

## Supplementary tables

**Supplementary Table 1. Human *post-mortem* tissue demographic and clinical indicines.** Demographic and clinical indices for human *post-mortem* tissue cohort used to assess relative expression and localisation of nNOS in the brain.

Case	Status	Age (y)	Sex	PMI	Fixation (m)	<i>APOE</i> genotype	Braak Stage
1	Control	93	F	21	81	$\epsilon 3/3$	0
2	Control	79	M	8	49	$\epsilon 2/3$	0
3	Control	82	F	7.7	102	$\epsilon 3/3$	2
4	Control	78	F	11	78	$\epsilon 3/3$	1
5	Control	69	M	13.5	76	$\epsilon 3/3$	0
6	Control	73	M	48	67	$\epsilon 3/3$	2
7	Control	73	M	51	66	$\epsilon 3/3$	1
8	Control	78	F	45	58	$\epsilon 3/4$	1
9	Control	63	F	42	41	$\epsilon 3/4$	0
10	Control	87	F	5	34	$\epsilon 3/4$	0
11	Control	85	F	10	34	$\epsilon 3/3$	2
12	Control	63	F	50	26	$\epsilon 3/3$	0
13	Control	64	M	17	17	$\epsilon 3/3$	0
14	Control	58	M	39	139	$\epsilon 3/3$	0
15	Control	80	M	12	9	$\epsilon 3/3$	1
16	Control	67	M	29	6	$\epsilon 3/3$	1
17	Control	84	F	6	26	$\epsilon 3/4$	N.A.
18	LOAD	74	M	5	79	$\epsilon 4/4$	6
19	LOAD	85	F	23	73	$\epsilon 3/3$	0
20	LOAD	83	M	25	70	$\epsilon 4/4$	6
21	LOAD	94	F	7	68	$\epsilon 3/3$	5
22	LOAD	84	F	6	64	$\epsilon 3/4$	6
23	LOAD	83	F	3	61	$\epsilon 3/4$	5
24	LOAD	60	F	12	59	$\epsilon 3/4$	6
25	LOAD	68	M	23	54	$\epsilon 3/4$	6
26	LOAD	69	M	3	46	$\epsilon 3/3$	6

Case	Status	Age (y)	Sex	PMI	Fixation (m)	<i>APOE</i> genotype	Braak Stage
27	LOAD	100	F	4	41	$\epsilon 3/4$	N.A.
28	LOAD	76	F	3	35	$\epsilon 3/4$	4
29	LOAD	97	F	16	35	$\epsilon 2/3$	N.A.
30	LOAD	100	F	3	32	$\epsilon 3/3$	5
31	LOAD	80	F	32	25	$\epsilon 3/4$	6
32	LOAD	86	M	9	24	$\epsilon 3/4$	6
33	LOAD	65	F	21.5	27	$\epsilon 3/3$	6
34	LOAD	58	M	12	19	$\epsilon 3/3$	6
35	LOAD	98	F	11	18	$\epsilon 3/3$	5
36	LOAD	85	F	10	15	$\epsilon 3/3$	6
37	LOAD	67	M	9	14	$\epsilon 3/3$	6
38	LOAD	77	M	26	12	$\epsilon 4/4$	6
39	LOAD	66	M	9	11	$\epsilon 4/4$	5
40	LOAD	72	F	13	10	$\epsilon 3/3$	N.A.
41	LOAD	78	F	6	88	$\epsilon 4/4$	4
42	LOAD	74	M	19	77	$\epsilon 3/4$	6
43	LOAD	85	F	16	67	$\epsilon 3/3$	4
44	LOAD	74	F	16.5	64	$\epsilon 3/4$	5

Abbreviations: Control - cognitively healthy donor; F - female; LOAD – Late onset Alzheimer’s disease donor; M - male; m - months; N.A. - not available; PMI - *Post-mortem* interval; y - years.

**Supplementary Table 2.** Induced pluripotent stem cell (iPSC) line details used in thesis.

iPSC line	Sex	Age	Mutation	APOE genotype	DOI
<b>Control 1</b>	Female	56	N.A.	$\epsilon$ 2/4	<a href="https://dx.doi.org/10.1016/j.scr.2018.09.014">dx.doi.org/10.1016/j.scr.2018.09.014</a>
<b>Control 2</b>	Male	57	N.A.	$\epsilon$ 3/3	<a href="https://doi.org/10.1038/srep31450">10.1038/srep31450</a>
<b>Control 3</b>	Female	75	N.A.	$\epsilon$ 2/3	<a href="https://doi.org/10.1016/j.scr.2018.08.006">doi.org/10.1016/j.scr.2018.08.006</a>
<b>LOAD 1</b>	Female	83	N.A.	$\epsilon$ 4/4	<a href="https://doi.org/10.3390/cells9092018">10.3390/cells9092018</a>
<b>LOAD 2</b>	Male	65	N.A.	$\epsilon$ 3/4	<a href="https://doi.org/10.1038/srep31450">10.1038/srep31450</a>
<b>LOAD 3</b>	Male	83	N.A.	$\epsilon$ 4/4	<a href="https://doi.org/10.1007/s00702-012-0839-2">10.1007/s00702-012-0839-2</a>
<b>fAD</b>	Female	56	<i>PSEN1</i> <sup>A246E</sup>	$\epsilon$ 3/4	<a href="https://doi.org/10.1016/j.scr.2018.08.006">doi.org/10.1016/j.scr.2018.08.006</a>

Abbreviations: Control - cognitively healthy (donor); fAD - familial Alzheimer's disease (donor); LOAD – late-onset Alzheimer's disease (donor); N.A. – Not applicable.

**Supplementary Table 3.** Primary antibodies and their dilutions used for immunocytochemistry.

Primary antibody	Raised in	Dilution	Company Cat #
<b>Anti-nNOS</b>	Rabbit pAB	1:100	Abcam #ab5586
<b>Anti-PSD-95</b>	Mouse mAb	1:500	Merck #CP35
<b>Anti-MAP2</b>	Chicken pAB	1:100	Covance #PKC-554P
<b>Anti-NMDAR1</b>	Mouse mAb	1:100	Abcam #ab134308

Abbreviations: mAB - monoclonal antibody; pAB – polyclonal antibody.

**Supplementary Table 4.** Secondary antibodies and their dilutions used for immunocytochemistry.

Secondary antibody	Raised in	Dilution	Company Cat #
<b>Goat anti-mouse IgG (H+L) Alexa Fluor 488</b>	Goat	1:1000	Life Technologies #A-11001
<b>Goat anti-rabbit IgG (H+L) Alexa Fluor 488</b>	Goat	1:1000	Life Technologies #A-11008
<b>Goat anti-chicken IgY (H+L) Alexa Fluor 647</b>	Goat	1:1000	Life Technologies #A-21449

Abbreviations: IgG (H + L) - Immunoglobulin G (Heavy + Light) chain.

**Supplementary Table 5.** Primary antibodies and their dilutions used for western blotting.

Primary antibody	Raised in	Dilution	Sample	Company Cat #
<b>Anti-nNOS</b>	Rabbit pAB	1:5000	Cell and tissue lysate	Abcam #ab5586
<b>Anti-Tau 13 B11E8</b>	Mouse mAb	1:5000	Cell lysate	Abcam #ab19030
<b>Anti-Tau s404</b>	Rabbit mAB	1:1500	Cell lysate	Abcam #ab92676
<b>Anti-Tau s214</b>	Rabbit mAB	1:5000	Cell lysate	Abcam #ab170892

Abbreviations: mAB - monoclonal antibody; pAB – polyclonal antibody.

**Supplementary Table 6.** Secondary antibodies and their dilutions used for western blotting.

<b>Secondary antibody</b>	<b>Raised in</b>	<b>Dilution</b>	<b>Company Cat #</b>
<b>Goat anti-rabbit IgG (H+L) HRP</b>	Goat	1:5000	Merck Millipore #AP307P
<b>Goat anti-mouse IgG (H+L) HRP</b>	Goat	1:5000	Merck Millipore #A308P

Abbreviations: IgG (H + L) HRP - Immunoglobulin G (Heavy + Light) chain Horse Radish Peroxidase.