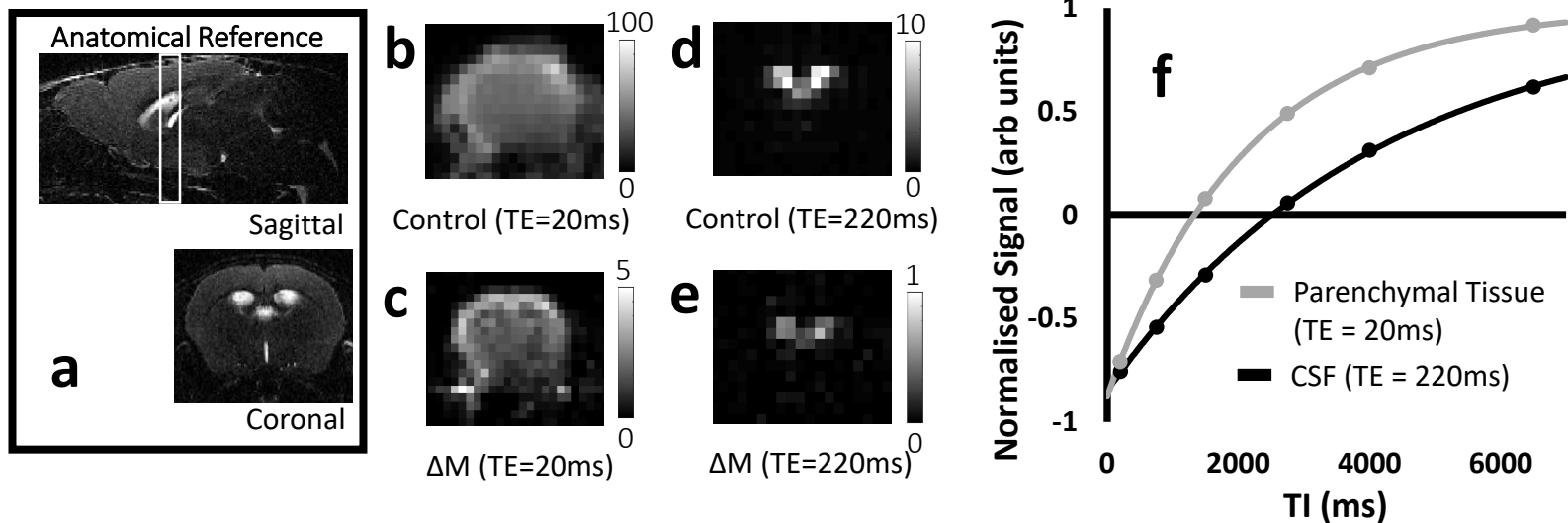
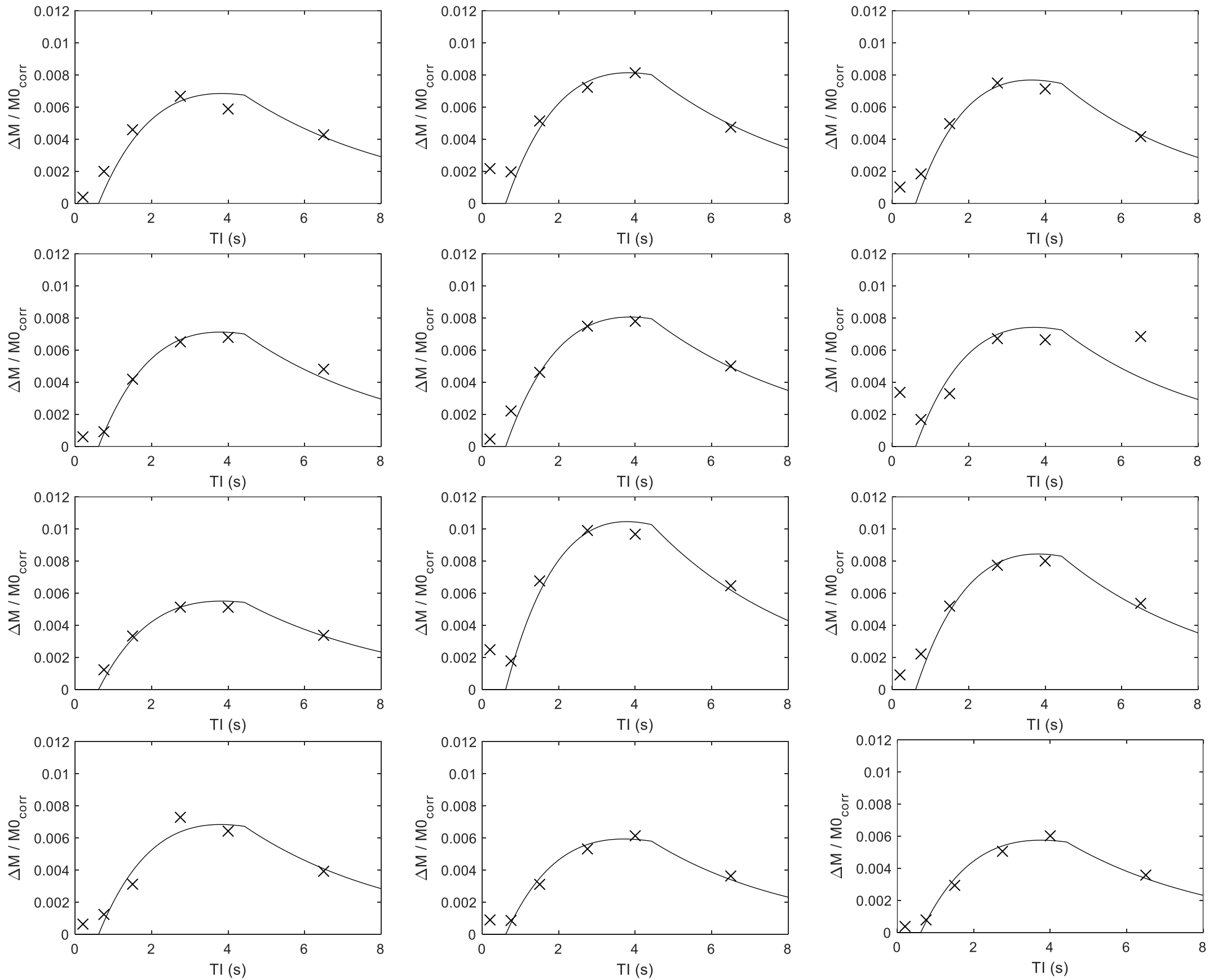


Supplementary Figures for:
Non-Invasive MRI of Blood-Cerebrospinal Fluid Barrier Function
Evans *et al.*,



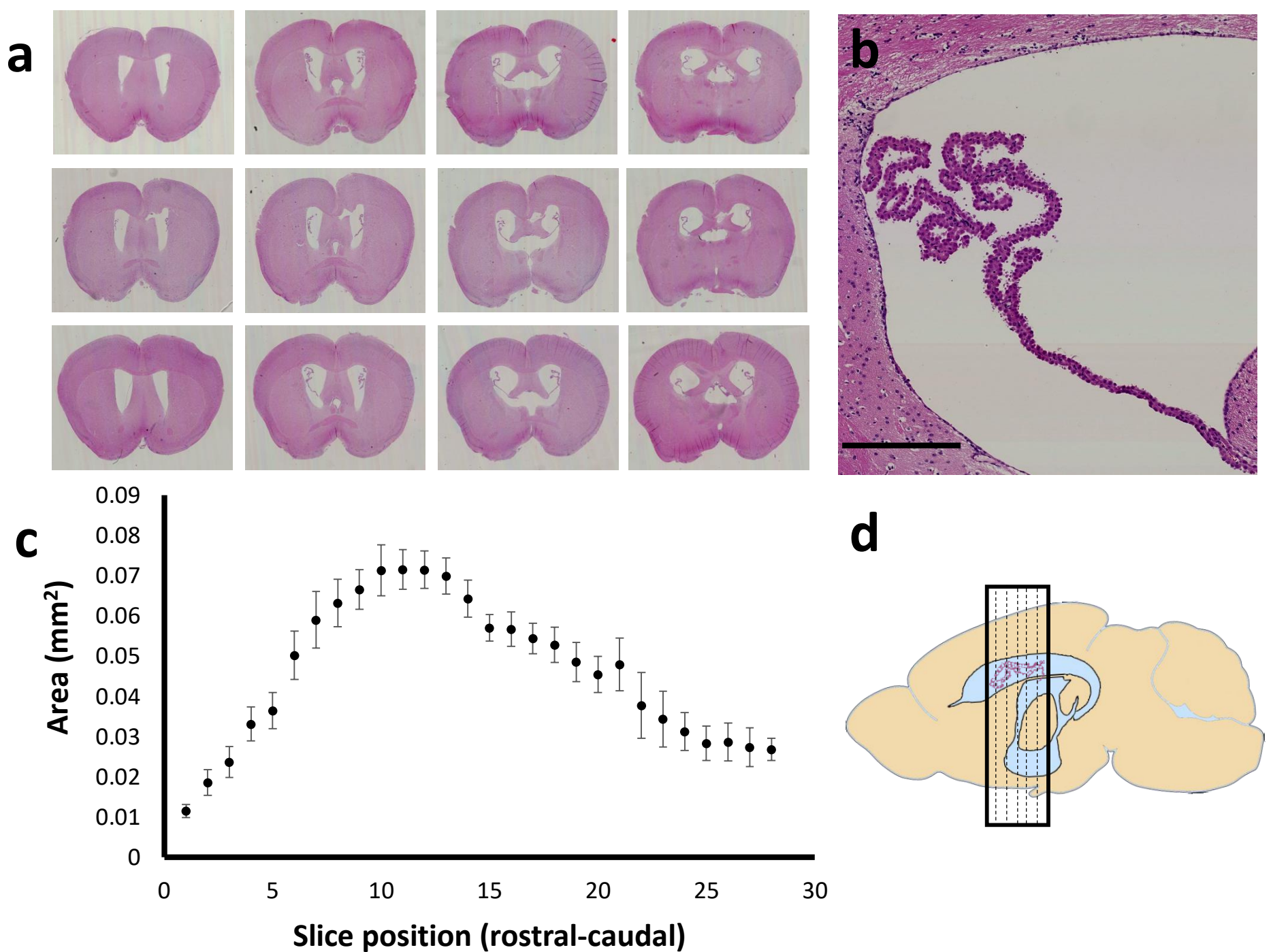
supplementary Figure 1

- Anatomical reference images showing the location of the imaging slice at the caudal section of the lateral ventricles
- Control image (standard ASL, TE = 20 ms)
- Subtraction (ΔM) image (standard ASL, TE = 20 ms)
- Control image (BCSFB-ASL, TE = 220 ms)
- Subtraction (ΔM) image (BCSFB-ASL, TE = 220 ms)
- Control signal as a function of TI with T1 inversion recovery fit (used to calculate tissue/CSF T1 and M0) for a representative mouse



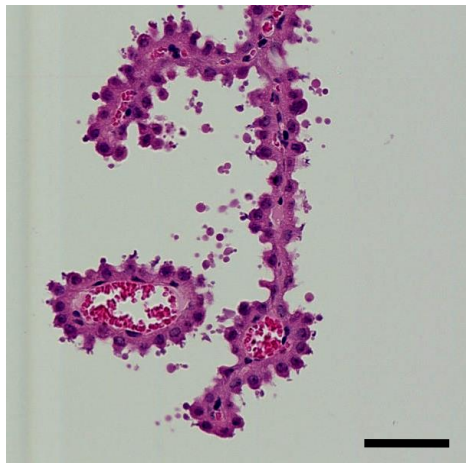
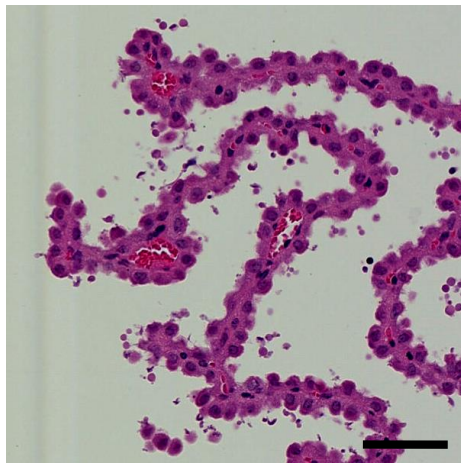
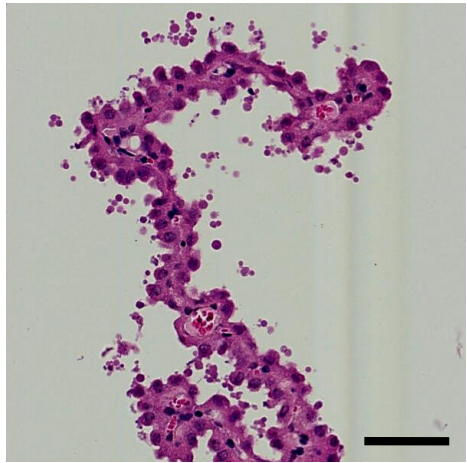
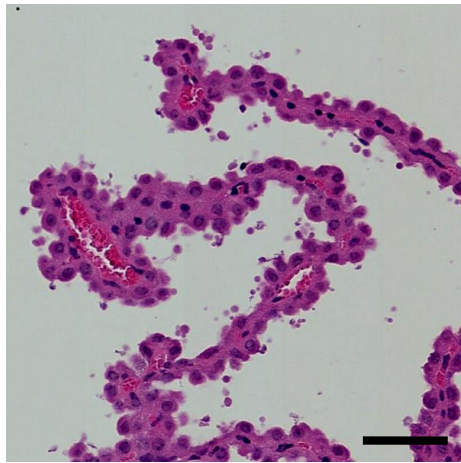
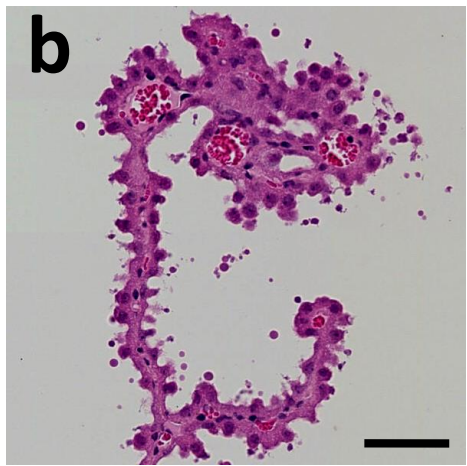
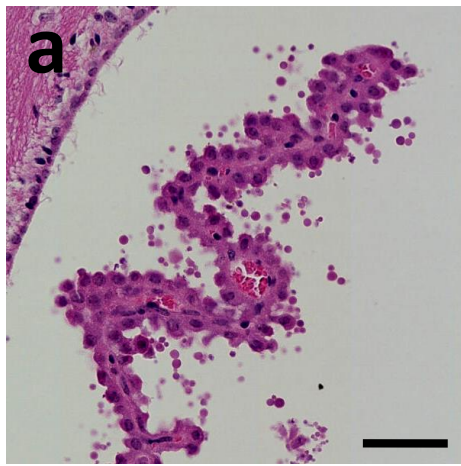
supplementary Figure 2

Normalised BCSFB-ASL signal as a function of TI (crosses) together with the adapted kinetic ASL model fit to the data (black line). Each plot shows the data from each of the individual 12 mice ('Multi-TI BCSFB-ASL in the Lateral Ventricles').



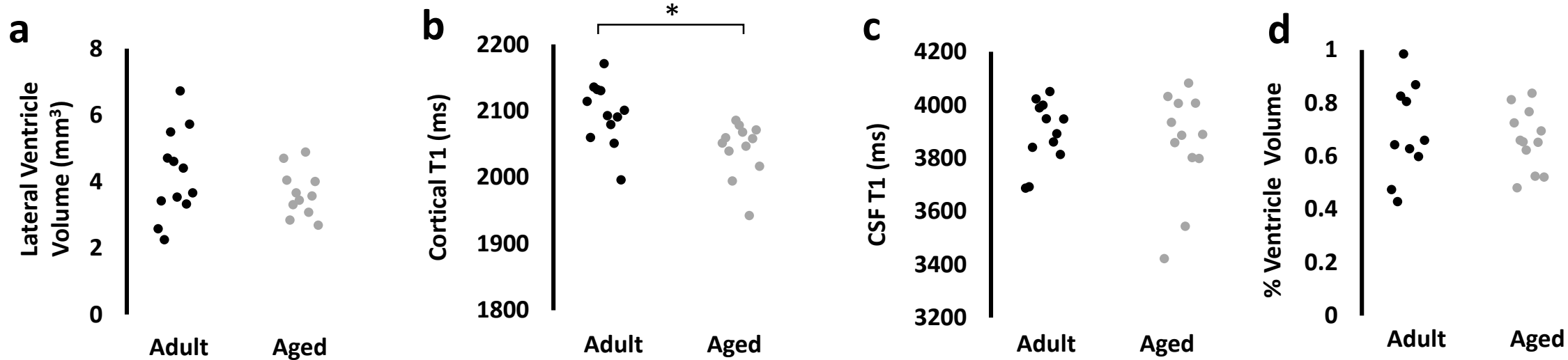
supplementary Figure 3

- Example slices through the lateral ventricles from rostral to caudal (columns 1-3) for three example mice (rows 1-3). A total of $n=11$ biologically independent samples was examined with similar results.
- Example 'zoomed in' image of the lateral ventricles, used to segment the CP tissue to calculate the area within each slice. A total of $n=11$ biologically independent samples was examined with similar results. Scale bar represents $200\mu\text{m}$.
- The estimated CP area across the lateral ventricles from the rostral to caudal slices (error bars represent the SEM, $n=11$ biological independent animals examined over 12 independent experiments for each group respectively)
- Schematic illustrating the approximate location of the brain slices taken for which CP area was calculated.



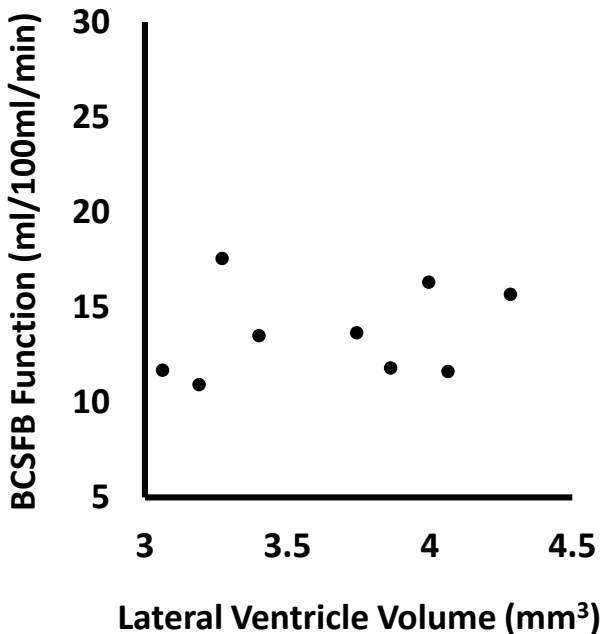
supplementary Figure 4

Example sections of choroid plexus tissue in the lateral ventricles in adult (column a) and aged mice (column b). Scale bar = 50 μ m. A total of n=11 and n=6 biologically independent samples was examined with similar results for the adult and aged mouse brain respectively.



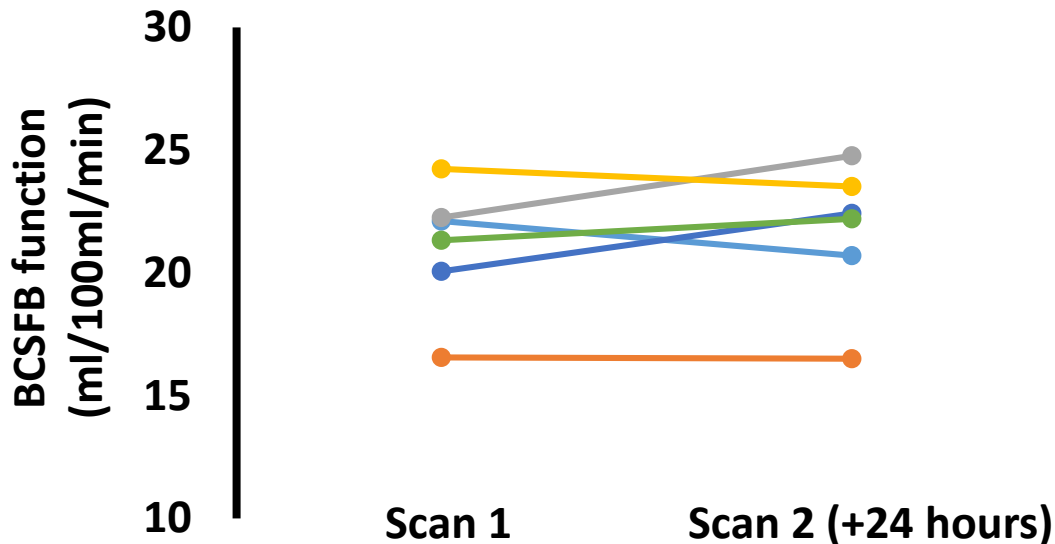
supplementary Figure 5

Estimates of the lateral ventricle volume (a), cortical T1 (b), lateral ventricle CSF T1 (c) and ventricle volume as a % of whole brain volume (d) for the aged and adult cohort. Each dot represents an individual mouse.



supplementary Figure 6

Rates of BCSFB-mediated blood water delivery to the ventricular CSF against the volume of the lateral ventricles for the separate cohort of aged mice (C57BL/6j, male, 24-25 months of age). Each dot represents each individual mouse (n=10).



supplementary Figure 7

Estimate of BCSFB-mediated water delivery rates to the lateral ventricles at baseline (scan 1) and then 24 hours later following recovery. Each line represents an individual mouse.