

SUPPLEMENTAL MATERIAL

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Table S1. Demographics of human cases used in the study

Case no.	Neuropathological diagnosis	Gender	Age at death	PMI
			<i>yr</i>	<i>h</i>
1	AD	F	68	9
2	AD	F	59	14
3	AD	M	66	4
4	AD	F	81	5
5	AD/DS ^a	F	62	4
6	AD/DS ^a	M	49	5
7	AD/DS ^a	F	47	10
8	Normal	M	59	17
9	Normal	M	62	16

Abbreviations used: F, female; M, male; PMI, postmortem interval.

^aDown syndrome patients with postmortem neuropathological diagnosis of AD.

Table S2. Characterization of final supernatant fraction from human brain extractions

Preparation no.	Concentration of tau by ELISA	Total protein concentration by BCA assay	Purity (tau/total protein)	Concentration of A β 1–40 by ELISA	Concentration of A β 1–42 by ELISA	Concentration of α -syn by ELISA
	$\mu\text{g/ml}$	mg/ml	%	$\mu\text{g/ml}$	$\mu\text{g/ml}$	$\mu\text{g/ml}$
AD1	1,800	6.5	27.7	0.03	0.468	1.22
AD2	1,600	9.7	16.5	0.019	0.349	1.08
AD3	1,500	10.0	15.0	0.056	0.324	1.01
AD4	1,270	8.3	15.3	not detected	0.262	0.88
AD5	1,360	12.5	10.9	0.054	0.261	0.95
AD6	1,650	10.6	15.6	0.114	0.416	0.92
AD7	2,300	12.6	18.3	0.071	0.069	4.95
AD8	1,500	7.2	20.8	not detected	0.066	0.86
Control 1	5	10.3	0.049	not detected	0.004	5.80
Control 2	2	12.2	0.016	0.002	0.010	7.60

This table shows protein composition of representative final supernatant fractions following our purification protocols.

Table S3. Antibodies used in this study

Antibody name	Specificity	Host species	Dilutions	Source
T49	mouse tau	mouse monoclonal	1:1,000 (ICC; WB)	in house (Kosik et al., 1988)
R2295 mTau	mouse tau	rabbit polyclonal	1:1,000 (ICC; WB)	newly generated
R2295 h&tmTau	human and mouse tau	rabbit polyclonal	1:1,000 (WB)	newly generated
AT8	p-tau (phosphorylated at Ser202 and Thr205)	mouse monoclonal	1:500 (ICC); 1:1,000 (WB); 1:10,000 (IHC); 1:5,000 (IF)	Innogenetics
17025	raised against recombinant human tau	rabbit polyclonal	1:1,000 (WB)	in house (Ishihara et al., 1999)
T14	human tau (aa 141–178)	mouse monoclonal	1:1,000 (WB)	in house (Kosik et al., 1988)
PHF-1	p-tau (phosphorylated at Ser396 and Ser404)	mouse monoclonal	1:1,000 (WB); 1:200 (immuno-EM)	gift from P. Davies ^a
Tau5	tau (aa 210–230)	mouse monoclonal	1:1,000 (WB), 2.5 µg/ml as capture antibody in tau ELISA	gift from L. Binder
T46	tau (aa 401–441)	mouse monoclonal	1:1,000 (WB)	in house (Kosik et al., 1988)
K9JA	tau (aa 243–441)	rabbit polyclonal	1:5,000 (WB)	Dako
Anti-4R tau	4R tau	rabbit polyclonal	1:5,000 (WB)	Cosmo Bio USA
RD3	3R tau	mouse monoclonal	1:1,000 (WB)	EMD Millipore
RD4	4R tau	mouse monoclonal	1:500 (WB)	EMD Millipore
MC1	tau in the pathological conformation	mouse monoclonal	1:2,000 (IHC)	gift from P. Davies ^a
AT180	p-tau (phosphorylated at Thr231)	mouse monoclonal	1:1,000 (IHC)	Thermo Fisher Scientific
TG3	conformational specific p-tau (phosphorylated at Thr231)	mouse monoclonal	1:250 (IHC)	gift from P. Davies ^a
HT7	human tau (aa 159–163)	mouse monoclonal	1:500 (IHC)	Thermo Fisher Scientific
Biotinylated BT2	tau (aa 194–198)	mouse monoclonal	31.25 ng/ml as reporting antibody in tau ELISA together with HT7	Thermo Fisher Scientific
Biotinylated HT7	tau (aa 159–163)	mouse monoclonal	62.5 ng/ml as reporting antibody in tau ELISA together with BT2	Thermo Fisher Scientific
Myc 9E10	Myc tag	mouse monoclonal	1:1,000 (WB)	Developmental Studies Hybridoma Bank
Anti-c-Myc	Myc tag	rabbit polyclonal	1:500 (immuno-EM)	Sigma-Aldrich
HA	HA tag	rabbit polyclonal	1:1,000 (WB; EM)	Covance
Anti-HA	HA tag	mouse monoclonal	1:500 (immuno-EM)	Berkeley Antibody Company
HA (12CA5)	HA tag	mouse monoclonal	1:500 (immuno-EM)	Roche
GAPDH (6C5)	glyceraldehyde-3-phosphate dehydrogenase	mouse monoclonal	1:3,000 (WB)	Advanced Immunochemical
17028	MAP2	rabbit polyclonal	1:5,000 (ICC)	in house (Volpicelli-Daley et al., 2011)
NeuN(A60)	NeuN	mouse monoclonal	1:500 (IHC)	EMD Millipore
9027	α-syn (aa 130–140)	mouse monoclonal	3.3 µg/ml as capture antibody for α-syn ELISA	in house
MJF-R1	α-syn (aa 118–123)	rabbit monoclonal	0.5425 µg/ml as reporting antibody for α-syn ELISA	Abcam
Ban50	Aβ (aa 1–10)	mouse monoclonal	10 µg/ml as capture antibody for Aβ 1–40 and 1–42 ELISA	Takeda Pharmaceutical
HRP-labeled BA27	Aβ 1–40	mouse monoclonal	reporting antibody for Aβ 1–40 ELISA (concentration not determined after HRP labeling)	Takeda Pharmaceutical
HRP-labeled BC05	Aβ 1–42	mouse monoclonal	reporting antibody for Aβ 1–42 ELISA (concentration not determined after HRP labeling)	Takeda Pharmaceutical

Abbreviations used: ICC, immunocytochemistry; IF, immunofluorescence; WB, western blotting.

^aAlbert Einstein College of Medicine, Bronx, NY.

Table S4. Summary of inoculated mice analyzed for IHC

Incubation time	Hep-T40 (9 µg/mouse)	X-T40 (9 µg/mouse)	AD-tau case 1 (8 µg/mouse)	AD-tau case 1 (2 µg/mouse)	AD-tau case 2 (2 µg/mouse)	AD-tau case 3 (2 µg/mouse)	Control brain extracts
2 d				2			
7 d				2			
1 mo				3 + 2 ^a			
3 mo	4	4 + 2 ^b	4	3 + 3 ^a	3	3	3
6 mo	2 ^b	3 ^a	4	4 + 3 ^a	2	2	
9 mo		3 ^b	4	3			2
12 mo	2 ^b						
18 mo	2 ^b						
24 mo	2 ^b						

This table summarizes the number of mice sacrificed at different time points after the injection of different tau fibrils. 2–3-mo-old C57BL6 mice were used unless otherwise indicated. Cells without values are time points that were not tested.

^a15–19-mo-old C57BL6 mice.

^b2–3-mo-old C57BL6/C3H F1 mice.

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