Supplementary Information

In-depth Multimodal Validation of ^{18}F-THK5351 for Imaging MAO-B-mediated Reactive Astrogliosis in Alzheimer's and Related Neurodegenerative Diseases

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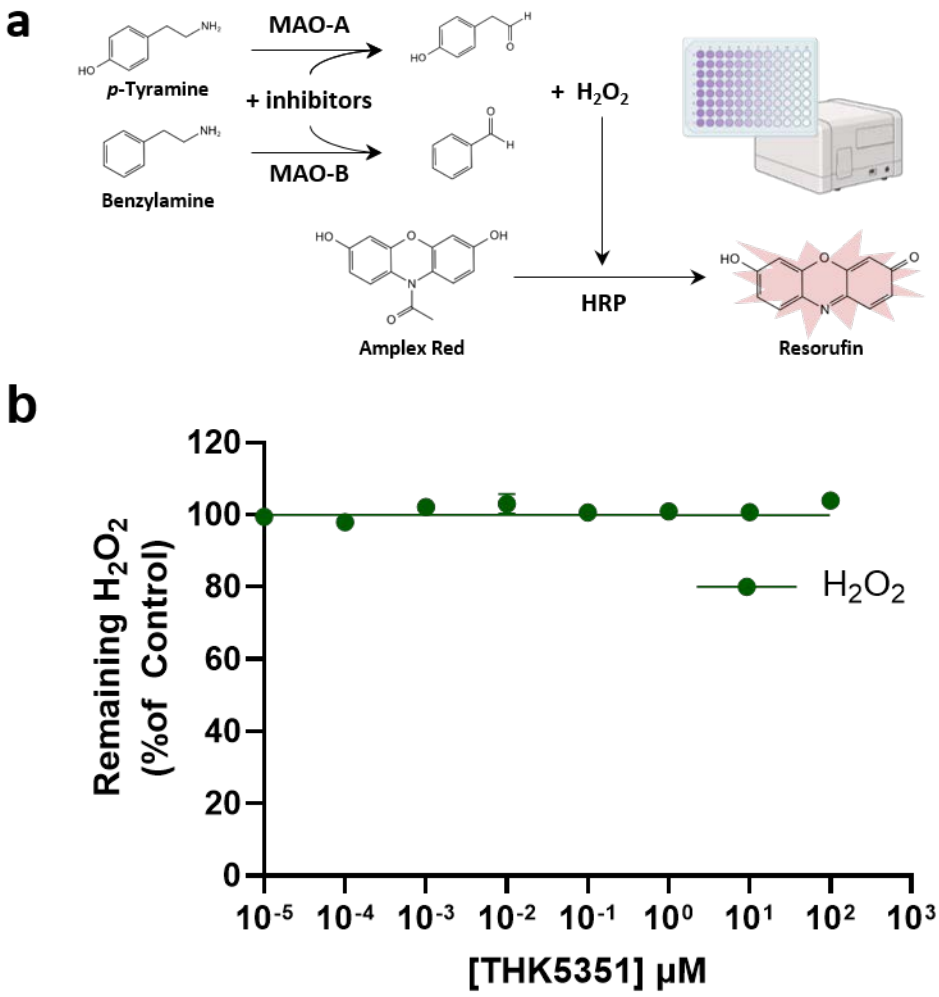
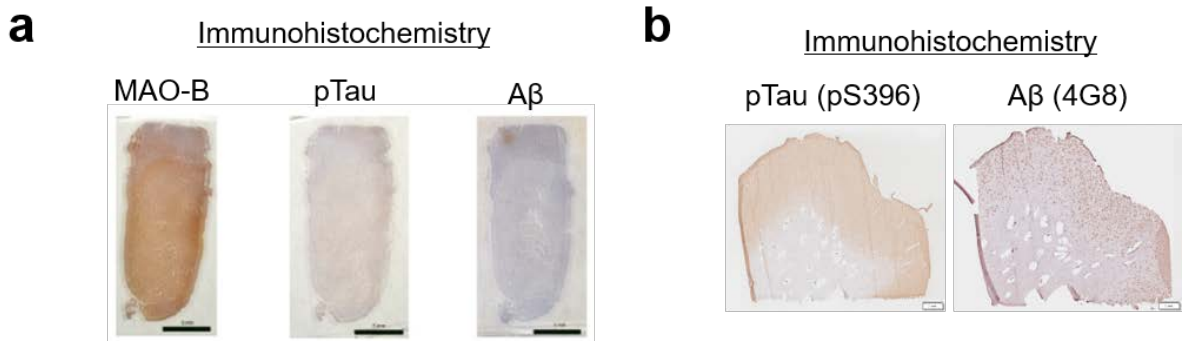
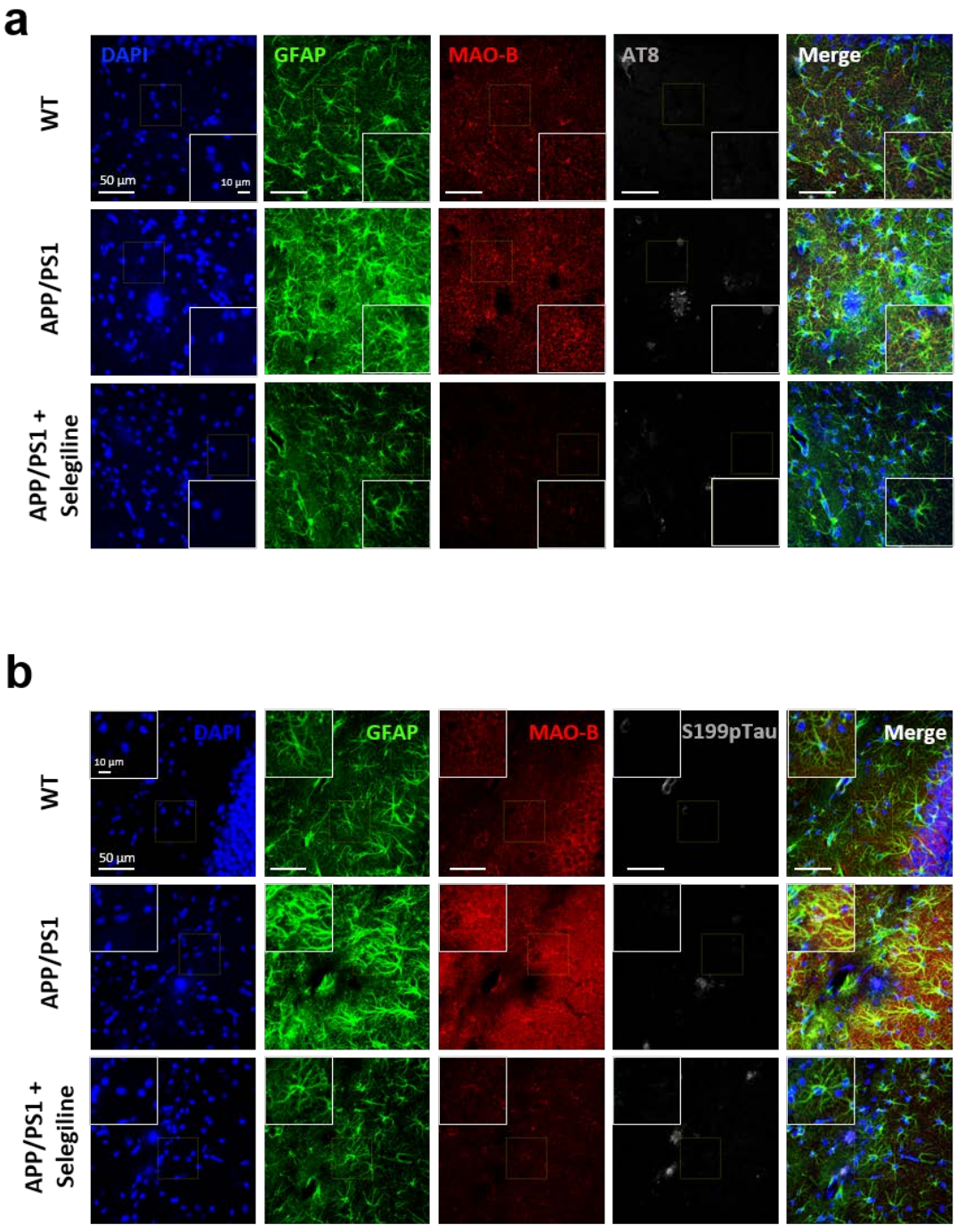


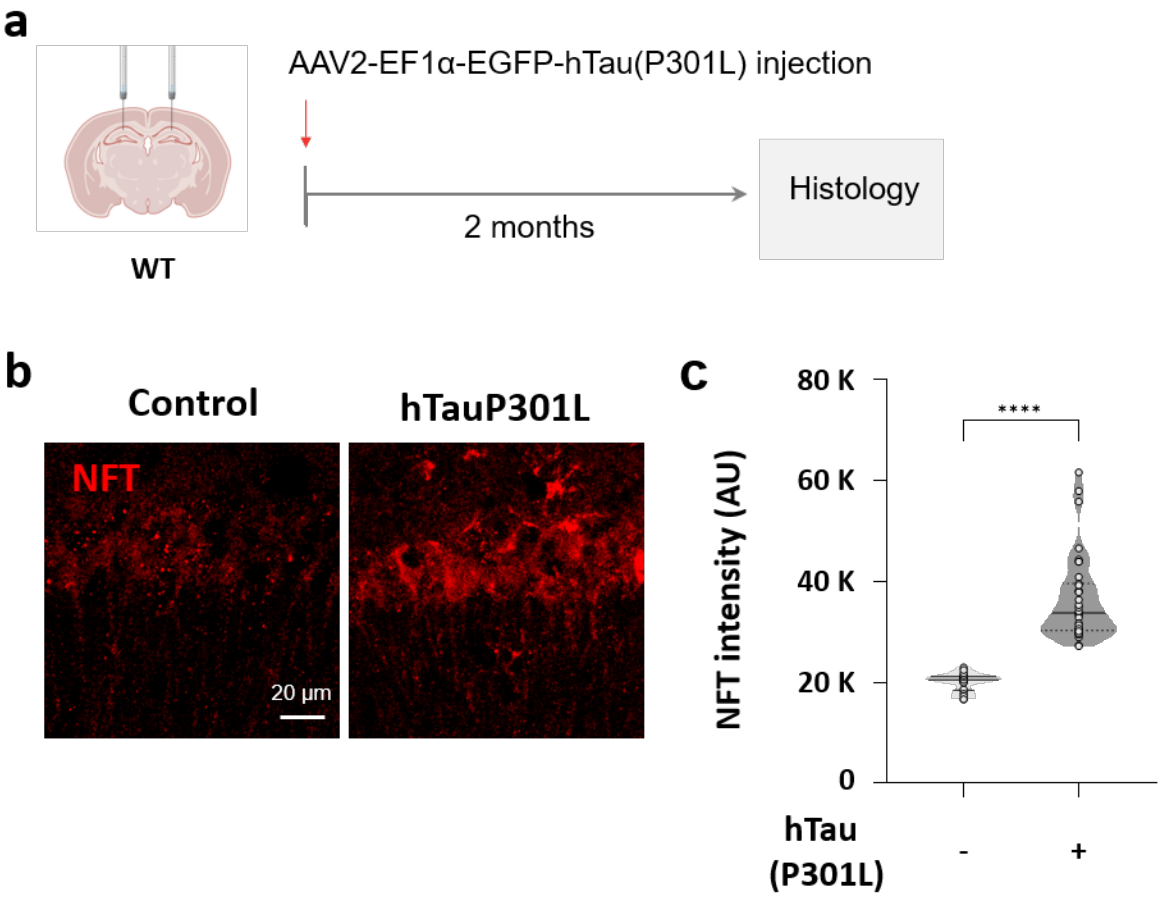
Supplementary Figure 1. Enzyme activity assay of THK5351. a. Schematic description of MAO-A and MAO-B enzyme assay. **b**. Amplex Red H_2O_2 assay with THK5351. Data are presented as the mean ± s.e.m.



Supplementary Figure 2. IHC images of human brain section. a. IHC images of MAO-B, pTau and Aβ in human basal ganglia tissue. **b.** IHC images of pTau(S396) and Aβ in human AD brain tissue.



Supplementary Figure 3. Long-term treatment of selegiline efficiently inhibits the reactivity of astrocytes and the expression of MAO-B in APP/PS1 mice. a, b. Representative IHC images of GFAP, MAO-B and pTau(AT8 (**a**), S199 (**b**)) in selegiline-treated APP/PS1 mice brain.



Supplementary Figure 4. Overexpression of mutated tau protein, hTauP301L, in hippocampal CA1 region induces neurofibrillary tangle formation. a. Schematic description of hTauP301L virus injection. **b.** IHC image of NFT in hTauP301L virus injected mice or control mice hippocampus. **c.** Quantification of NFT intensity. Data are shown as violin plots with individual points, median, and interquartile range (25th-75th) indicated. ****$P < 0.0001$.