Electronic Supplementary Material (ESI) for Molecular BioSystems.

Supplementary File S1

Ghadiri et al., "A multiscale agent-based framework integrated with a constraint-based metabolic network model of cancer for simulating avascular tumor growth"

File S1: Proof of the necrosis probability equation:

Let *n* be the number of simulation steps corresponding to the half-life of cancer cells. One can simply observe that if we assume that the probability of necrosis of each starved cell in one step is $1-2^{-1/n}$, then the probability of being alive for each starved cell in half-life time must be 0.5.

$$P_{\text{necrosis}} = 1-2^{-1/n} \Rightarrow P_{\text{alive}} = 2^{-1/n} \Rightarrow P_{\text{alive\_after\_n\_steps}} = (2^{-1/n})^n = 2^{-1} = 0.5$$

Hence, after this period of time (i.e., *n* simulation steps), half of the starved cells will be dead.