Supporting Information

Clavaguera et al. 10.1073/pnas.1301175110

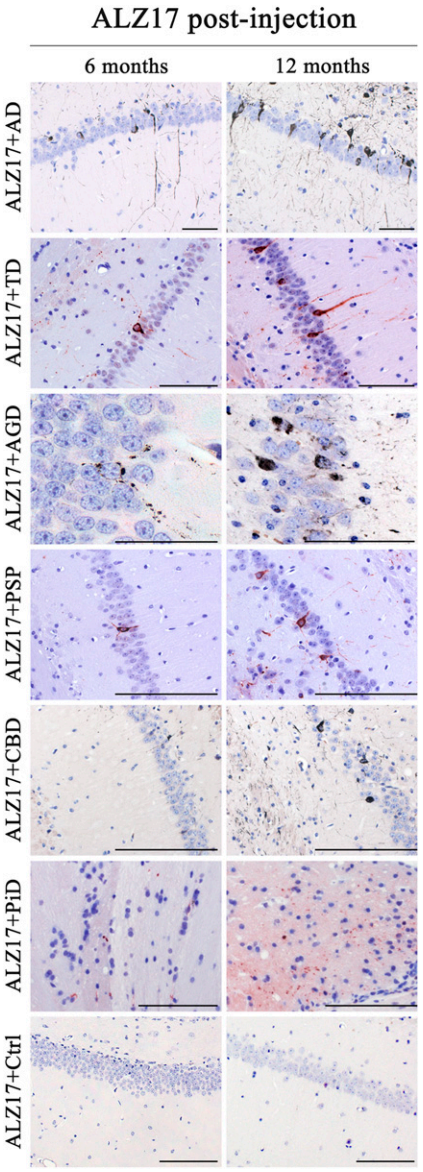

Fig. S1. Increase of the induced tau lesions over time in brains of mice transgenic for wild-type human tau (ALZ17 line) injected with human tau extracts 6 mo (*Left* column) and 12 mo (*Right* column) after injection. Gallyas-Braak silver impregnation in Alzheimer's disease (AD)-, argyrophilic grain disease (AGD)-, and corticobasal degeneration (CBD)-injected mice revealed a time-dependent increase in the number of tau lesions. The same phenomenon was observed after AT100 immunohistochemistry in tangle-only dementia (TD)-, progressive supranuclear palsy (PSP)-, and Pick's disease (PiD)-injected mice. Gallyas-Braak silver impregnation of an ALZ17 mouse injected with brain homogenate prepared from a control brain did not detect any tau pathology. (Scale bars, 100 μm.) Sections were counterstained with hematoxylin.

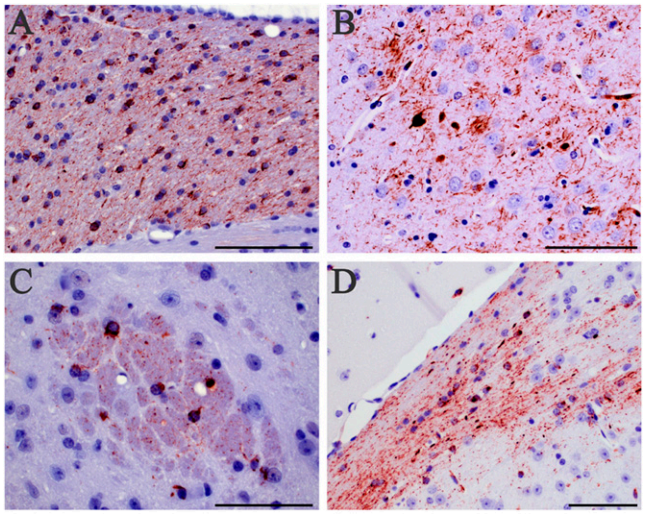

Fig. S2. Propagation of neuronal tau inclusions in ALZ17 mice following the intracerebral injection of brain homogenates from sporadic human tauopathies. AT100 antitau-immunostaining of (*A*) the fimbria, (*B*) the entorhinal cortex, and (*C*) the fornix 12 mo after the injection of brain homogenate prepared from an AGD case and (*D*) the optic tract 12 mo after the injection of brain homogenate prepared from an AD case. (Scale bars, 100 μm.) Sections were counterstained with hematoxylin.

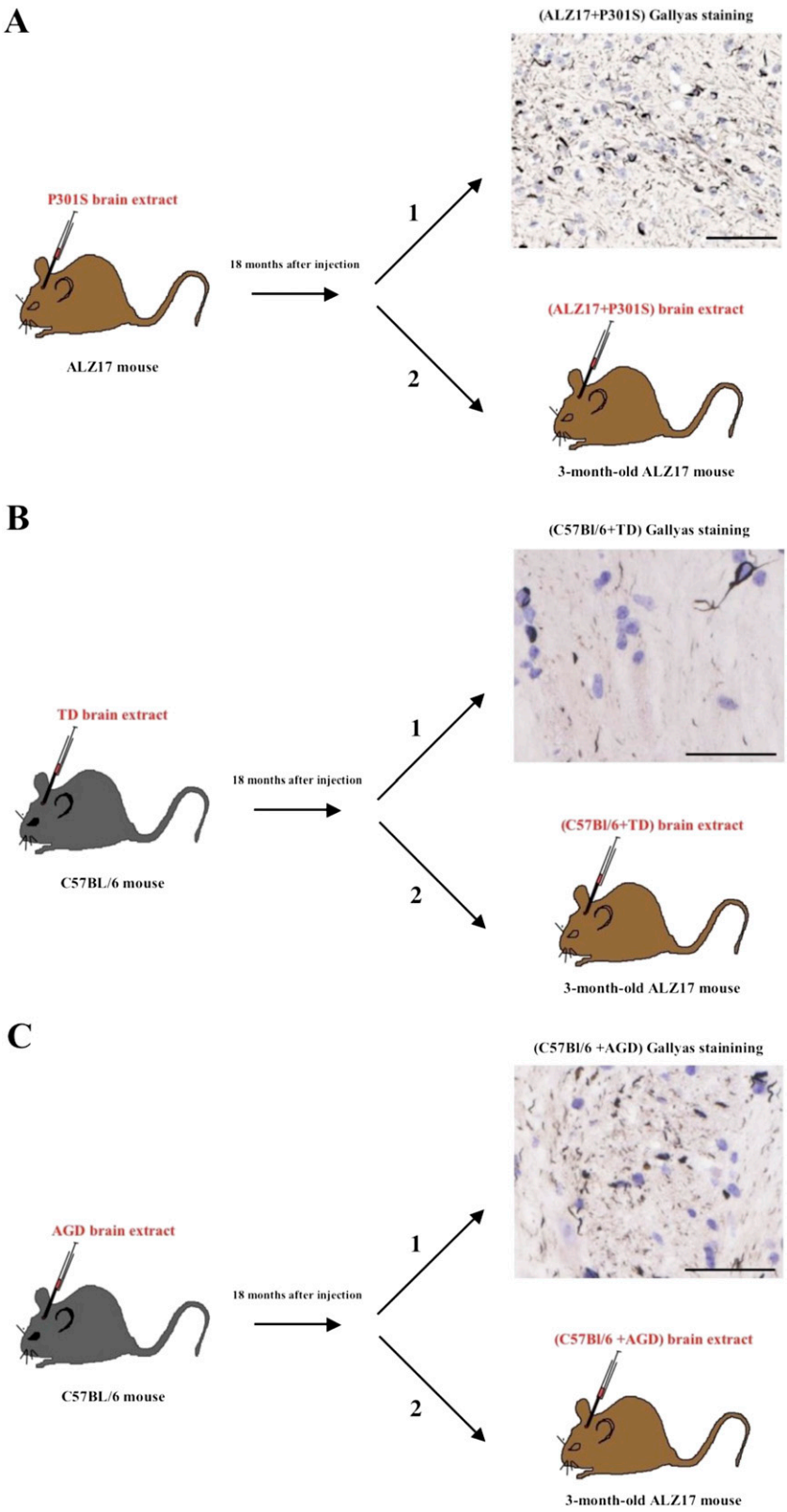

Fig. S3. Serial transmission of filamentous tau. (*A*) Preparation of brain extract from an ALZ17 mouse injected with brain homogenate from a mouse transgenic for human mutant P301S tau (*Left*). The ALZ17 mouse was killed 18 mo after bilateral intracerebral injection of brain homogenate. (*1*) Gallyas-Braak silver impregnation was performed on the paraffin-embedded brain hemisphere to verify the induction of filamentous tau pathology. (*2*) Brain homogenate (10% in PBS, wt/vol) was prepared from the frozen hemisphere and injected intracerebrally into 3-mo-old ALZ17 animals. (*B*) Preparation of brain extract from a C57BL/6 mouse injected with TD human brain homogenate (*Left*). The C57BL/6 mouse was killed 18 mo after bilateral intracerebral injection of brain homogenate. (*1*) Gallyas-Braak silver impregnation was performed on the paraffin-embedded brain hemisphere to verify the induction of filamentous tau pathology. (*2*) Brain homogenate (10% in PBS, wt/vol) was prepared from the frozen hemisphere and injected intracerebrally into 3-mo-old ALZ17 animals. (*C*)

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Preparation of brain extract from a C57BL/6 mouse injected with AGD human brain homogenate (*Left*). The C57BL/6 mouse was killed 18 mo after bilateral intracerebral injection of brain homogenate. (*1*) Gallyas-Braak silver impregnation was performed on the paraffin-embedded hemisphere to verify the induction of filamentous tau pathology. (*2*) Brain homogenate (10% in PBS, wt/vol) was prepared from the frozen hemisphere and injected intracerebrally into 3-mo-old ALZ17 animals. (Scale bars, 50 μm.) Sections were counterstained with hematoxylin.

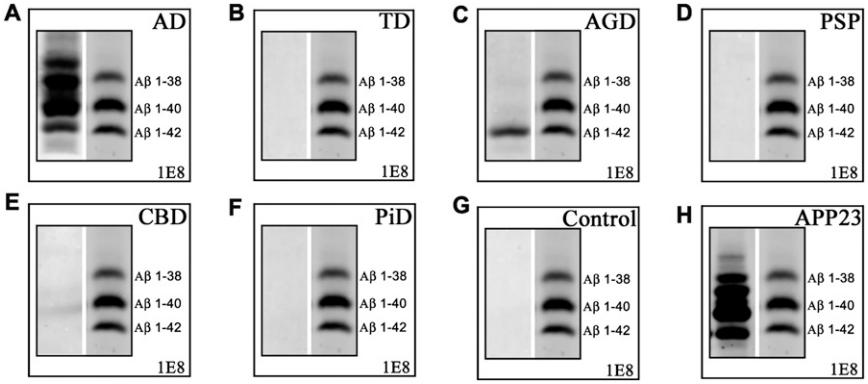

Fig. S4. Biochemical analysis of tissues used for the preparation of brain homogenates. Immunoblotting with the human-specific anti-Aβ antibody 1E8 detected (*A*) Aβ1–40 and Aβ1–42 in AD, (*C*) Aβ1–42 in AGD, and (*H*) Aβ1–40 and Aβ1–42 in human mutant amyloid precursor protein expressing mouse line APP23. Aβ peptides were not detected in (*B*) TD, (*D*) PSP, (*E*) CBD, (*F*) PiD, or (*G*) control brain.

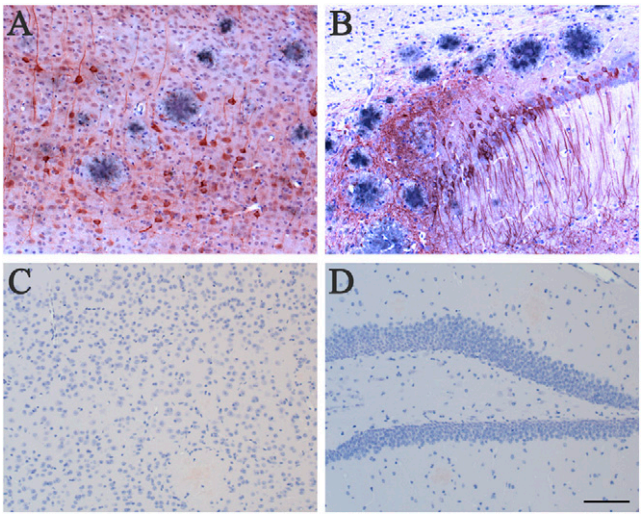

Fig. S5. Double labeling using antitau antibody AT8 and anti-Abeta antibody NT11 of (*A*) the cerebral cortex and (*B*) the hippocampus of a 24-mo-old APP23 × ALZ17 mice. The numbers of pretangle neurons and Aβ deposits were similar to those found in the ALZ17 and the APP23 lines. Gallyas-Braak silver impregnation failed to detect tau inclusions in the cerebral cortex (*C*) and the hippocampal formation (*D*) of a 24-mo-old APP23 × ALZ17 mouse. (Scale bar, 100 μm.) Sections were counterstained with hematoxylin.

Other Supporting Information Files

Dataset S1 (PDF)