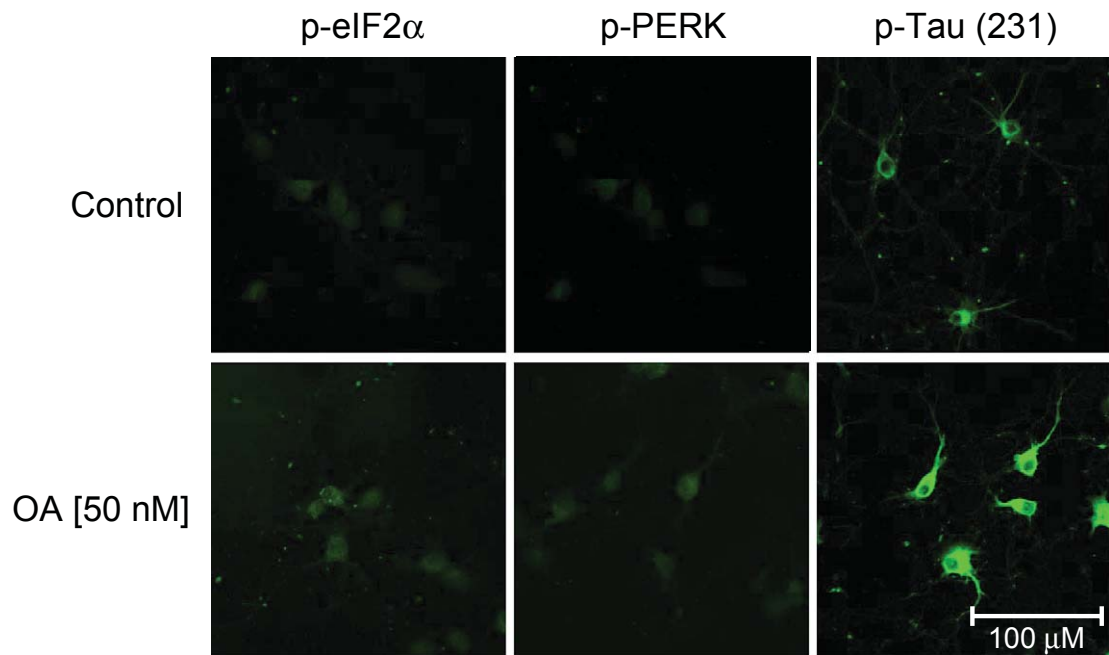
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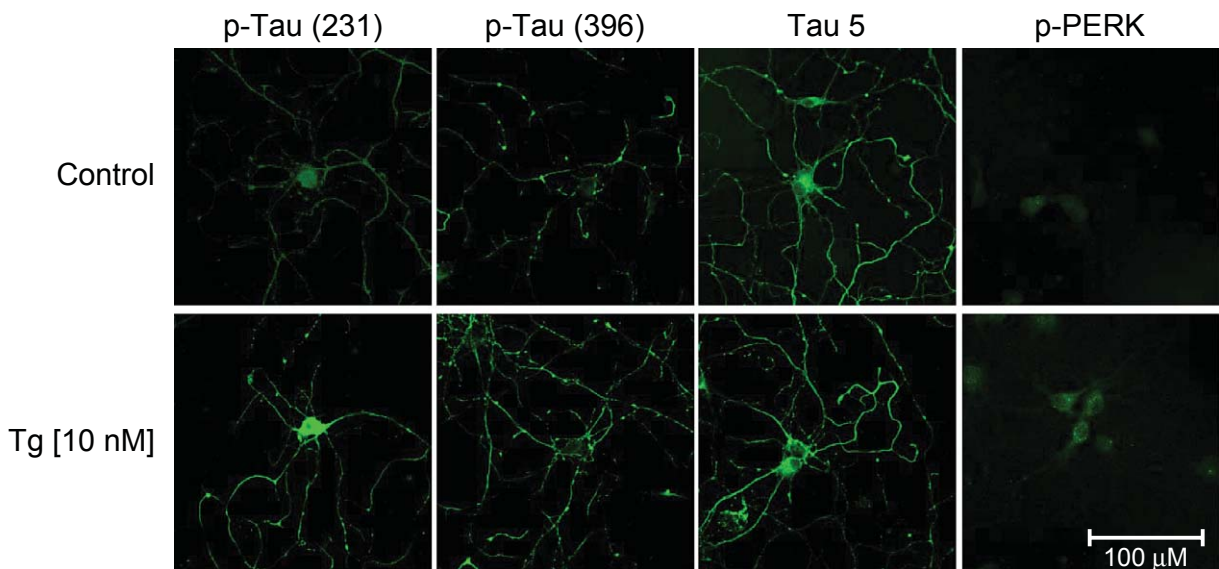
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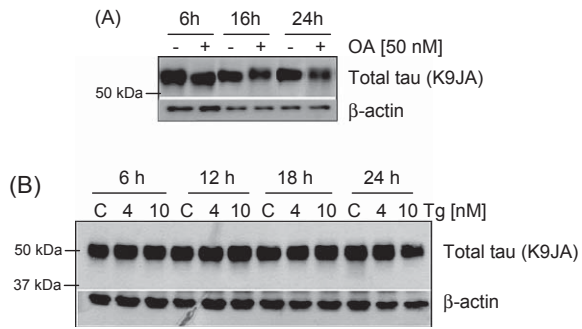
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Supplementary Figure 1. Okadaic acid (OA)-induced hyperphosphorylation of tau led to endoplasmic reticulum-stress in primary cultures of hippocampal neurons. OA (50 nM) was added to neuronal cultures and incubated for 6 h to induce tau hyperphosphorylation. The neurons were fixed with 4% paraformaldehyde and stained with specific antibodies against p-eIF2 α , p-PERK, and p-Tau (231). Representative photos of each group are shown, magnification = 400X. The level of p-Tau (231) was markedly increased in the OA-treated group. In the same time, the levels of p-eIF2 α and p-PERK were also increased.



Supplementary Figure 2. Thapsigargin (Tg)-induced unfolded protein response (UPR) and phosphorylation of tau in primary cultures of hippocampal neurons. Thapsigargin (10 nM) was added to neuronal cultures and incubated for 6 h to induce endoplasmic reticulum-stress. The neurons were fixed with 4% paraformaldehyde and stained with specific antibodies against p-Tau (231), p-Tau (396), Tau 5, and p-PERK. Representative photos of each group are shown, magnification = 400X. The level of p-PERK, a UPR marker, was elevated in the thapsigargin-treated group. In the same time, the levels of p-Tau (231) and p-Tau (396) were also increased. The level of total tau, which was detected by the Tau 5 antibody, remained unchanged.



Supplementary Figure 3. Levels of total tau were further confirmed by using the K9JA antibody. A) The pattern of total tau detected by K9JA antibody in okadaic acid (OA)-treated cultures was similar to those detected by the Tau 5 antibody in Fig. 2A. B) The pattern of total tau detected by K9JA antibody in thapsigargin (Tg)-treated cultures was similar to those detected by the Tau 5 antibody in Fig. 3E.