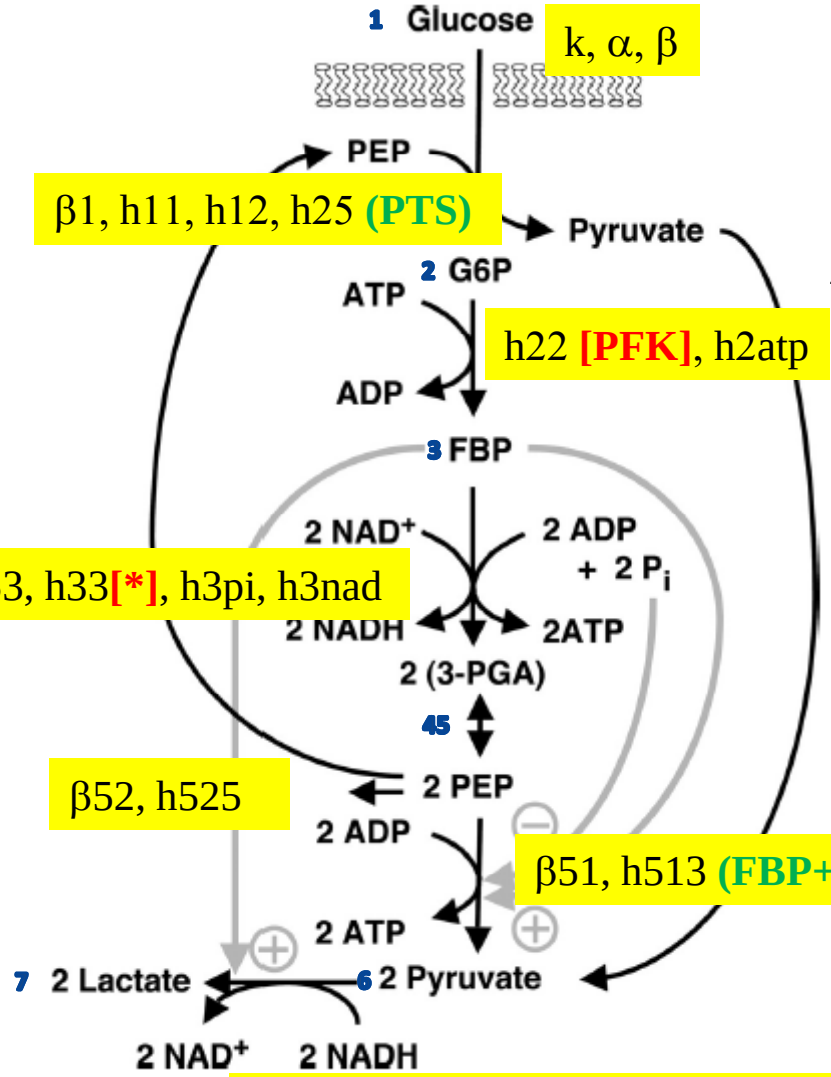
SIMULATION OF GLYCOLYSIS



k, α, β

β1, h11, h12, h25 **(PTS)**

h22 **[PFK]**, h2atp

β3, h33**[*]**, h3pi, h3nad

β52, h525

β51, h513 **(FBP+)**, h515 **[PK]**, h51pi **(Pi-)**

β61, h616 **[LDH]**, h613 **(FBP+)**, h61nad

$$\dot{X}_1 = -k(1+\alpha t^{\beta})X_1$$

$$\dot{X}_2 = \beta_1 X_1^{h_{11}} X_2^{h_{12}} X_5^{h_{25}} - \beta_2 X_2^{h_{22}} \mathrm{ATP}^{h_{2ATP}}$$

$$\dot{X}_3 = \beta_2 X_2^{h_{22}} \mathrm{ATP}^{h_{2ATP}} - \beta_3 X_3^{h_{33}} P_i^{h_{3P_i}} \mathrm{NAD}^{h_{3NAD}}$$

$$\dot{X}_{45} = 2\beta_3 X_3^{h_{33}} P_i^{h_{3P_i}} \mathrm{NAD}^{h_{3NAD}} - \beta_1 X_1^{h_{11}} X_2^{h_{12}} X_5^{h_{25}} - \beta_{51} X_3^{h_{513}} X_5^{h_{515}} P_i^{h_{51P_i}} - \beta_{52} X_5^{h_{525}}$$

$$\dot{X}_6 = \beta_1 X_1^{h_{11}} X_2^{h_{12}} X_5^{h_{25}} + \beta_{51} X_3^{h_{513}} X_5^{h_{515}} P_i^{h_{51P_i}} - \beta_{61} X_6^{h_{616}} X_3^{h_{613}} \mathrm{NAD}^{h_{61NAD}} - \beta_{62} X_6^{h_{626}}$$

$$\dot{X}_7 = \beta_{61} X_6^{h_{616}} X_3^{h_{613}} \mathrm{NAD}^{h_{61NAD}}$$

GUI simgly – 2008