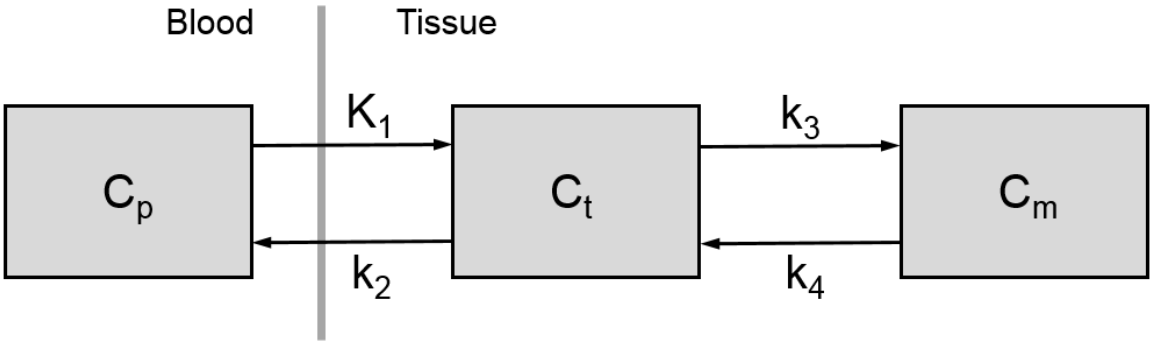

Supplemental Figure 1. Three compartment model with rate constants K_1, k_2, k_3 and k_4 describing transport between blood and two tissue compartments. C_p is the concentration of ^{18}F-FLT in arterial plasma; C_t is the concentration in an exchangeable tissue compartment; and C_m is the concentration of metabolized ^{18}F-FLT. K_1 represents the rate of transfer from blood to tissue and is influenced by blood flow and the permeability of the blood brain barrier; k_2 represents the rate of transfer of nonphosphorylated ^{18}F-FLT from tissue back to blood; k_3 represents the rate of phosphorylation of ^{18}F-FLT; k_4 represents potential loss of signal from the C_m compartment. Under the assumption that k_4 is negligible, the influx constant $K_i = K_1 \times k_3 / (k_2 + k_3)$ describes the overall uptake rate. Both K_i and k_3 have been shown to be correlated with the in vitro proliferation index Ki-67.