maly_wiley_lauffenburger_2004_version01

1 "environment" component

This component has no equations.

2 "L" component

$$\frac{\partial L}{\partial time} = DL * L$$

3 "R" component

$$\frac{\partial R}{\partial time} = (koff * C - kon * R * L)$$

4 "C" component

$$\frac{\partial C}{\partial time} = ((kon * R * L + kdgc * CGrb + kdgsc * CGrbSos) - (koff * C + kagc * Grb * C + kagsc * GrbSos * CGrb))$$

5 "CGrb" component

$$\frac{\partial CGrb}{\partial time} = ((kagc * Grb * C + kdsc * CGrbSos) - (kdgc * CGrb + kasc * Sos * CGrb))$$

6 "CGrbSos" component

$$\frac{\partial CGrbSos}{\partial time} = ((kagsc * GrbSos * C + kasc * Sos * CGrb) - (kdgsc * CGrbSos + kdsc * CGrbSos))$$

7 "Grb" component

$$\frac{\partial Grb}{\partial time} = ((kdsg * GrbSos + D * Grb) - kasg * Sos * Grb)$$

8 "Sos" component

$$\frac{\partial Sos}{\partial time} = ((D * Sos + kdsg * GrbSos + kdps * pSos) - (kasg * Sos * Grb + kps * ppERK * Sos))$$

9 "GrbSos" component

$$\frac{\partial GrbSos}{\partial time} = ((D * GrbSos + kasg * Grb * Sos) - kdsg * GrbSos)$$

10 "pSos" component

$$\frac{\partial pSos}{\partial time} = ((D * pSos + kps * ppERK * Sos) - kdps * pSos)$$

11 "pRaf" component

$$\frac{\partial pRaf}{\partial time} = \left(D * pRaf - \frac{V2 * pRaf}{(K2 + pRaf)}\right)$$

12 "pMEK" component

$$\frac{\partial pMEK}{\partial time} = \left(\left(D * pMEK + \frac{(k3 * pRaf * MEKtot - (pMEK + ppMEK))}{(K3 + (MEKtot - (pMEK + ppMEK)))} + \frac{V5 * ppMEK}{(K5 + ppMEK)}\right) - \left(\frac{k4 * pRaf * pMEK}{(K4 + pMEK)} + \frac{V6 * pMEK}{(K6 + pMEK)}\right)\right)$$

13 “ppMEK” component

$$\frac{\partial ppMEK}{\partial time} = \left(\left(D * ppMEK + \frac{k4 * pRaf * pMEK}{(K4 + pMEK)}\right) - \frac{V5 * ppMEK}{(K5 + ppMEK)}\right)$$

14 “pERK” component

$$\frac{\partial pERK}{\partial time} = \left(\left(D * pERK + \frac{(k7 * ppMEK * ERKtot - (pERK + ppERK))}{(K7 + (ERKtot - (pERK + ppERK)))} + \frac{V9 * ppERK}{(K9 + ppERK)}\right) - \left(\frac{k8 * ppMEK * pERK}{(K8 + pERK)} + \frac{V10 * pERK}{(K10 + pERK)}\right)\right)$$

15 “ppERK” component

$$\frac{\partial ppERK}{\partial time} = \left(\left(D * ppERK + \frac{k8 * ppMEK * pERK}{(K8 + pERK)}\right) - \frac{V9 * ppERK}{(K9 + ppERK)}\right)$$

16 “parameters” component

This component has no equations.