

Supporting Information

Figure S1. Dose-dependent incidence of dermal necrosis for Yorkshire pigs. Symbols refer to experimental observations adapted from ⁵, which are fitted with a function (line) used in this study.

Video S1. Time-lapse imaging of one EPU simulation with SWCC model, from standard initial state to steady state. The time interval between each snapshot is 1 hour (time shown at the upper-left corner), and x-dimension and y-dimension are even (10 cells). Cells with red center are prickle cells, and those with yellow center are proliferative cells.

Video S2. Time-lapse imaging of one EPU simulation with WCC model, from standard initial state to steady state. Same configuration as in Video S1.

Video S3. Time-lapse imaging of 70 days simulation of radiation responses in 10 EPUs epidermis with SWCC model. 26.19 Gy acute radiation was introduced from a steady state (T=3100 hr). The time interval between each snapshot is 1 hour (time shown at the upper-left corner). x-dimension is fixed at 100 cells while y-dimension is variant (from 5 to 10 cells). Cells with red center are prickle cells, those with yellow center are proliferative cells, and those with dark-gray center are marked for apoptosis.

Video S4. Time-lapse imaging of 70 days simulation of radiation responses in 10 EPUs epidermis with WCC model. Exposure and configure are the same as in Video S3.