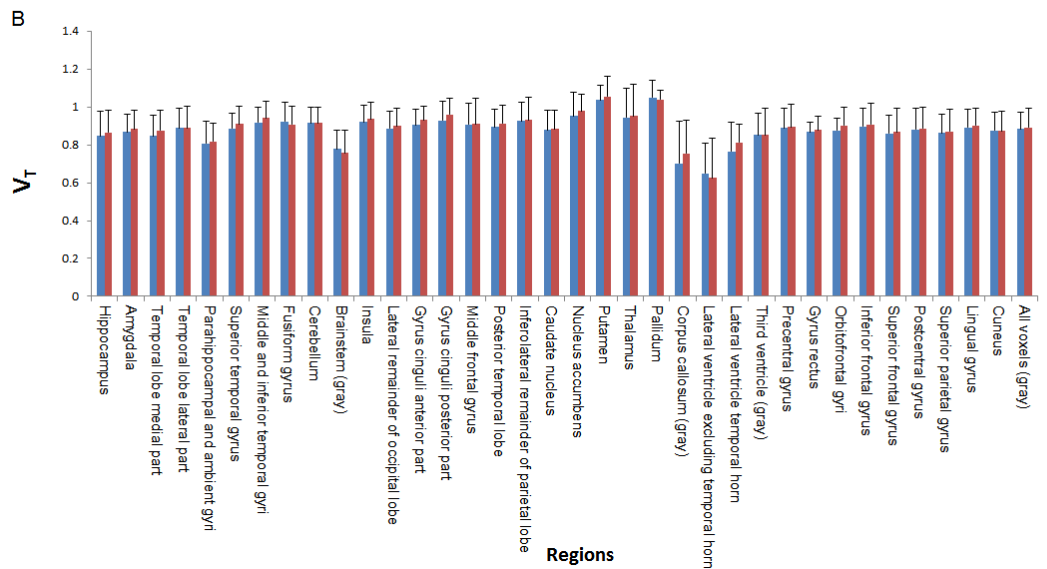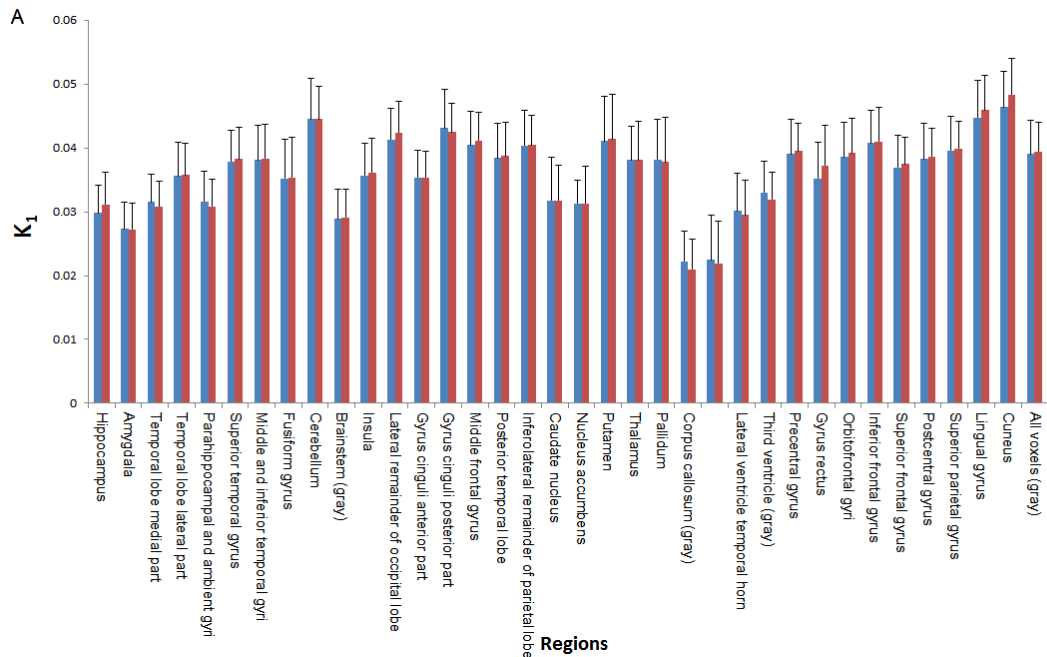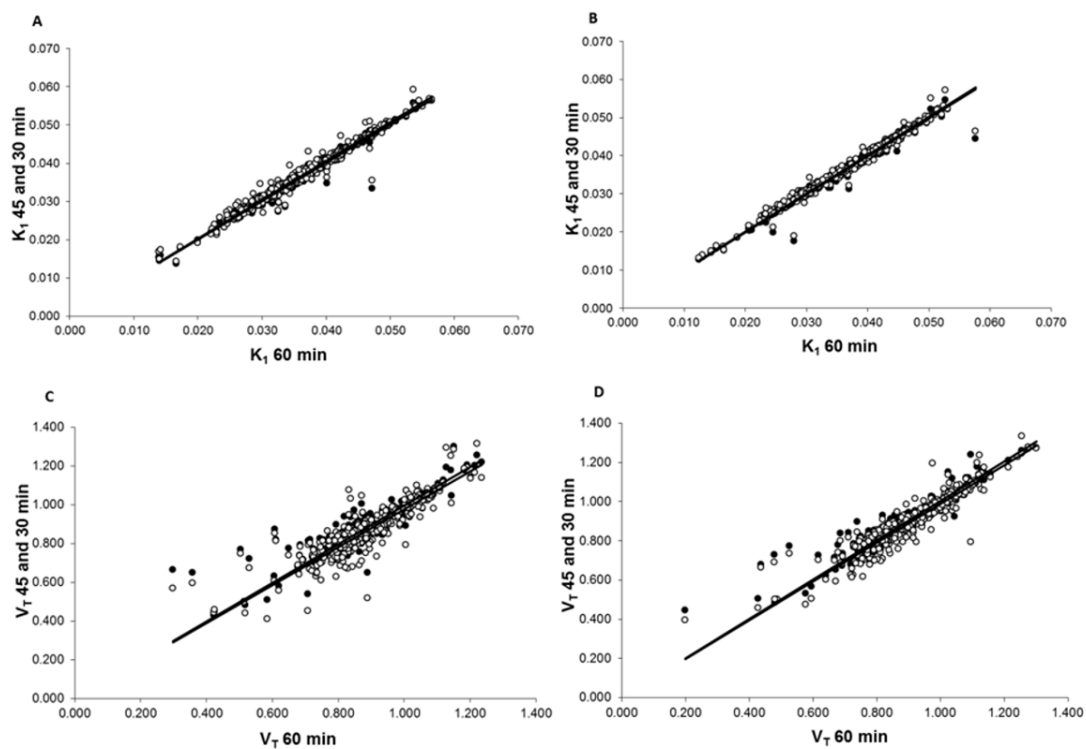**Supplemental Figure 1.** The whole brain grey matter TAC with various model fits. **(A)** and **(B)** consist of the data from 1TC2k and 1TC2k + V_b model, **(C)** and **(D)** from 2TC3k and 2TC3k + V_b while **(E)** and **(F)** are the data from 2T4k and 2T4k + V_b respectively. The red dot represents the measured data while the blue line represents the fitted value to the data.

Supplemental Figure 2. The bar charts show the K₁ **(A)** and V_T **(B)** values of various regions across the brain. The blue bar and red bar corresponding to test and retest data respectively.

Supplemental Figure 3. Correlation between shorter (30 and 45 minutes) and full (60 minutes) scan durations for **A)** K_1 test, **B)** K_1 retest, **C)** V_T test and **D)** V_T retest data. The (●) represent 45 min scan duration data while (○) represent 30 min of scan duration data.