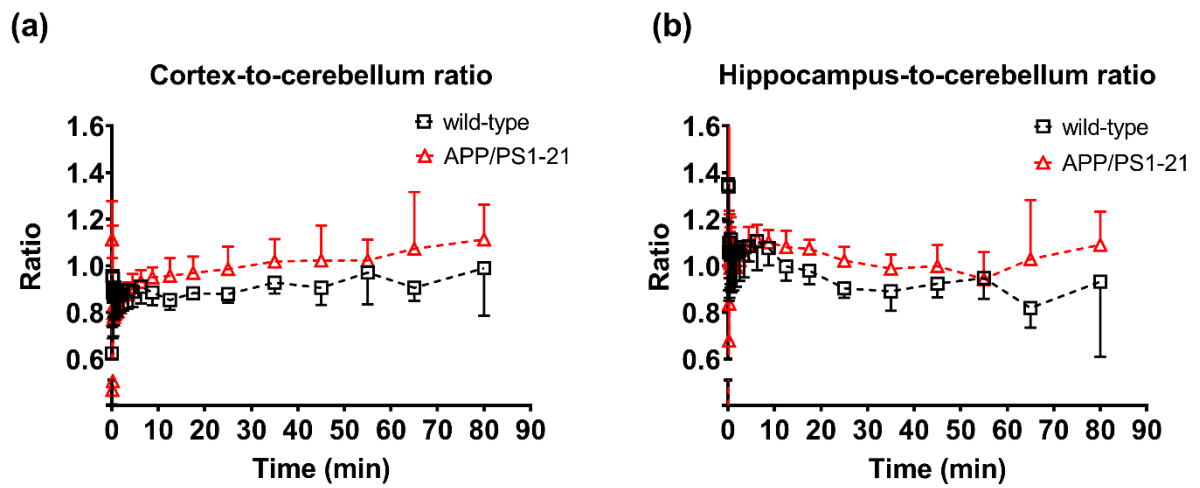
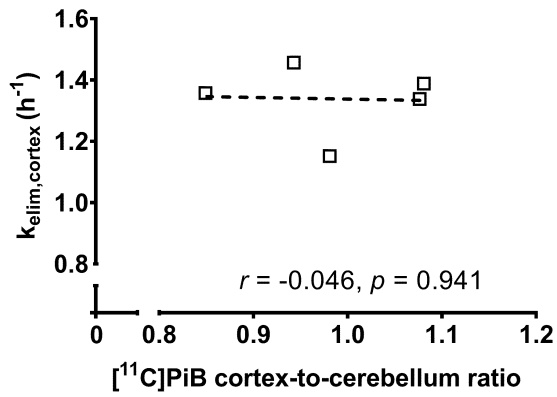


**Supplementary Figure 1.** Representative MR co-registered [ $^{11}\text{C}$ ]BMP PET summation images (0-90 min) in one wild-type mouse aged 170 days (a) and one APP/PS1-21 mouse aged 170 days (b). The outlined regions of interest are shown: cortex (blue), hippocampus (red) and cerebellum (yellow).

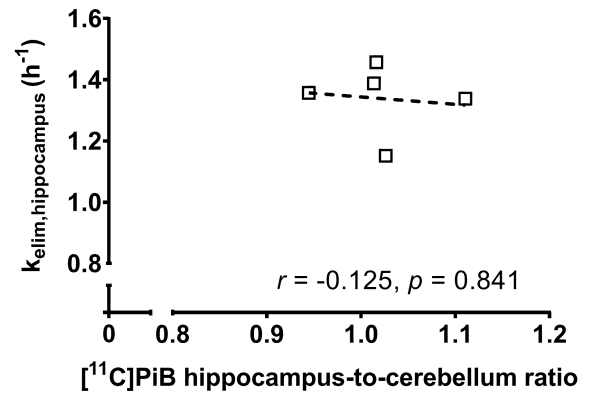


**Supplementary Figure 2.** Cortex-to-cerebellum (a) and hippocampus-to-cerebellum ratios (b) (mean  $\pm$  SD) of [ $^{11}\text{C}$ ]PiB in wild-type and APP/PS1-21 mice aged 170 days.

(a)



(b)



**Supplementary Figure 3.** Correlation between  $k_{elim,cortex}$  of  $[^{11}C]BMP$  and the cortex-cerebellum ratio of  $[^{11}C]PiB$  (a) and  $k_{elim,hippocampus}$  of  $[^{11}C]BMP$  and the hippocampus-cerebellum ratio of  $[^{11}C]PiB$  (b) in vehicle treated APP/PS1-21 mice aged 170 days.