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| --- | --- | --- | --- | --- | --- | --- | --- |
| Model | Secretion route | Time delay function | #P | $$k\_{ρ\_{i}}$$ | $$τ\_{p\_{i}}$$ | $$ρ\_{i}$$ | AIC |
| SMC1 | (-)RNA secretion from the RC ($C$) | Delay then ramp-up (Eq. 2) | 11 | $$k\_{C}=100 d^{-1}$$ | $$τ\_{C}=0.01 d$$ | $$ρ\_{C}=0.6 d^{-1}$$ | 192.9 |
| SMC2 | Simple delay (Eq. 3) | 10 | - | $$τ\_{C}=0.01 d$$ | $$ρ\_{C}=0.6 d^{-1}$$ | **190.0** |
| SMC3 | Delayed exponential decrease (Eq. 4) | 11 | $$k\_{C}=0.01 d^{-1}$$ | $$τ\_{C}=0.01 d$$ | $$ρ\_{C}=0.6 d^{-1}$$ | 193.7 |
| SMT1=C1 | (-)RNA and (+)RNA secretion from the RC ($C$) and the site of translation ($T$) with $ρ\_{T}= ρ\_{C}$ and $τ\_{T}= τ\_{C}$ | Delay then ramp-up (Eq. 2) | 11 | $$k\_{C}=k\_{T}=0.01 d^{-1}$$ | $$τ\_{C}=τ\_{T}=0.1 d$$ | $$ρ\_{C}=ρ\_{T}=27 d^{-1}$$ | **115.7** |
| SMT2=C2 | Simple delay (Eq. 3) | 10 | - | $$τ\_{C}=τ\_{T}=0.1 d$$ | $$ρ\_{C}=ρ\_{T}=0.26 d^{-1}$$ | 133.1 |
| SMT3=C3 | Delayed exponential decrease (Eq. 4) | 11 | $$k\_{C}=k\_{T}=0.01 d^{-1}$$ | $$τ\_{C}=τ\_{T}=0.1 d$$ | $$ρ\_{C}=ρ\_{T}=0.26 d^{-1}$$ | 136.1 |
| SMT1≠C1 | (-)RNA and (+)RNA secretion from the RC ($C$) and the site of translation ($T$) with $ρ\_{T}\ne ρ\_{C}$ and $τ\_{T}\ne τ\_{C}$ | Delay then ramp-up (Eq. 2) | 13 | $$k\_{C}=k\_{T}=10 d^{-1}$$ | $$τ\_{C}=3 d$$$$τ\_{T}=0.3 d$$ | $$ρ\_{C}=2 d^{-1}$$$$ρ\_{T}=1000 d^{-1}$$ | **105.5** |
| SMT2≠C2 | Simple delay (Eq. 3) | 12 | - | $$τ\_{C}=0.3 d$$$$τ\_{T}=0.2 d$$ | $$ρ\_{C}=0.05 d^{-1}$$$$ρ\_{T}=1.1 d^{-1}$$ | 113.8 |
| SMT3≠C3 | Delayed exponential decrease (Eq. 4) | 13 | $$k\_{C}=k\_{T}=0.01 d^{-1}$$ | $$τ\_{C}=0.02 d$$$$τ\_{T}=0.17 d$$ | $$ρ\_{C}=0.05 d^{-1}$$$$ρ\_{T}=1.2 d^{-1}$$ | 116.8 |
| SMT1=R1=C1 | (-)RNA and (+)RNA secretion from the RC ($C,R$) and the site of translation ($T$) with $ρ\_{T}= ρ\_{R}=ρ\_{C}$ and $τ\_{T}=τ\_{R}=τ\_{C}$ | Delay then ramp-up (Eq. 2) | 11 | $$k\_{C}=k\_{T}=k\_{R}=100 d^{-1}$$ | $$τ\_{C}=τ\_{T}=τ\_{R}=0.1 d$$ | $$ρ\_{C}=ρ\_{T}=ρ\_{R}=0.026 d^{-1}$$ | 113.1 |
| SMT2=R2=C2 | Simple delay (Eq. 3) | 10 | - | $$τ\_{C}=τ\_{T}=τ\_{R}=0.1 d$$ | $$ρ\_{C}=ρ\_{T}=ρ\_{R}=0.025 d^{-1}$$ | **110.5** |
| SMT3=R3=C1 | Delayed exponential decrease (Eq. 4) | 11 | $$k\_{C}=k\_{T}=k\_{R}=0.01 d^{-1}$$ | $$τ\_{C}=τ\_{T}=τ\_{R}=0.1 d$$ | $$ρ\_{C}=ρ\_{T}=ρ\_{R}=0.025 d^{-1}$$ | 112.8 |
| SMT1≠R1≠C1 | (-)RNA and (+)RNA secretion from the RC ($C,R$) and the site of translation ($T$) with $ρ\_{T}\ne ρ\_{R}\ne ρ\_{C}$ and $τ\_{T}\ne τ\_{R}\ne τ\_{C}$ | Delay then ramp-up (Eq. 2) | 15 | $$k\_{C}=k\_{T}=k\_{R}=5 d^{-1}$$ | $$τ\_{C}=0.01 d$$$$τ\_{T}=0.06 d$$$$τ\_{R}=2.7 d$$ | $$ρ\_{C}=0.14 d^{-1}$$$$ρ\_{T}=0.44 d^{-1}$$$$ρ\_{R}=0.05 d^{-1}$$ | **76.9** |
| SMT2≠R2≠C2 | Simple delay (Eq. 3) | 14 | - | $$τ\_{C}=0.2 d$$$$τ\_{T}=0.2 d$$$$τ\_{R}=3 d$$ | $$ρ\_{C}=0.1 d^{-1}$$$$ρ\_{T}=0.7 d^{-1}$$$$ρ\_{R}=0.04 d^{-1}$$ | 89.7 |
| SMT3≠R3≠C3 | Delayed exponential decrease (Eq. 4) | 15 | $$k\_{C}=k\_{T}=k\_{R}=0.05 d^{-1}$$ | $$τ\_{C}=0.1 d$$$$τ\_{T}=0.03 d$$$$τ\_{R}=2.7 d$$ | $$ρ\_{C}=0.3 d^{-1}$$$$ρ\_{T}=0.04 d^{-1}$$$$ρ\_{R}=0.05 d^{-1}$$ | 102.7 |
| SMT1≠R1≠C1 | (-)RNA and (+)RNA secretion from the RC ($C,R$) and the site of translation ($T$) with $ρ\_{T}\ne ρ\_{R}\ne ρ\_{C}$ and $τ\_{T}\ne τ\_{R}\ne τ\_{C}$ and $k\_{T}\ne k\_{R}\ne k\_{C}$ | Delay then ramp-up (Eq. 2) | 17 | $$k\_{C}=100 d^{-1}$$$$k\_{T}=100 d^{-1}$$$$k\_{R}=1 d^{-1}$$ | $$τ\_{C}=0.5 d$$$$τ\_{T}=0.1 d$$$$τ\_{R}=2.5 d$$ | $$ρ\_{C}=0.14 d^{-1}$$$$ρ\_{T}=0.3 d^{-1}$$$$ρ\_{R}=0.07 d^{-1}$$ | **78.8** |