**Supplementary Table 1.** Antibodies used in the study.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Target | Host | Clone/#Cat No. | Dilution | Source |
| Aβ | mouse | clone 6E10 | 1:250 | \*C Masters |
| Aβ1-40 | rabbit | #AB5078P | 1:2000 | Millipore |
| Aβ1-42 | rabbit | #AB5074P | 1:2000 | Millipore |
| actin | mouse | clone AC-15 | 1:20,000 | Sigma |
| APP | mouse | clone 22C11 | 1:1200 | \*C Masters |
| Brn3a | goat | #sc-31984 | 1:3000 | Santa-Cruz |
| calbindin | mouse | clone CB-955 | 1:1000 | Sigma |
| calretinin | rabbit | #AB5054 | 1:2500 | Millipore |
| CNTF | goat | #AF 557-NA | 1:1000 | R&D Systems |
| cone arrestin | rabbit | #AB15282 | 1:5000 | Millipore |
| cyclin D1 | rabbit | #ab21699 | 1:15 | Abcam |
| cFOS | rabbit | sc-253 | 1:5000 | Santa-Cruz |
| FGF-2 | mouse | clone bFM-2 | 1:500 | Millipore |
| GFAP | rabbit | #Z0 334 | 1:40,000 | Dako |
| glutamine synthetase | mouse | #610517 | 1:5000 | BD transduction |
| HO-1 | rabbit | #SPA-895 | 1:3000 | Stressgen |
| Hsp27 | rabbit | rabbit | SPA-801 | 1:2500 |
| iba1 | rabbit | #019-19741 | 1:20,000 | WAKO |
| p-NFH | mouse | clone SMI-31 | 1:100,000 | Covance |
| p-cJUN | rabbit | #3270 | 1:5000 | CST |
| MOAB-2 | mouse | M-1586-100 | 1:2000 | Biosensis |
| nestin | mouse | clone Rat 401 | 1:1000 | BD transduction |
| PKCα | mouse | clone MC5 | 1:1000 | Abcam |
| synaptophysin | rabbit | A 0010 | 1:4000 | Dako |
| tau | rabbit | *#*A0024 | 1:5000 | Dako |
| p-tau-T181 | rabbit | #ab75679 | 1:500 | Abcam |
| p-tau-S262 | rabbit | #ab131354 | 1:500 | Abcam |
| β3-tubulin | rabbit | #5666 | 1:5000 | CST |

CST, Cell Signaling Technology; HO-1, heme oxygenase-1; p-NFH, phosphorylated neurofilament heavy chain; p-cJUN, phospho-cJUN; \*gifted by C Masters, University of Melbourne

**Supplementary Table 2.** Primer sequences for mRNAs amplified by real-time RT-PCR.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| mRNA | Primer sequences | Magnesium  concentration | Annealing  temperature | Accession  number |
| Human APP | 5’-CAGAATTCCGACATGACTCAGGATATGAAG-3’  5’-CCCACCATGAGTCCAATGATTGC-3’ | 3.5 mM | 63°C | \*NM\_000484 |
| GAPDH | 5’-TGCACCACCAACTGCTTAGC-3’  5’-GGCATGGACTGTGGTCATGAG-3’ | 3.5 mM | 63°C | NM\_008084 |
| Thy1 | 5’-TGAGGGTGGCAGAAGAAGAC-3’  5’-CTTTCCTCGGTGAGATGCTG-3’ | 4.5 mM | 61°C | NM\_009382 |
| β3-tubulin | 5’-ATCTTCGGTCAGAGTGGTGCT-3’  5’-TGTCGTAGAGGGCTTCATTGTC-3’ | 5 mM | 60°C | NM\_023279 |
| IL-1β | 5’-CTTCAAATCTCGCAGCAGCAC-3’  5’-AGGTCCACGGGAAAGACACAG-3’ | 3.5 mM | 61°C | NM\_008361 |
| TNFα | 5’-ACCCCTTTACTCTGACCCCTTT-3’  5’-CCTGAGCCATAATCCCCTTTC-3’ | 3.5 mM | 63°C | NM\_013693 |
| IL-6 | 5’-GACTTCCATCCAGTTGCCTTCTT-3’  5’-ACTCTTTTCTCATTTCCACGATTTCC-3’ | 3.5 mM | 63°C | NM\_031168 |

# \*Primers recognize all 10 variants of human amyloid-β protein precursor.

**Supplementary Table 3.** Amyloid burden with increasing age in the retinas of APPswe/PS1dE9 mice.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Age (months) | | |
| Antibody | 7-8 | 9-10 | 11-12 | |
| Aβ | 0 | 0 | 0 | |
| MOAB-2 | 0 | 0 | 0 | |
| Aβ1-40 | 0 | 0 | 0 | |
| Aβ1-42 | 0 | 0 | 0 | |

The number of individual plaques within transverse sections of the retina were quantified. Data are representative of 4 sections per animal, where *n*=10 (5 per monthly time point).