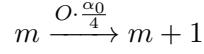
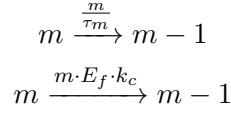

This page contains the reactions that are used in the model. It shows how reaction change the number of molecules and the rate at which they happen.

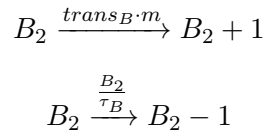
1 .Transcription of *mrna*:



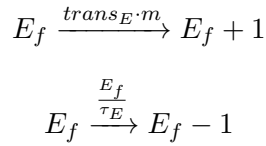
2.+3. Decay of *mrna*:



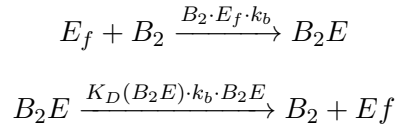
4.+5. Transcription and decay of *RelB₂*:



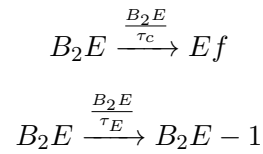
6.+7. Transcription and decay of *RelE*:



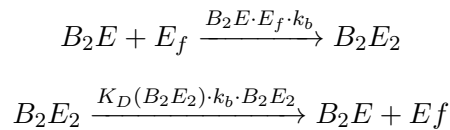
8.+9. Reaction for *RelB₂RelE* complex



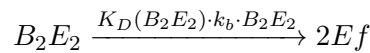
10.+11. Component decay in *RelB₂RelE* complex



12.+13. Reaction for *RelB₂RelE₂* complex



14.+15. Component decay in *RelB₂RelE₂* complex



$$B_2E_2 \xrightarrow[\tau_E]{B_2E_2} B_2E_2 - 1$$

Equations related to the operator: 16.+17. Binding of *RelB* to operator

$$O + B_2 \xrightarrow{O \cdot B_2 \cdot k_b} O \cdot B_2$$

$$O \cdot B_2 \xrightarrow{K_{D1} \cdot k_b \cdot O \cdot B_2} O + B_2$$

18. + 19. Binding of *RelB₂RelE* complex to operator

$$O + B_2E \xrightarrow{O \cdot B_2E \cdot k_b} O \cdot B_2E$$

$$O \cdot B_2E \xrightarrow{K_{D3} \cdot k_b \cdot O \cdot B_2E} O + B_2E$$

20. + 21. Binding of second *RelB₂RelE* complex to operator

$$O \cdot B_2E + B_2E \xrightarrow{O \cdot B_2E \cdot B_2E \cdot k_b} O \cdot (B_2E)_2$$

$$O \cdot (B_2E)_2 \xrightarrow{K_{D2} \cdot k_b \cdot O \cdot (B_2E)_2} O \cdot B_2E$$

22.-25. Stripping through *RelE*

$$O \cdot B_2E + Ef \xrightarrow{k_b \cdot Ef \cdot O \cdot B_2E} O + B_2E_2$$

$$O + B_2E_2 \xrightarrow[\frac{K_{D3}}{O \cdot B_2E_2 \cdot \frac{K_D(B_2E_2)}}]{} O \cdot B_2E + Ef$$

$$O \cdot (B_2E)_2 + Ef \xrightarrow{k_b \cdot Ef \cdot O \cdot (B_2E)_2} O \cdot B_2E + B_2E_2$$

$$O \cdot B_2E + B_2E_2 \xrightarrow[\frac{K_{D2}}{O \cdot B_2E \cdot B_2E_2 \cdot \frac{K_D(B_2E_2)}}]{} O \cdot (B_2E)_2 + Ef$$