**Table S1: Data on human tissue samples**

| # | Controls | | | | | | Patients diagnosed with AD | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Internal processing number** | **Gender** | **Age [y]** | **Year of death** | **Post-mortem time [h]** | **Pro-cess-ing*** | **Internal processing number** | **Gender** | **Age [y]** | **Year of death** | **Braak** | **Post-mortem time [h]** | **Pro-cess-ing*** |
| **1** | NP31 | f | 54 | 2006 | 168 | Paraf. | 344 | f | 54 | 1998 | 6 | NA | Paraf. |
| **2** | 28 | m | 58 | 2006 | 144 | Paraf. | 61 | m | 56 | 2006 | 2 | 120 | Paraf. |
| **3** | 56 | m | 69 | 2006 | 48 | Paraf. | 189 | m | 73 | 2000 | 2 | 77 | Paraf. |
| **4** | NP21 | f | 79 | 2006 | 120 | Paraf. | NP7 | f | 79 | 1999 | 5 | 72 | Paraf. |
| **5** | 149 | f | 82 | 2005 | NA | Paraf. | 203 | f | 80 | 1998 | 4 | 48 | Paraf. |
| **6** | 70 | f | 82 | 2006 | 264 | Paraf. | 17 | f | 81 | 2006 | 3 | 192 | Paraf. |
| **7** | 19 | f | 84 | 2005 | 48 | Paraf. | 103 | f | 86 | 1999 | 4 | 96 | Paraf. |
| **8** | 62 | f | 84 | 2006 | 48 | Paraf. | 9 | f | 87 | 1995 | NA | NA | Paraf. |
| **9** | NP90 | f | 89 | 2005 | 144 | Paraf. | NP120 | f | 89 | 2000 | 6 | 24 | Paraf. |
| **10** | 38 | f | 91 | 2006 | 144 | Paraf. | 65 | f | 92 | 2000 | 6 | 48 | Paraf. |
| **11** | 83 | f | 69 | 2008 | 72 | Frozen | | | | | | | |
| **12** | 224 | m | 87 | 2008 | 96 | Frozen | | | | | | | |
| **13** | 246 | m | 61 | 2008 | 96 | Frozen | | | | | | | |
| **14** | 368 | m | 68 | 2008 | 120 | Frozen | | | | | | | |
| **15** | | | | | | | 202 | m | 74 | 2007 | 1 | 48 | Frozen |
| **16** | | | | | | | 7 | f | 80 | 2008 | 3 | 120 | Frozen |
| **17** | | | | | | | 168 | m | 81 | 2008 | 3 | 48 | Frozen |
| **18** | | | | | | | 244 | m | 83 | 2008 | 5 | 120 | Frozen |

* Parafin-embedded (Paraf.) samples were used for immunohistochemistry; snap-frozen (Frozen) samples were used for RT-PC

**Table S2: First exon-specific aromatase primers for human tissue**

| Name | Sequence | Annealing Temp. | Length |
|---|---|---|---|
| Exon PII | f: 5'-GCA ACA GGA GCT ATA GAT GAA C-3' | 63 ºC | 236 bp |
| | r: 5'-GTG CCC TCA TAA TTC CAC AC-3' | | |
| Exon I.f | f: 5'-GAA AAG CCA CCT GGT TCT TA-3' | 63 ºC | 261 bp |
| | r: 5'-GTG CCC TCA TAA TTC CAC AC-3' | | |
| Exon I.3 | f: 5'-AGG AAC CTG AGA CTC TAC CAA G-3' | 63 ºC | 207 bp |
| | r: 5'-GTG CCC TCA TAA TTC CAC AC-3' | | |
| Exon I.4 | f: 5'-TCC TGG CTC CAA GTA GAA CGT GAC-3' | 69 ºC | 118 bp |
| | r: 5'-ACC ATC TTG TGT TCC TTG ACC TCA G-3' | | |
| Exon I.6 | f: 5'-AGG GAT TAC AAA ACC TGG CTG AA-3' | 69 ºC | 897 bp |
| | r: 5'-ACC ATC TTG TGT TCC TTG ACC TCA G-3' | | |

**Table S3: Primers for mouse tissue**

| Name | Sequence | Annealing Temp. | Length |
|---|---|---|---|
| Aro_total | f: 5'-GAG GTC GAA GCA GCA ATC CT-3'<br>r: 5'-GAT ATC CTC GAT CTT TAT GTC TCT GTC A-3' | 60 ºC | 72 bp |
| Aro_ovary | f: 5'-ACA AAA TGC CCA TCT CTC CAA-3'<br>r: 5'-GTG CCC TCA TAA TTC CAC AC-3' | 60 ºC | 57 bp |
| Aro_brain | f: 5'-AAC TCA CCA TCT TCA AGA GTC CA-3'<br>r: 5'-GAG TGG CAT GGC ACT GAC AGT-3' | 60 ºC | 149 bp |
| Actin-beta | f: 5-CTG GCT CCT AGC ACC ATG AAG'3'<br>r: 5'-CAC CGA TCC ACA CAG AGT ACT TG-3' | 60 ºC | 70 bp |

**Legends**

**Figure S1:** *Hippocampal astrocytes showed very low levels of aromatase expression.* Co-immunostaining (C) for the astrocyte marker glial fibrillary acidic protein (GFAP, A) and aromatase (B) revealed that most astrocytes in the human hippocampus did express aromatase at very low levels or not at all. Nuclei were stained blue with DAPI. Scale bar: 50 µm.

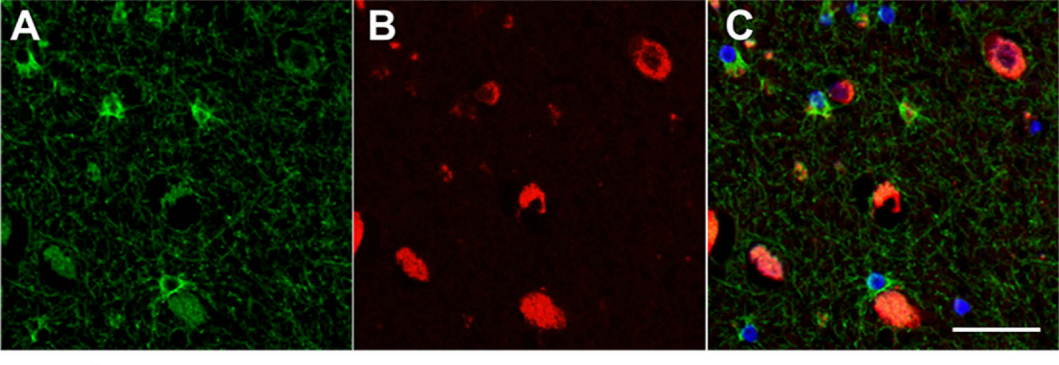


Fig. S1