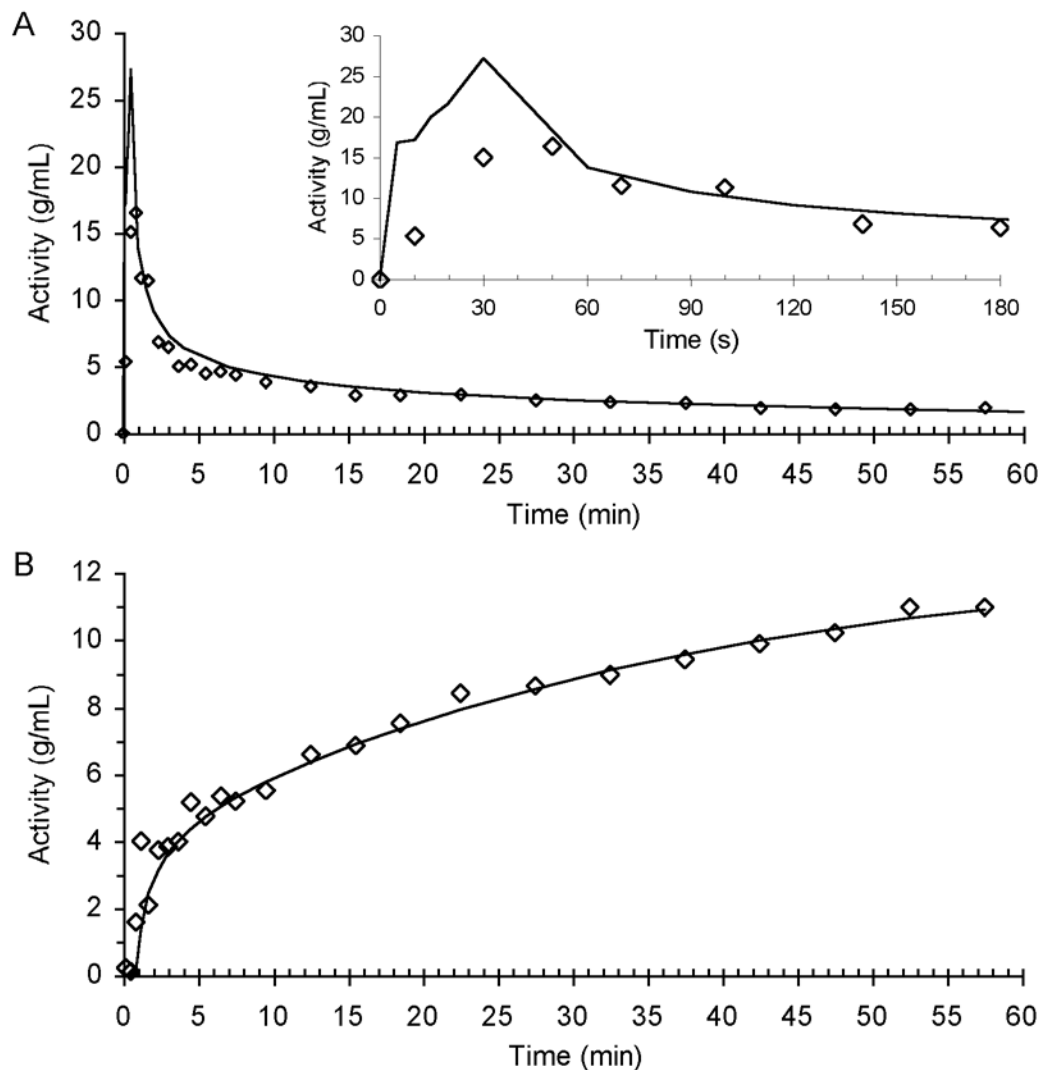


SUPPLEMENTAL FIGURE 1. Estimated versus original ^{18}F -fluoride parameters are plotted for (A) K_1 , (B) V_D , (C) k_3 , (D) k_4 , and (E) K_i with gray identity lines. The 250 original parameter values, randomly selected for each floating parameter from a clinically expected range, were used to generate 250 simulated PET tissue time-activity curves by adding 2% Poisson error to reflect typical patient imaging noise. Estimated parameter values were subsequently determined from optimized curve fits of the simulated model output.



SUPPLEMENTAL FIGURE 2. A. Example ^{18}F -fluoride time-activity curves in SUV units for whole blood with an expanded first 3 min insert. The open diamond points are decay-corrected activity while the solid lines represent the modified Hirata population input function* for whole blood. B. Example patient bone metastasis time activity curve derived from the dynamic ^{18}F -fluoride image sequence, where the solid line represents the model fit to the tumor time-activity curve.

*Hirata T, Wakita K, Fujioka M, et al. Reliability of one-point blood sampling method for calculating input function in Na ^{18}F PET. *Nucl Med Commun*. Jun 2005;26(6):519-525.