

Ecuaciones deterministas del sistema de QS de *P. aeruginosa*

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Esquema del circuito

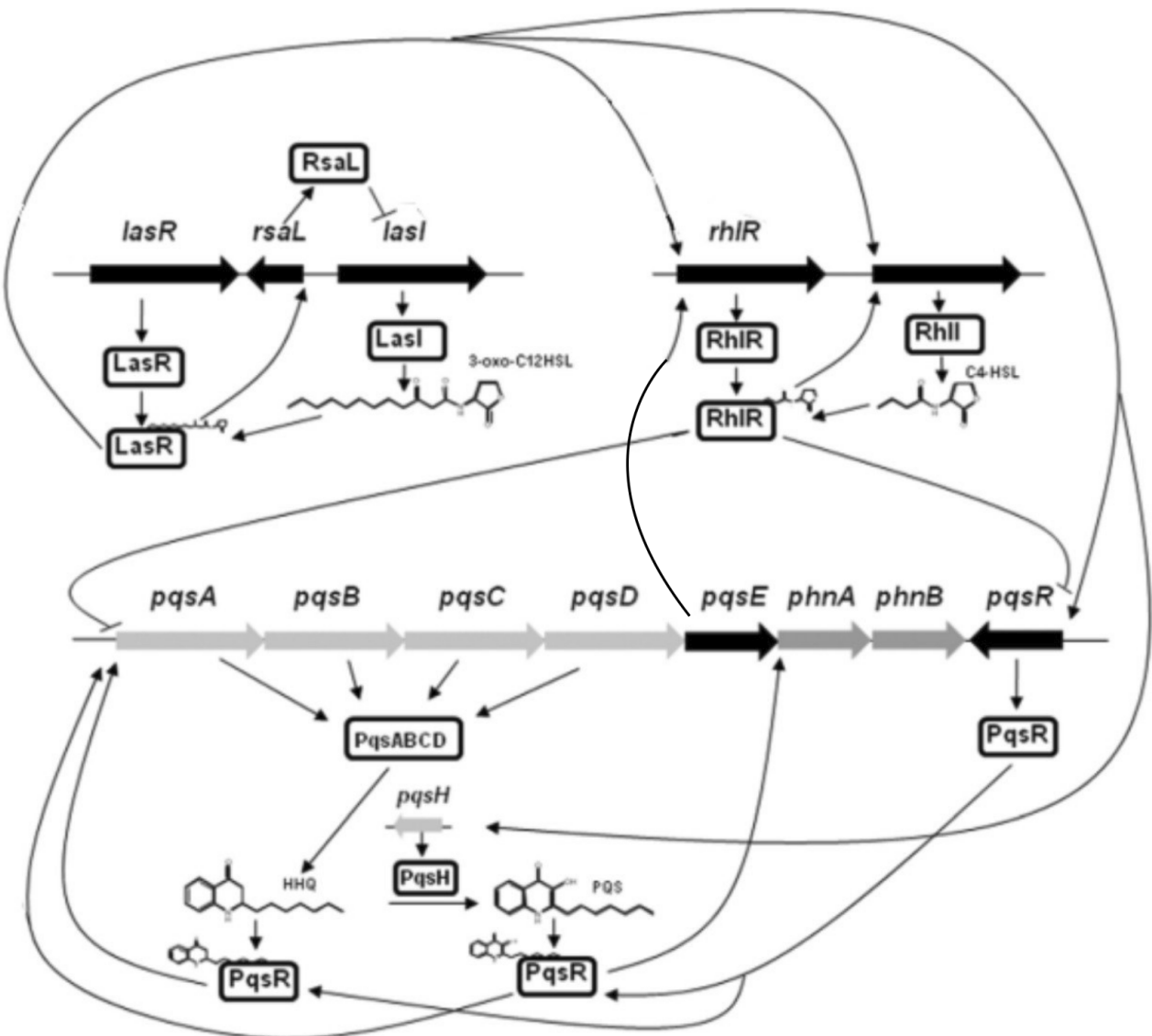


Figura 1: Representación esquemática del circuito de QS de *P. aeruginosa*.

Ecuaciones deterministas

LasR/LasI

$$[las\dot{R}] = \kappa_{lasR} - [lasR]\gamma_{lasR} \quad (1)$$

$$[Las\dot{R}] = [lasR]\kappa_{LasR} + [LasR \cdot AI_1]\sigma_{LasR \cdot AI_1} - [AI_1][LasR]\kappa_{LasR \cdot AI_1} - [LasR]\gamma_{LasR} \quad (2)$$

$$[las\dot{I}] = \alpha_{lasI} + \frac{\beta_{lasI}}{1 + \left(\frac{[LasR \cdot AI_1]}{K_1}\right)^{h_1}} - [lasI]\gamma_{lasI} \quad (3)$$

$$[Las\dot{I}] = [lasI]\kappa_{LasI} - [LasI]\gamma_{LasI} \quad (4)$$

$$[AI_1\dot{I}] = [LasI]\kappa_{AI_1} + [LasR \cdot AI_1]\sigma_{LasR \cdot AI_1} - (d(AI_1 - AI_{1ext})) - [AI_1]\gamma_{AI_1} \quad (5)$$

$$[AI_{1ext}\dot{I}] = (N \cdot d(AI_1 - AI_{1ext})) - [AI_{1ext}](\gamma_{AI_{1ext}} + d_{away}) \quad (6)$$

$$[Las\dot{R} \cdot AI_1] = [AI_1][LasR]\kappa_{LasR \cdot AI_1} - [LasR \cdot AI_1](\gamma_{LasR \cdot AI_1} + \sigma_{LasR \cdot AI_1}) \quad (7)$$

$$[\dot{p}] = \alpha_p + \frac{\beta_p}{1 + \left(\frac{[LasR \cdot AI_1]}{K_2}\right)^{h_2}} - [p]\gamma_p \quad (8)$$

$$[\dot{P}] = [p]\kappa_P - [P]\gamma_P \quad (9)$$