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| Parameter | Definition |
|  | Unbound and bound PGRP-LC |
|  | Recruited and total IMD |
|  | Relish B and P outside the nucleus |
|  | Free and bound Relish in the nucleus |
|  | Feedback effector molecules acting within the cell |
|  | Feedback effector molecules acting outside the cell (includes AMPs) |
|  | Microbes present outside the cell |
|  | External supply or replenishment rate of molecule X |
|  | Formation of one bound complex eliminates *m* unbound molecules |
|  | Rate constant for a reaction involving X |
|  | Coefficient for strength of feedback effect of bound Relish onto X |
|  | Exponent for reaction rate that is higher order in [P] |
|  | First-order degradation rate of X |
|  | First-order inactivation or unbinding rate of X |
|  | Cell and nuclear volumes |
|  | Concentration of effector at which X suffers half-maximal degradation |
|  | Coefficient such that is the Relish inflow rate |

du[1] = QP - m \* cP \* exp(-phiP\*u[8]) \* u[1]^k \* u[10] - deltaP \* u[1]

du[2] = cP \* exp(-phiP\*u[8]) \* u[1]^k \* u[10] - deltaPstar \* u[2]

du[3] = cI \* exp(-phiI\*u[8]) \* (IT - u[3]) \* u[2] - rhoIstar \* u[3]

du[4] = QR / V + (phiR\*u[7])/(KR+u[7]) - cB \* u[3] \* u[4] - deltaR \* u[4]

du[5] = cB \* u[3] \* u[4] - DP \* u[5] - deltaR \* u[5]

du[6] = DP \* u[5] / VN - cN \* u[6] + cNstar \* u[7] - deltaN \* u[6]

du[7] = cN \* u[6] - cNstar \* u[7]

du[8] = QH / V + cH \* u[7] - deltaH \* u[8]

du[9] = QA / V + cA \* u[7] - deltaA \* u[9]

du[10] = QM / V + (phiM \*u[9]/(KM+u[9])) \* u[10] - cM \* u[10]^2