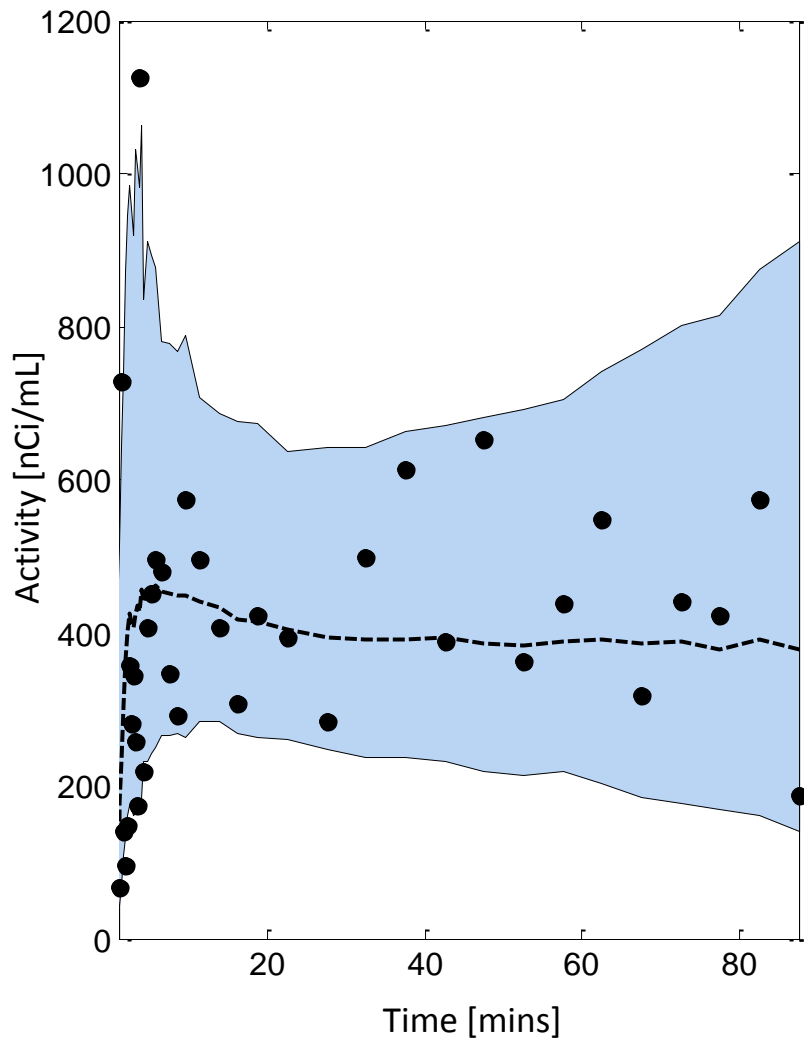


SUPPLEMENTAL FIGURE

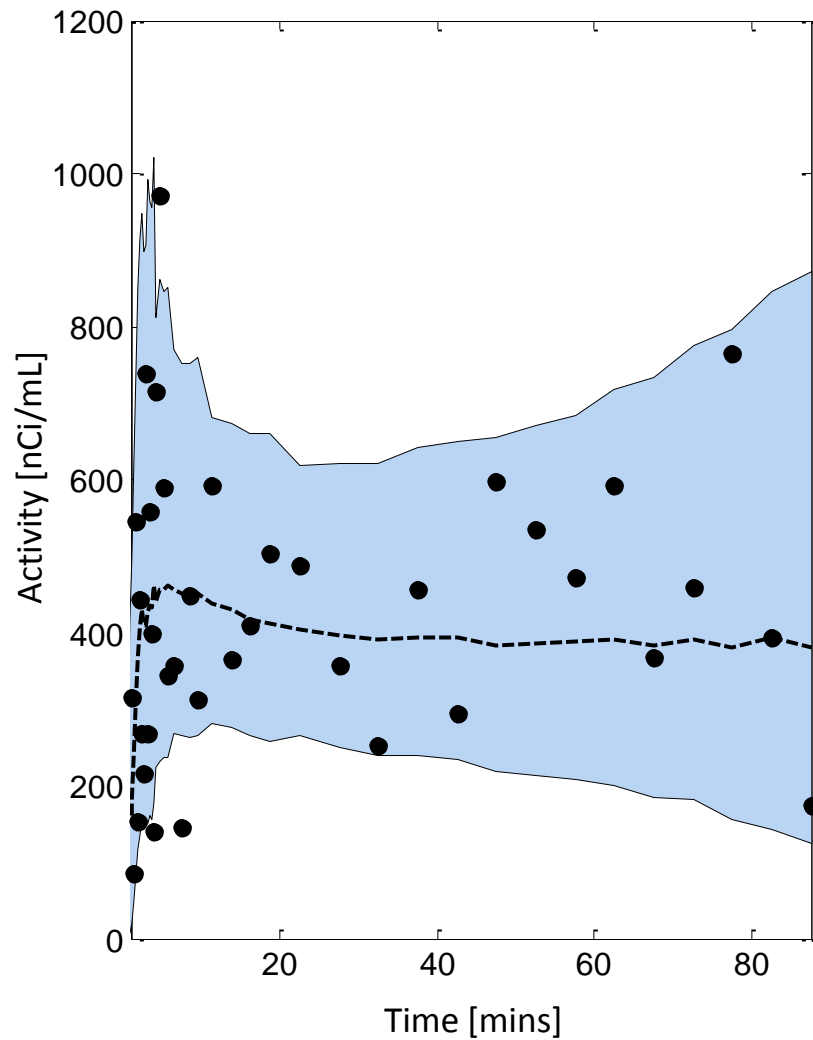
Comparison of measured time-activity curves (TACs) and curves simulated with the bootstrap approach. TACs are from a single slice of one subject. All voxels in brain in the slice are included in A, whereas only those voxels in frontal cortex or corona radiata are included in panels B and C, respectively. The mean of all voxels in the region is shown by the dashed line. The blue shaded areas represent the 5th-95th percentile, and filled circles illustrate a measured and simulated noisy TAC from one voxel in the region. Simulated TACs were derived as follows. Measured voxel TACs were analyzed with SAIF in order to obtain the "true" parameter values for the simulation. Noise-free TACs were generated based on these parameter values. Normalized residual values for each voxel were then determined as the difference between measured and model-estimated activities, divided by the maximum activity over all frames of data. Noise was generated for each of the noise-free TACs by random resampling with replacement of the normalized residuals. Each normalized residual was rescaled by the maximum activity in the voxel TAC to which it was added. The simulated TACs are the sum of the noise-free TACs plus the normalized and rescaled residuals. For details, see Materials and Methods for Simulation 2.

A) Whole Brain

Measured Data

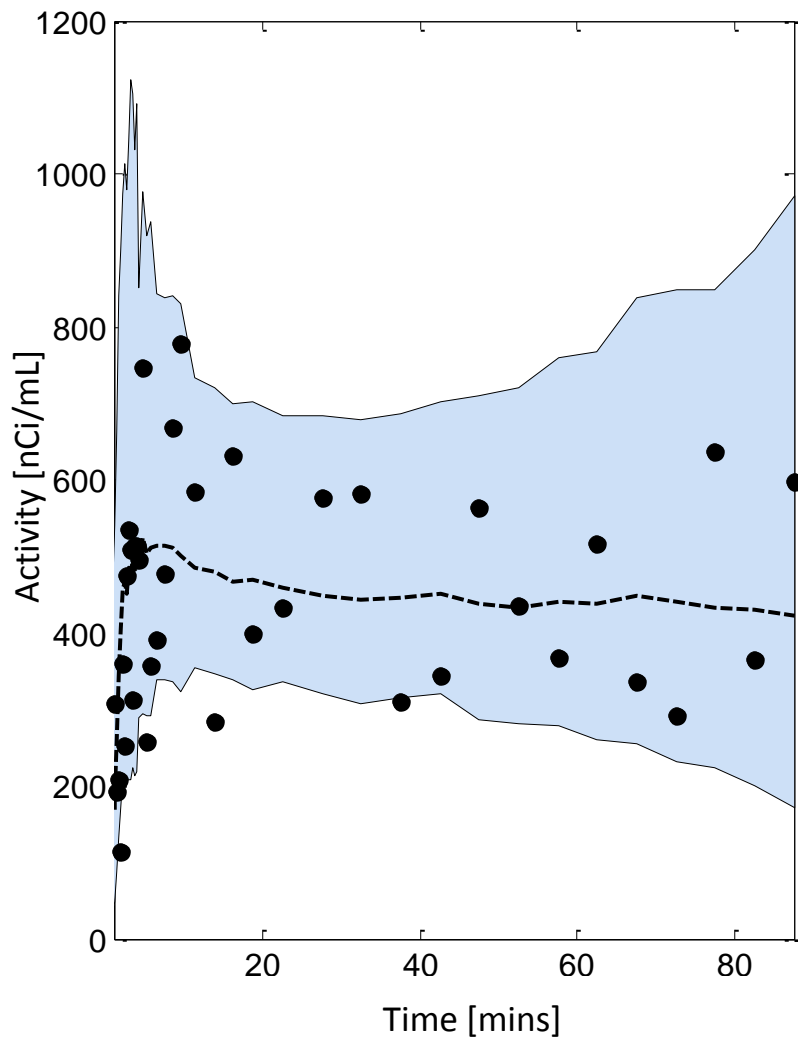


Simulated Data

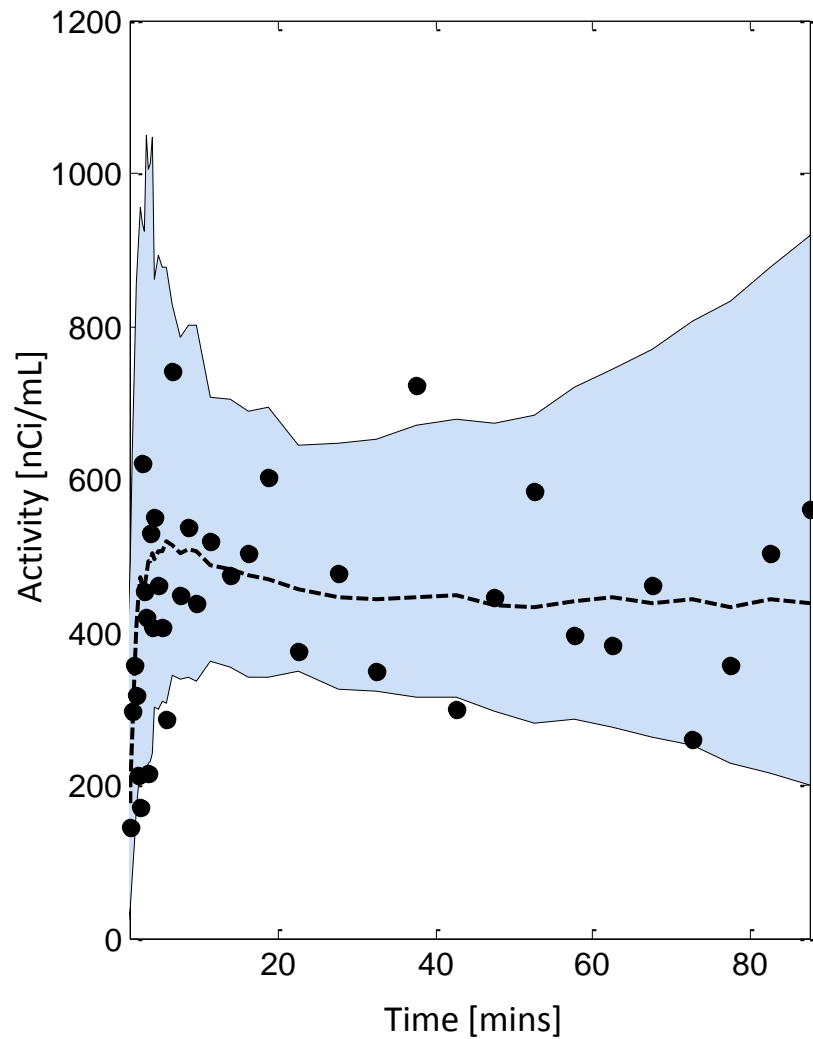


B) Frontal Cortex

Measured Data

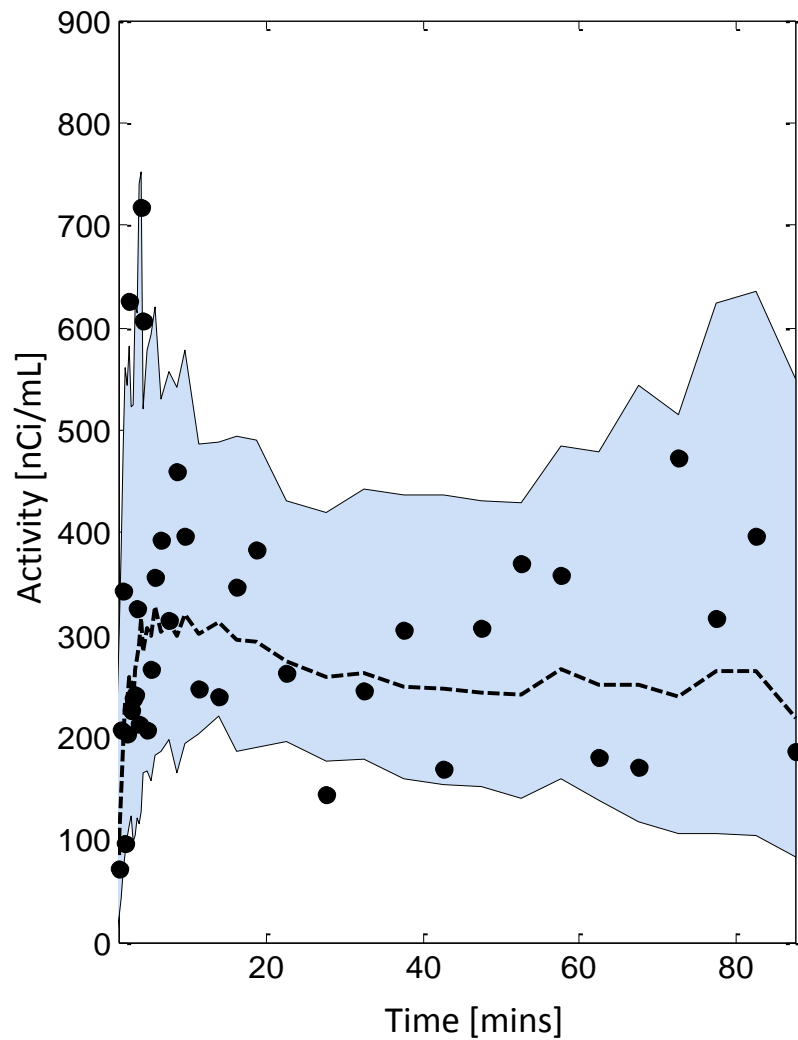


Simulated Data



C) Corona Radiata

Measured Data



Simulated Data

