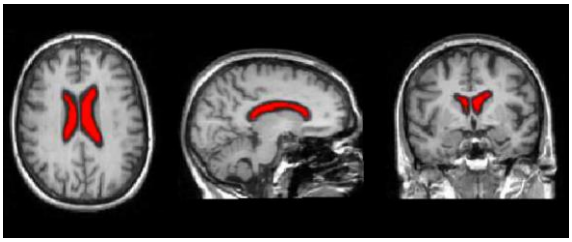
Supplemental Table 1 Demography. Demographic data for Alzheimer's disease (AD), mild cognitive impairment (MCI), AD/MCI matched control, multiple sclerosis (MS), and MS control groups.

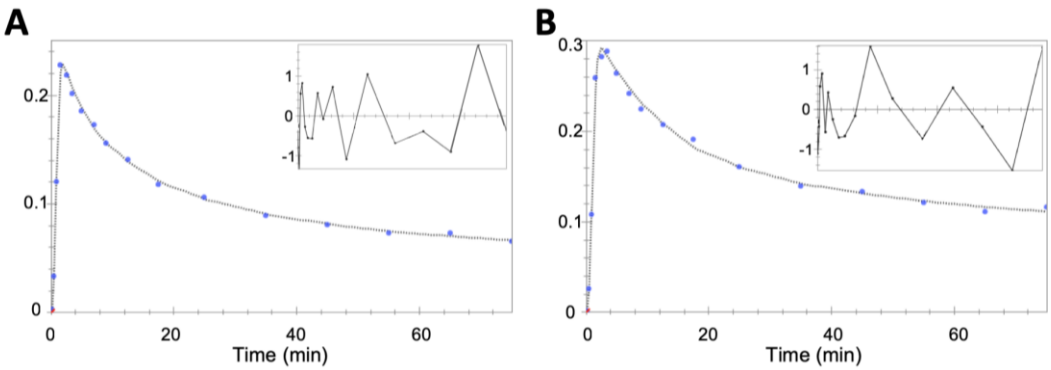
	AD	MCI	AD/MCI controls	MS	MS controls
Total number	11	12	12	20	8
Age (mean±SD)	66.5±4.1	68.6±7.9	64.4±6.6	32.3±5.6	31.6±6.4
Age range	58-75	55-78	54-75	20-43	26-43
Sex (female/male)	6/5	4/8	5/7	13/7	5/3
MMSE (mean±SD)	22.2±3.8	-	29.9±0.4	-	-
MMSE range	16-26	-	29-30	-	-
Amyloid positive	-	6	-	-	-
EDSS (mean±SD)	-	-	-	2.2±1.4	-
EDSS range	-	-	-	0-6	-
MSSS (mean±SD)	-	-	-	3.4±2.0	-
MSSS range	-	-	-	0.5-6.9	-

Supplemental Figure 1 Lateral ventricle region of interest (ROI). Lateral ventricle cerebrospinal fluid (CSF) is filled with red. ROI was generated using ITK-SNAP snake tool and has subsequently been eroded by 2 voxels.

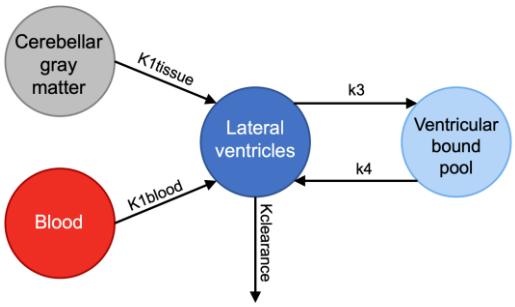


Testing of compartmental models

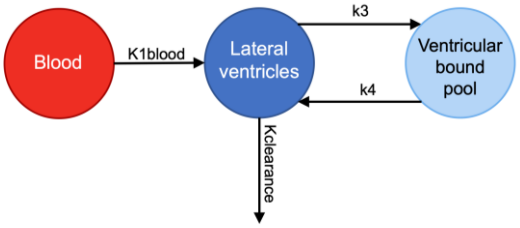
Supplemental Figure 2 Example data fits from compartmental modelling. A: Alzheimer's patient lateral ventricle TAC data fit example. B: Healthy control lateral ventricle TAC data fit example. The waited residuals are shown in the upper right corner of each image.



Supplemental Figure 3 Compartmental model using only cerebellar gray matter as K1tissue input to lateral ventricles to confirm rate constant differences is not due to amyloid-beta accumulation in tissue. Kclearance includes total clearance from lateral ventricles to blood, tissue, and rest of ventricular system.



Supplemental Figure 4 Simplified model excluding gray matter tissue input to lateral ventricles. Kclearance includes total clearance from lateral ventricles to blood, tissue, and rest of ventricular system.



Supplemental Figure 5 Simplified model excluding ventricular bound pool. Kclearance includes total clearance from lateral ventricles to blood, tissue, and rest of ventricular system.