Table S1. Individual based model parameters

Parameter	Value	source	definition
$ncells$	235	data[29]	Number of cells in the crypt
n_{spiral}	33	data[29]	Number of Paneth and Stem cells in the stem cell niche
$Diff_{Secr}$	>50%	data[29]	Percentage of secretory neighbouring cells that inhibit differentiation into secretory lineage
D_c	$-5.7091\,N_d + 21.449$	data[29, 62]	Duration of division cycle (hours). N_d is the number of undertaken divisions by the cell: its value is fixed to 0 for stem cells and for transit cells the maximum value is 2.
n	6	data[29]	Maximum number of division cycles in transit amplifying cells
R_{av}	5	data	Average cell radius at birth (μm)
r_{av}	$\dfrac{\pi R_{av}^2}{D_c}$	data	Average growth rate of the surface area of cells ($\mu m^2\,h^{-1}$)
α	1.3	data	Parameter governing the shear stress threshold in Paneth cells