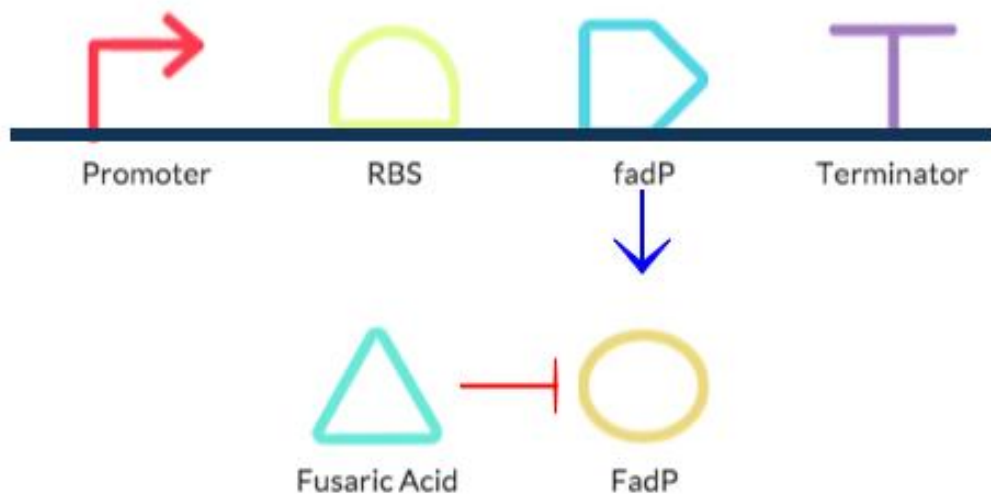


Biosensor-Fusaric Acid



Formulae for two certain parts

FAdP and Fusaricacid

$$[\text{FAdP}^F] = [\text{FAdP}] \frac{1}{1 + \left(\frac{[\text{FusaricAcid}]}{k_{\text{Fusaricacid}}} \right)^{n_{\text{Fusaricacid}}}}$$

FAdP

$$\frac{d[\text{FAdP}]}{dt} = \alpha_{\text{FAdP}}[\text{fadP}] - d[\text{FAdP}]$$

Parameter Table

Symbols	Parameters	Values and Units
Alpha_CIlambda	Translation rate of <i>CII</i>	0.09um*min ⁻¹
k_FAdP	FAdP Repression Coefficient	3
n_FAdP	FAdP Cooperativity coefficient	2
k_Fusaricacid	Fusaricacid Repression Coefficient	4
n_Fusaricacid	Fusaricacid Cooperativity coefficient	1.8
k_Rhamnose	Rhamnose Repression Coefficient	3
k_CIlambda	CIlambda Repression Coefficient	3

n_CIlambda	CIlambda Cooperativity coefficient	2.5
n_Rhamnose	Rhamnose Cooperativity coefficient	2.3
Alpha_TetR	Translation rate of TetR	0.06um*min ⁻¹
Alpha_LacI	Translation rate of LacI	0.09um*min ⁻¹
Alpha_FAdP	Translation rate of FAdP	0.075um*min ⁻¹
Alpha_GFP	Translation rate of GFP	0.075um*min ⁻¹
k_LacI	LacI Repression Coefficient	1.75
n_LacI	LacI Cooperativity Coefficient	2.5
k_tetR	tetR Repression Coefficient	4
n_tetR	tetR Cooperativity Coefficient	3
d	Protein degradation rate	0.008 s ⁻¹

Reference: http://2014.igem.org/Team:Wageningen_UR