Supplementary Figure 1. Immunolocalization of PDGFRB to capillaries. Sections of parietal cortex (A-C) and white matter (D-F) were immunolabelled with antibodies to PDGFRB (green signal) and smooth muscle actin (red signal). PDGFRB was almost entirely restricted to capillaries. There was minimal overlap of PDGFRB signal with that of smooth muscle actin in adjacent arterioles (see combined labeling in C and F). Sections of cortex (G-I) were also immunolabeled for PDGFRB (green signal) and vWF (red signal). Both PDGFRB and vWF (expressed by endothelial cells) localize to capillaries, with limited overlap of the two antigens (see I). PDGFRB in all of these sections was immunolabelled with the same goat anti-PDGFRB detection antibody that was used for ELISA detection of PDGFRB in the brain homogenates (duoset, Cat no DYC385, R&D systems, Oxford, UK). After rehydration the paraffin sections were microwaved for 10 min in Tris-EDTA buffer (10 mM Tris, 1mM EDTA, pH 9.0), rinsed, and incubated at 4°C overnight with the primary antibodies (biotinylated goat polyclonal anti-human PDGFRB, at 0.9 μg/ml together with either rabbit polyclonal anti-human smooth muscle actin, Abcam, Cat no ab5694, Cambridge, UK, at 0.4 μg/ml, or rabbit polyclonal anti-vWF, Dako, Glostrup, Denmark, at 155 μg/ml) in PBS containing 0.1%
triton X-100 and 10% donkey serum. After thorough rinsing of the sections, bound antibody was detected by incubation for 1 h at room temperature with streptavidin Alexa-Fluor 488 (Molecular Probes, Invitrogen) and Alexa Fluor 568 donkey anti-rabbit (Molecular Probes, Invitrogen) diluted 1:200 in PBS. The sections were mounted in Vectashield Mounting medium containing DAPI (Vector Labs, H-1200, Peterborough, UK).
Supplementary Figure 2. Fibrinogen levels are increased in the precuneus and underlying white matter in Alzheimer’s disease after adjustment for hemoglobin level and vessel density. (A-B) Bar charts showing a trend towards increased fibrinogen in the precuneus after adjustment for hemoglobin level (adjusted for total hemoglobin content within brain tissue) and vessel density (adjusted for von Willebrand factor (vVWF) content). (C-D) Fibrinogen level was significantly increased in the underlying white matter in AD after adjustment for total hemoglobin level (p < 0.05) and for vessel density although not significantly. The bars indicate the mean and SEM. *P< 0.05
**Supplementary Figure 3.** Platelet-derived growth factor receptor-β (PDGFRB) loss and blood-brain barrier (BBB) breakdown in relation to disease severity (i.e. Braak tangle stage), APOE genotype, and cerebral amyloid angiopathy (CAA) in the precuneus in AD. Bar charts showing non-significant trends towards increased white-matter (WM) PDGFRβ level in relation to (A) disease severity when cases were grouped according to Braak tangle stage and (B) APOE genotype and (C) SVD score. Bar charts showing non-significant trends towards increased WM-fibrinogen level in relation to (D) disease severity when cases were grouped according and (E) APOE genotype and (F) SVD score. The bars indicate the mean and SEM. SVD score based on a 4-point semi-quantitative scale as previously described, according to the extent of thickening of the arteriolar walls and associated narrowing of the vessel lumina: 0 = normal vessel wall thickness, 1 = slightly increased thickness, 2 =
moderately increased thickness, and 3 = markedly increased thickness such that for many arterioles the diameter of the lumen was <50% of the outer diameter of the blood vessel.
### Supplementary Table 1

|                           | AD (n = 49) | Control (n = 37) |
|---------------------------|-------------|-----------------|
| **Age (y ± SD)**          | 77.5 ± 8.2  | 79.8 ± 8.9      |
| **Gender (F:M)**          | 26:23       | 11:26           |
| **PM delay (h ± SD)**     | 31.4 ± 19.3 | 32.7 ± 16.3     |
| **Braak tangle stage**    |             |                 |
| I                         | 0           | 6               |
| II                        | 0           | 19              |
| III                       | 0           | 6               |
| IV                        | 2           | 0               |
| V                         | 20          | 0               |
| VI                        | 27          | 0               |
| **APOE genotype**         |             |                 |
| 2.3                       | 2           | 11              |
| 3.3                       | 12          | 19              |
| 3.4                       | 22          | 7               |
| 4.4                       | 12          | 0               |
| **SVD score**             |             |                 |
| 0                         | 6           | 7               |
| 1                         | 21          | 18              |
| 2                         | 17          | 8               |
| 3                         | 5           | 0               |
| **CAA score**             |             |                 |
| 0                         | 15          | 25              |
| 1                         | 9           | 3               |
| 2                         | 10          | 4               |
| 3                         | 15          | 1               |
## Supplementary Table 2

| Diagnosis | MRC Identifier | Age-at-death (y) | Post-mortem delay (h) | Gender | Braak tangle stage | APOE genotype | SVD score | CAA score |
|-----------|----------------|------------------|-----------------------|--------|--------------------|---------------|-----------|-----------|
| Control   | BBN_8651       | 95               | 46                    | F      | 2                  | 2.3           |           |           |
| Control   | BBN_8671       | 78               | 24                    | F      | 2                  | 3.3           | 2         | 1         |
| Control   | BBN_8700       | 64               | 12                    | M      | 2                  | 2.3           | 0         | 0         |
| Control   | BBN_8702       | 58               | 20                    | M      | 0                  | 2.3           | 0         | 0         |
| Control   | BBN_8706       | 72               | 42                    | M      | 1                  | 3.3           | 1         | 0         |
| Control   | BBN_8708       | 90               | 45                    | M      | 2                  | 2.3           | 0         | 0         |
| Control   | BBN_8717       | 77               | 55                    | M      | 1                  | 3.3           | 1         | 0         |
| Control   | BBN_8722       | 78               | 12                    | M      | 2                  | 3.3           | 1         | 0         |
| Control   | BBN_8723       | 80               | 67                    | M      | 3                  | 3.4           | 2         | 2         |
| Control   | BBN_8725       | 73               | 36                    | M      | 2                  | 3.4           | 0         | 0         |
| Control   | BBN_8739       | 93               | 18                    | F      | 2                  | 3.3           | 1         | 0         |
| Control   | BBN_8751       | 82               | 30                    | M      | 2                  | 3.3           | 2         | 0         |
| Control   | BBN_8759       | 75               | 48                    | M      | 2                  | 3.3           | 1         | 0         |
| Control   | BBN_8776       | 73               | 33                    | M      | 1                  | 2.3           | 1         | 0         |
| Control   | BBN_8779       | 69               | 66                    | M      | 2                  | 3.3           | 1         | 0         |
| Control   | BBN_8835       | 73               | 59                    | F      | 1                  | 3.3           | 1         | 0         |
| Control   | BBN_8883       | 90               | 40                    | M      | 3                  | 3.3           | 1         | 0         |
| Control   | BBN_8898       | 83               | 24                    | F      | 2                  | 3.4           | 0         | 0         |
| Control   | BBN_8923       | 82               | 3                     | M      | 2                  | 3.3           | 1         | 0         |
| Control   | BBN_8949       | 79               | 24                    | M      | 3                  | 3.4           |           |           |
| Control   | BBN_8957       | 76               | 12                    | F      | 3                  | 3.4           |           |           |
| Control   | BBN_8980       | 72               | 24                    | F      | 0                  | 3.3           | 2         | 0         |
| Control   | BBN_8983       | 78               | 48                    | M      | 1                  | 3.3           | 1         | 0         |
| Control   | BBN_9028       | 76               | 23                    | M      | 2                  | 3.3           | 1         | 0         |
| Control   | BBN_9092       | 75               | 6                     | M      | 3                  | 2.3           |           |           |
| Control   | BBN_9292       | 73               | 35                    | M      | 3                  | 3.3           | 1         | 0         |
| Control   | BBN_9299       | 90               | 5.5                   | M      | 2                  | 2.3           | 1         | 0         |
| Control   | BBN_9311       | 93               | 37.75                 | M      | 3                  | 2.3           | 2         | 1         |
| Control   | BBN_9292       | 80               | 45.75                 | M      | 0                  | 3.3           | 2         | 2         |
| Control   | BBN_9340       | 94               | 21                    | F      | 2                  | 2.3           | 2         | 2         |
|   | Code       | Age | Gender | Time | Value 1 | Value 2 | Value 3 |
|---|------------|-----|--------|------|---------|---------|---------|
| Control | BBN_9346   | 92  | M      | 2    | 3.4     | 2       | 0       |
| Control | BBN_4206   | 87  | M      | 2    | 3.3     | 1       | 1       |
| Control | BBN_9354   | 85  | M      | 2    | 3.3     | 0       | 0       |
| Control | BBN_9359   | 77  | M      | 1    | 3.3     | 1       | 2       |
| Control | BBN_4229   | 87  | F      | 3    | 2.3     | 1       | 0       |
| Control | BBN_9365   | 86  | F      | 2    | 3.4     | 1       | 3       |
| Control | BBN_9389   | 68  | F      | 0    | 2.3     | 0       | 0       |
| AD    | BBN_8834   | 78  | F      | 5    | 3.4     | 2       | 0       |
| AD    | BBN_8848   | 77  | F      | 4    | 3.4     | 0       | 0       |
| AD    | BBN_8910   | 71  | M      | 6    | 3.3     | 2       | 2       |
| AD    | BBN_8912   | 82  | F      | 6    | 3.4     | 1       | 3       |
| AD    | BBN_8921   | 75  | F      | 6    | 3.3     | 1       | 3       |
| AD    | BBN_8997   | 74  | F      | 6    | 3.4     | 1       | 3       |
| AD    | BBN_9005   | 89  | F      | 6    | 3.4     | 1       | 3       |
| AD    | BBN_9026   | 79  | M      | 6    | 3.4     | 1       | 1       |
| AD    | BBN_9030   | 65  | M      | 6    | 3.4     | 1       | 2       |
| AD    | BBN_9031   | 85  | M      | 6    | 3.4     | 1       | 3       |
| AD    | BBN_9044   | 86  | M      | 6    | 4.4     | 2       | 0       |
| AD    | BBN_9052   | 57  | F      | 5    | 3.4     | 1       | 0       |
| AD    | BBN_9076   | 84  | F      | 5    | 3.4     | 3       | 0       |
| AD    | BBN_9106   | 93  | M      | 6    | 3.3     | 1       | 0       |
| AD    | BBN_9112   | 74  | F      | 5    | 4.4     | 1       | 3       |
| AD    | BBN_9122   | 83  | F      | 5    | 3.4     | 2       | 0       |
| AD    | BBN_9123   | 74  | F      | 5    | 3.3     | 2       | 3       |
| AD    | BBN_9136   | 77  | F      | 6    | 3.4     | 1       | 3       |
| AD    | BBN_9155   | 79  | M      | 6    | 3.4     | 2       | 1       |
| AD    | BBN_9162   | 63  | M      | 6    | 3.3     | 0       | 0       |
| AD    | BBN_9163   | 69  | F      | 6    | 3.4     | 1       | 3       |
| AD    | BBN_9164   | 92  | F      | 5    | 3.3     | 0       | 3       |
| AD    | BBN_9173   | 86  | F      | 5    | 3.4     | 2       | 2       |
| AD    | BBN_9179   | 64  | M      | 6    | 3.4     | 1       | 1       |
| AD    | BBN_9181   | 80  | F      | 5    | 4.4     | 1       | 2       |
| AD    | BBN_9182   | 74  | M      | 5    | 3.4     | 2       | 1       |
| AD    | BBN_9186   | 75  | F      | 6    | 3.4     | 1       | 1       |
|    |   |   |   |   |   |   |   |   |
|----|---|---|---|---|---|---|---|---|
| AD | BBN_9189 | 78 | 21 | F  | 6  | 4.4 | 2  | 3  |
| AD | BBN_9194 | 89 | 39 | F  | 5  | 4.4 | 2  | 3  |
| AD | BBN_9197 | 77 | 14 | F  | 6  | 3.4 | 2  | 0  |
| AD | BBN_9205 | 85 | 85 | F  | 6  | 3.4 | 2  | 3  |
| AD | BBN_9261 | 83 | 48 | M  | 5  | 3.3 | 2  | 2  |
| AD | BBN_9262 | 81 | 4  | M  | 6  | 4.4 | 2  | 3  |
| AD | BBN_9263 | 74 | 48 | M  | 5  | 2.3 | 3  | 1  |
| AD | BBN_9266 | 80 | 72 | M  | 5  | 3.3 | 1  | 2  |
| AD | BBN_9274 | 78 | 49 | M  | 6  | 4.4 | 0  | 2  |
| AD | BBN_9275 | 87 | 36 | M  | 6  | 4.4 | 1  | 0  |
| AD | BBN_9280 | 76 | 11 | M  | 5  | 4.4 | 3  | 0  |
| AD | BBN_9295 | 85 | 49.5 | M  | 7  | 3.3 | 3  | 0  |
| AD | BBN_9303 | 69 | 12 | M  | 5  | 3.4 | 1  | 0  |
| AD | BBN_9315 | 67 | 24.25 | F  | 6  | 4.4 | 2  | 1  |
| AD | BBN_9323 | 84 | 20.5 | F  | 6  | 2.3 | 3  | 2  |
| AD | BBN_9342 | 65 | 11.5 | F  | 6  | 4.4 | 1  | 2  |
| AD | BBN_4202 | 64 | 66.5 | M  | 5  | 3.3 | 0  | 0  |
| AD | BBN_4204 | 65 | 38.5 | M  | 5  | 3.3 | 2  | 0  |
| AD | BBN_4215 | 80 | 26 | F  | 4  | 3.4 | 0  | 2  |
| AD | BBN_9361 | 83 | 11 | M  | 5  | 3.3 | 1  | 1  |
| AD | BBN_9367 | 77 | 19 | M  | 6  | 4.4 | 1  | 3  |
| AD | BBN_9378 | 84 | 22 | F  | 5  | 2  | 1  |

SVD – small vessel disease; CAA - Cerebral amyloid angiopathy
**Supplementary Table 3.** Correlations between platelet-derived growth factor-ββ (PDGF-BB) level and soluble and insoluble Aβ40 and Aβ42 levels within the precuneus and underlying white matter in SDS-extracted (soluble) and guandine-HCl-extracted (insoluble) extracts of brain tissue.

|                      | soluble Aβ40 | soluble Aβ42 | insoluble Aβ40 | insoluble Aβ42 |
|----------------------|--------------|--------------|----------------|----------------|
| **Precuneus:**       |              |              |                |                |
| PDGFBB (soluble)     | †NS          | NS           | NS             | NS             |
| PDGFBB (insoluble)   | NS           | 0.254*       | 0.430**        | 0.400**        |
| **White matter:**    |              |              |                |                |
| PDGFBB (soluble)     | NS           | 0.304**      | NS             | 0.264*         |
| PDGFBB (insoluble)   | NS           | NS           | -0.298*        | -0.212*        |

†Not significant, * P < 0.05, ** P < 0.01