

$$\begin{aligned}
\frac{d[R]}{dt} &= P_3 - D_R[R] - K_{on(RI)}[R][I] - K_{on(RL)}[R][L] \\
\frac{d[I]}{dt} &= P_1 \left(\frac{1}{1 + ([R]/K_R)^{n_R}} \right) \left(\frac{([A]/K_A)^{n_A}}{1 + ([A]/K_A)^{n_A}} \right) - D_I[I] - K_{on(RI)}[R][I] \\
\frac{d[L]}{dt} &= P_L \frac{1}{1 + ([R]/K_R)^{n_R}} - D_L[L] - K_{on(RL)}[R][L]
\end{aligned}$$