SUPPORTING INFORMATION

In-silico Dynamic Analysis of Cytotoxic Drug Administration to Solid Tumours: Effect of Binding Affinity and Vessel Permeability

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Vascular network model parameters

List of model parameters associated with the *Vascular Network Module* (see Fig 1). Parameters with a star ($\star$) correspond to non-perfused or hypo-perfused vessels, while those with a dagger ($\dagger$) correspond to well-perfused vessels. The parameters with a double dagger ($\ddagger$) denote the pre-set parameter values of the original vascular network, while the cell marked with an asterisk denotes shared value for both tissue types.

Parameter	Description	Host | Tumour	Source
k_τ [m]	chemotaxis in angiogenesis	1.	[1]
k_ϵ [m]	haptotaxis in angiogenesis	0.3	[1]
k_m [Pa^{-1}]	mechanotaxis in angiogenesis	0.01	[1]
$\tilde{R}$ [µm]	see Eq (16) in [1]	4.	[2]
$v_{\text{v-0}}$, $v_{\text{v-1}}$ [µm d^{-1}]	see Eq (16) in [1]	5.5, 479.7	[2]
$v_{\text{v-max}}$ [µm d^{-1}]		250.	[1,2]
τ^* [–]	TAF threshold above which angiogenesis occurs	0.01	[1]
μ_D, σ_D [µm]	median and standard deviation of distance-related probability function $\mathcal{P}_\mathrm{D}$	$150. \pm 15^\star$, $300. \pm 30^\dagger$	[1]
μ_A, σ_A [d]	median and standard deviation of age-related probability function $\mathcal{P}_\mathrm{A}$	$0.5 \pm 0.25^\star$, $1.25 \pm 0.25^\dagger$	[1]
[µm]	minimum distance (between two different branches) to enforce anastomosis	40.	[1]
R [µm]	capillary lumen radius of original (host) vessels; range of R for tumour vessels	$80.^\ddagger$; 5.—60.	[3,4]
h [µm]	capillary wall thickness of original vessels; range of h for tumour vessels	$5.5^\ddagger$; 3.—5.	[3,4]
r_p [nm]	capillary wall pore size of original vessels; average value of r_p for tumour vessels	$1.^\ddagger$; [10., 50., 150.]	[5,6]
γ_p [–]	fraction of endothelium surface occupied by pores for original vessels; value of γ_p for tumour vessels	$1.e{-}4^\ddagger$; $10.e{-}4$	[7]

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