

Model Description  
 Model Equations  
 f'(x, t) as the time derivative  
 ...rest of scaffold model (ref)  
 x ∈ {back, front}

$$\begin{aligned}
 \text{Scyto}'(x, t) &= p_4(\text{Sves}, \text{dSves}) * C_1(x, t) - p_1(x) \text{Scyto}(x, t) - D \nabla^2 \text{Scyto}(x, t) + p_2 * \text{Smem}(x, t) \\
 \text{Smem}'(x, t) &= p_1(x) * \text{Scyto}(x, t) - p_2 * \text{Smem}(x, t) - p_3(\text{Smem}) * \text{Smem}(x, t) \\
 C_1'(x, t) &= p_3(\text{Smem}) * \text{Smem}(x, t) - p_4(\text{Sves}, \text{dSves}) * C_1(x, t) + \dots \\
 \text{Sves}(x, t) &= \sum_{i=1}^9 C_i(x, t) \\
 \text{dSves}(t) &= \text{Sves}(\text{front}, t) - \text{Sves}(\text{back}, t) \\
 p_1(x) &= p5 * \text{grad} * \text{maxdose} * (l + dX * x) \\
 p_3(\text{Smem}; a, b, c, d, e) &= (a + b * \text{Smem}) * \left( \frac{1 - d}{1 + (\text{Smem} - e) * c} + d \right) \\
 A(\text{Sves}, \text{dSves}; a, m, n) &= a * \tanh \left( \frac{\text{dSves}}{n * \text{Sves} + m} \right) \\
 p_4(x; A, b) &= x * (b - A) + (1 - x) * (b + A) \\
 \text{MI} &= \frac{\text{MAPKpp}_{\text{front}} - \text{MAPKpp}_{\text{back}}}{dX * \text{maxdose}}
 \end{aligned}$$

<b>Parameter</b>	<b>Value</b>
grad	1.0
maxdose	0.0085
l	1.0
dX	0.0001
slevel	StotNone
Stot	0.0
StotNone	0.0
StotNative	1.5
StotOpt	3.3
StotOE	42.0
p2	0.89
p5	7.7
p3a	0.00088
p3b	0.48
p3c	2.1
p3d	0.02
p3e	1.5
p4a	0.003
p4b	6.5
p4n	495
p4m	-47.5
D	0.0001
tp	5e-1