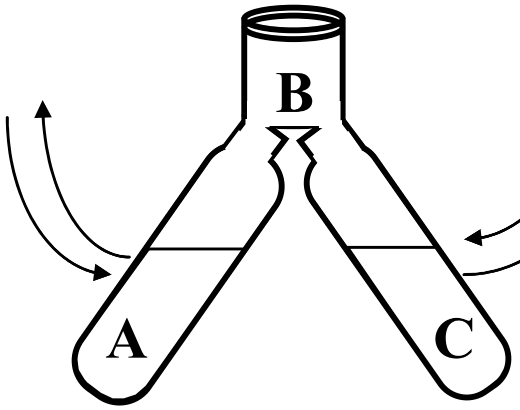
1. gyakorlat Szalicilsav megoszlási viszonyainak tanulmányozása



A = pH 1.5
B = ciklohexán
C = pH 7.4

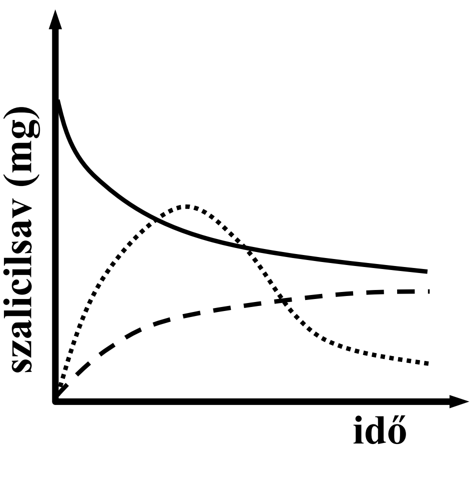
Doluisio - Swintosky

$$A \xrightarrow{k_1} B \xrightarrow{k_2} C$$

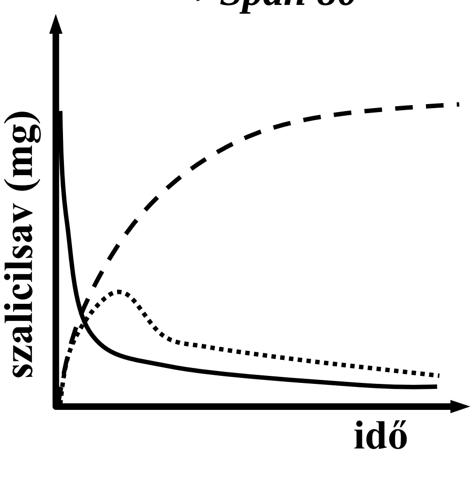
$$-\frac{dA}{dt} = k_1 A$$

$$\frac{dB}{dt} = k_1 A - k_2 B$$

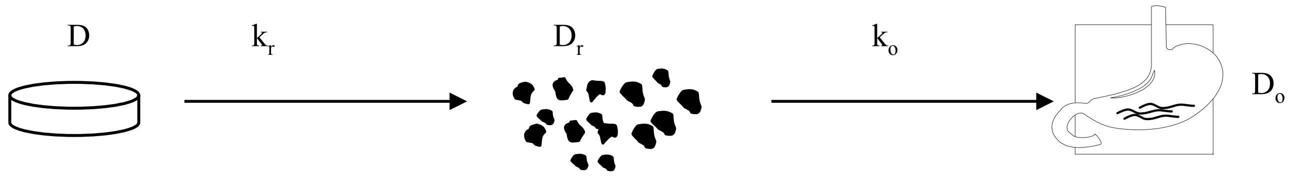
$$\frac{dC}{dt} = k_2 B$$



+ Span 80



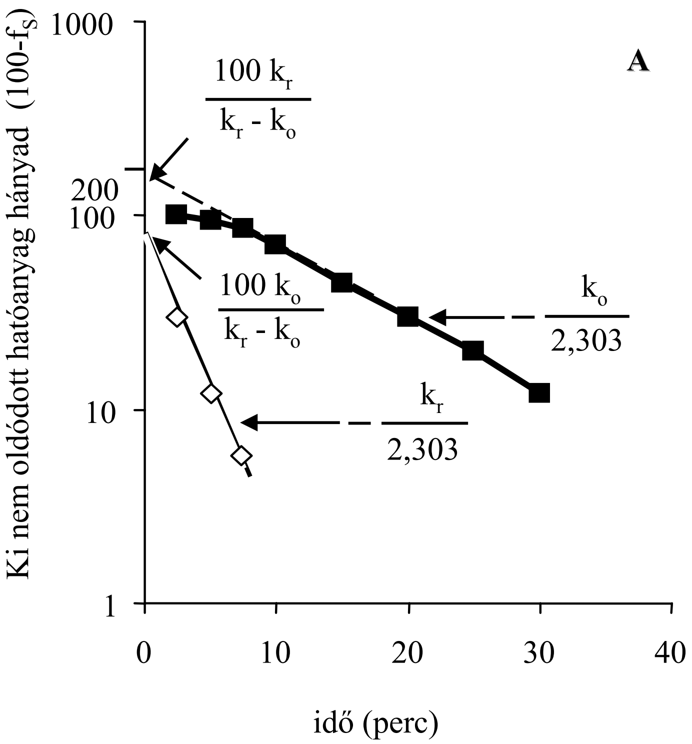
2. gyakorlat Nitrofurantoin kioldódás vizsgálata

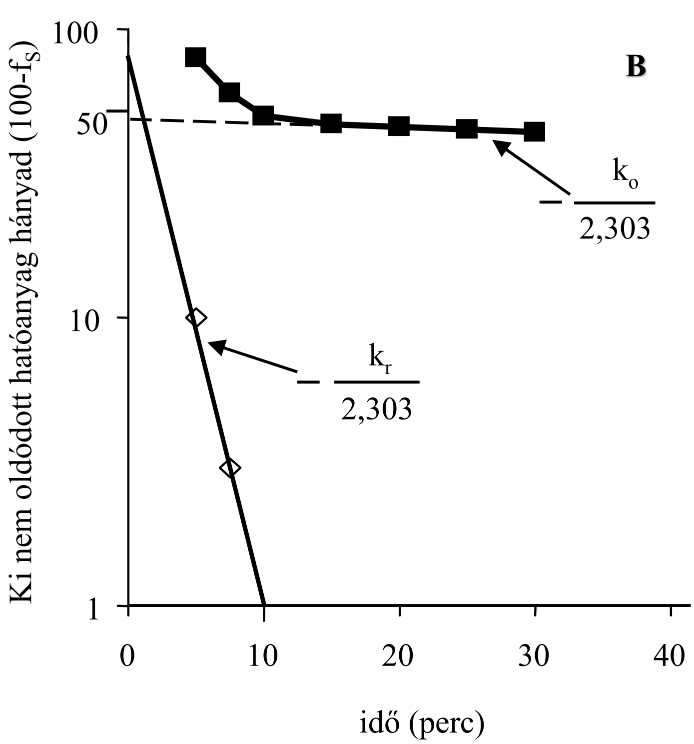


$$D - D_o = \frac{k_r \cdot D}{k_r - k_o} e^{-k_o t} - \frac{k_o \cdot D}{k_r - k_o} e^{-k_r t} / \frac{100}{D}$$

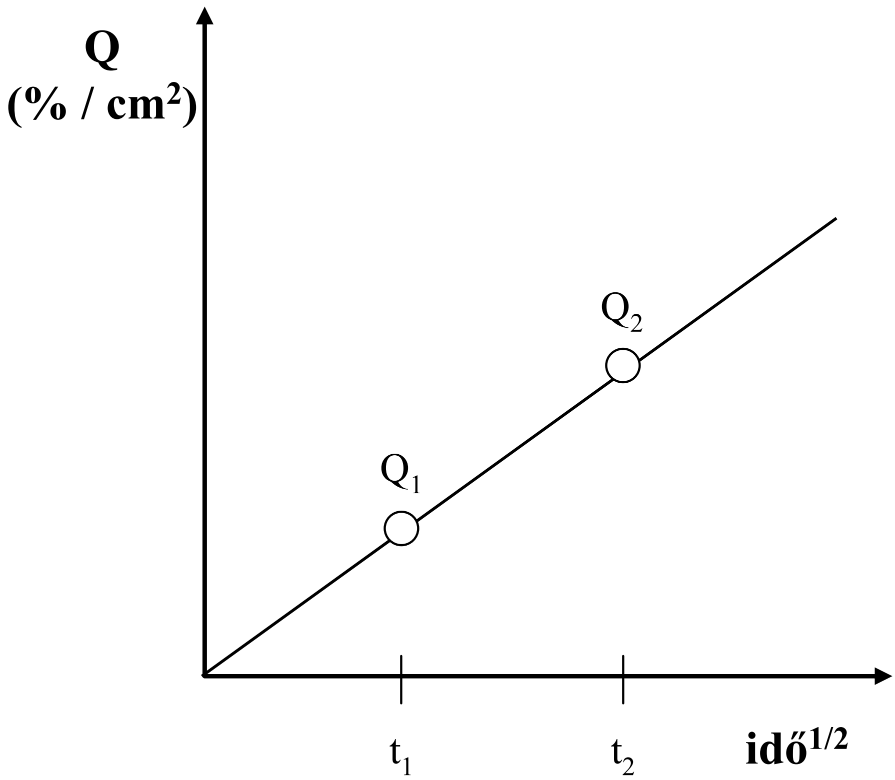
$$100 - f_S = \frac{100 \cdot k_r}{k_r - k_o} e^{-k_o t} - \frac{100 \cdot k_o}{k_r - k_o} e^{-k_r t}$$

$$f_S = \frac{D}{D_o} \cdot 100$$





3. gyakorlat Lokális kenőcs hatóanyag-leadás vizsgálata



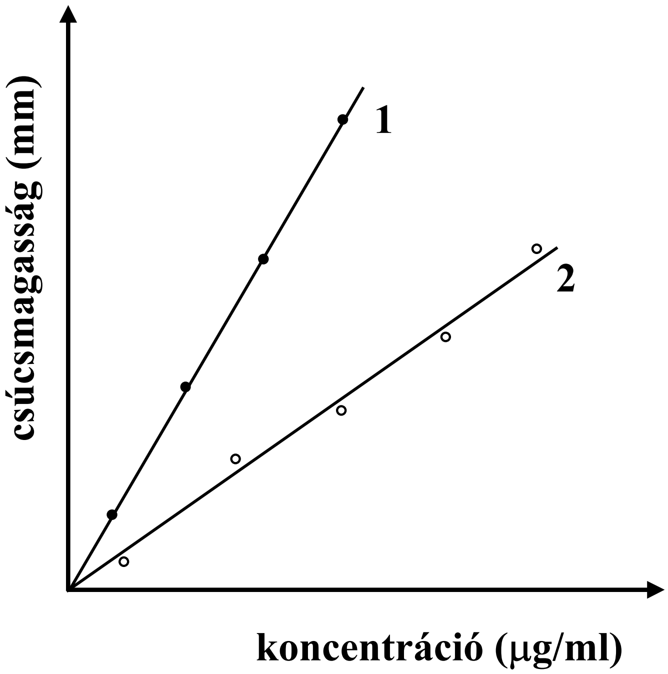
$$k_0 = \frac{Q_2 - Q_1}{t_2^{1/2} - t_1^{1/2}} \qquad (\%/\mathrm{cm}^2 \cdot perc^{1/2})$$

$$Q = 2c_0\sqrt{\frac{D \cdot t}{\pi}} \qquad (\% / \mathrm{cm}^2)$$

$$D = \frac{Q^2 \cdot \pi}{(2c_0)^2 \cdot t} \qquad (\mathrm{cm}^2 / perc)$$

$$c_0 = 2\%$$

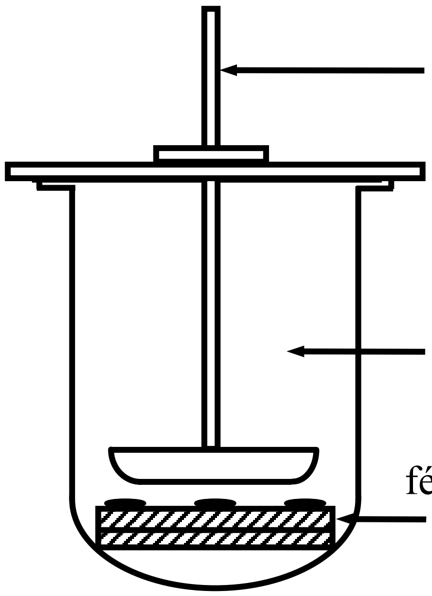
4. gyakorlat Szinoviális folyadékhoz hozzátett minta vizsgálata



Egyes protein fajták aránya a szinoviális folyadékban és a szérumban

	Kontroll személy	Beteg (Rheumatoid arthritis)
Albumin	0.43	0.57
Acid α_1-glycoprotein	0.23	0.71
Ceruloplasmin	0.16	0.53
Haptoglobin	0.03	0.38
α_2-Macroglobulin	0.03	0.35
Transferrin	0.24	0.66
IgG	0.13	0.83
IgM	0.05	0.51
IgE	0.22	0.52

5. gyakorlat Diclofenac felszabadulásának vizsgálata tapaszból



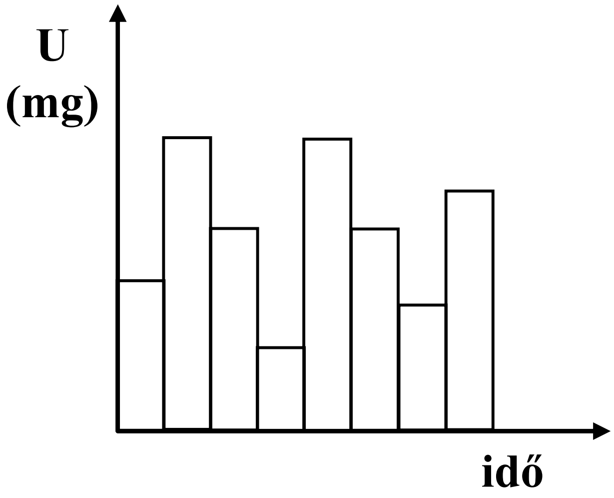
$$k_0 = \frac{Q_2 - Q_1}{t_2^{1/2} - t_1^{1/2}} \qquad (\%/\mathrm{cm}^2 \cdot perc^{1/2})$$

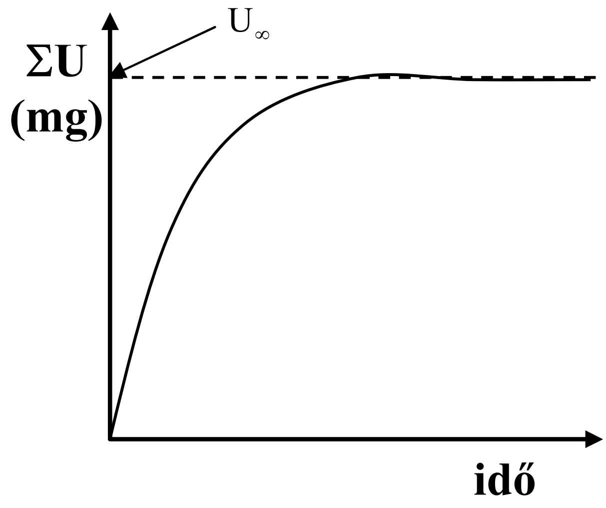
$$Q = 2c_0\sqrt{\frac{D \cdot t}{\pi}} \qquad (\% / \mathrm{cm}^2)$$

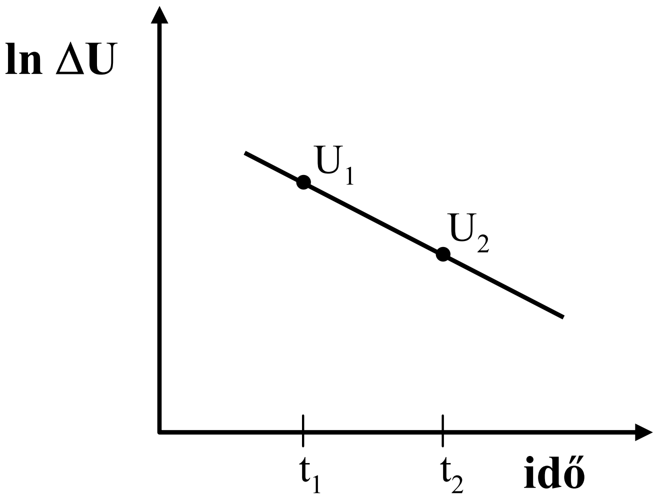
$$D = \frac{Q^2 \cdot \pi}{(2c_0)^2 \cdot t} \qquad (\mathrm{cm}^2 / perc)$$

$$c_0 = 16{,}61\,\mathrm{mg}$$

6. gyakorlat Farmakokinetikai számítások vizeletürítési adatok alapján





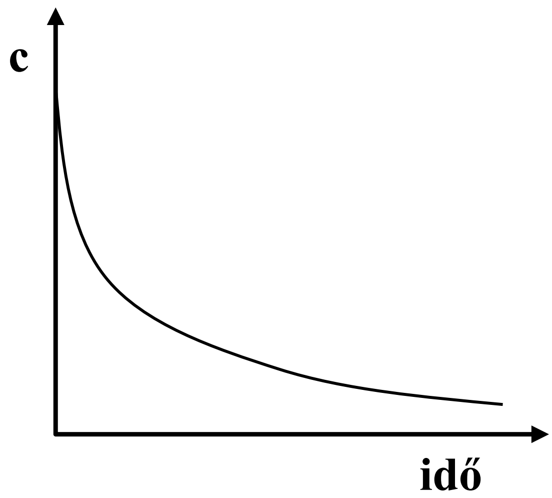


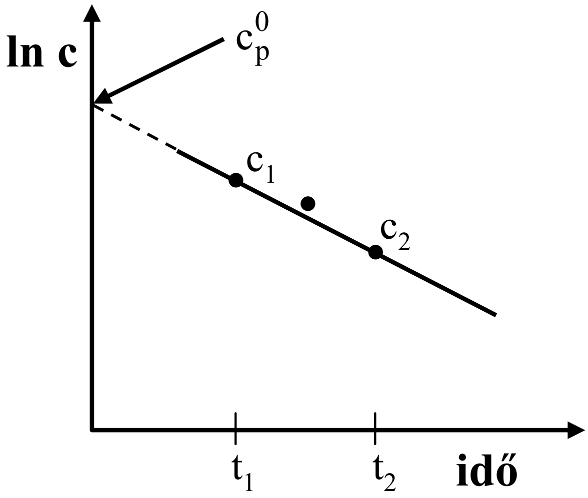
$$k_e = \frac{\ln \Delta U_1 - \ln \Delta U_2}{t_2 - t_1} \quad (1/\text{óra})$$

$$k_e = \frac{1}{t} \cdot \ln \frac{U_\infty}{U_\infty - U_t} \quad (1/\text{óra})$$

$$t_{1/2} = \frac{0.693}{k_e} \quad (\text{óra})$$

7. gyakorlat Farmakokinetikai számítások iv adatok alapján





$$k_e = \frac{\ln c_1 - \ln c_2}{t_2 - t_1}$$ (1/óra)

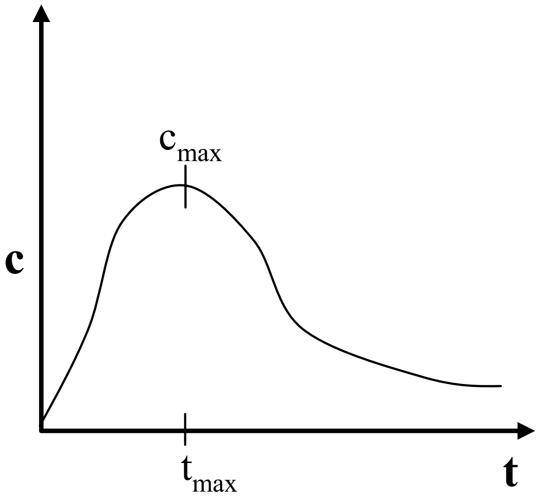
$$AUC^{0\rightarrow\infty} = \frac{c_p^0}{k_e}$$ (μg/ml · óra)

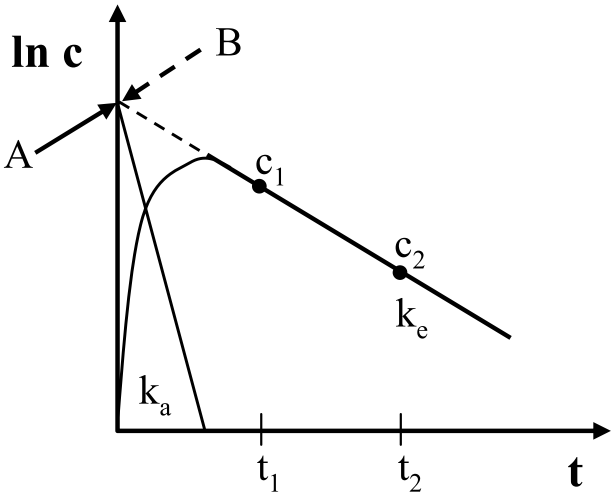
$$Cl = \frac{D}{AUC^{0\rightarrow\infty}}$$ (ml/óra)

$$F = \frac{AUC_{po}}{AUC_{iv}}$$

$$BH = F \cdot 100$$ (%)

8. gyakorlat Farmakokinetikai számítások po. adatok alapján





$$k_e = \frac{\ln c_1 - \ln c_2}{t_2 - t_1}$$

$$k_a = \frac{\ln c'_1 - \ln c'_2}{t'_2 - t'_1}$$

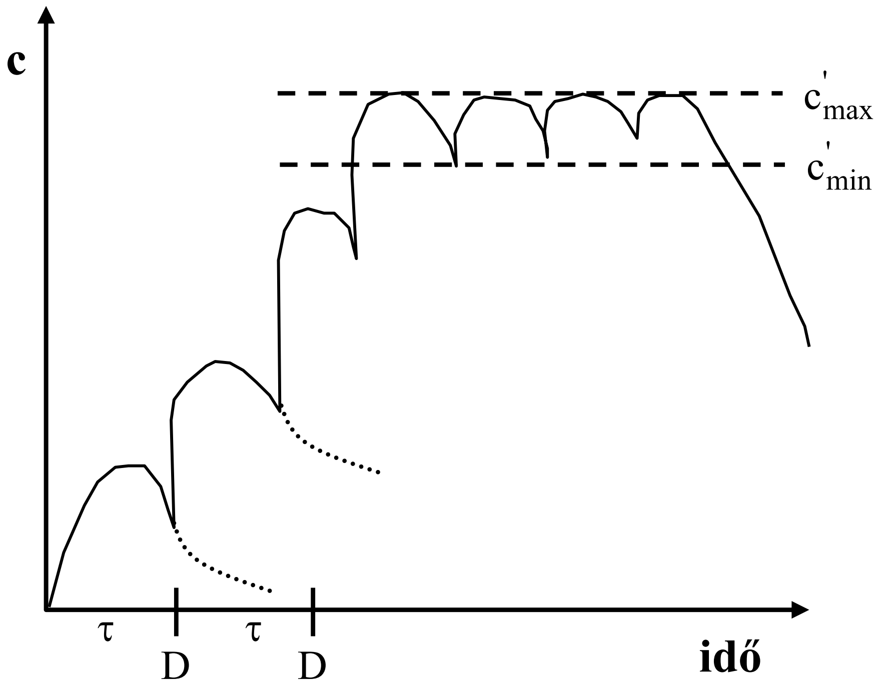
$$t_{max} = \frac{1}{k_a - k_e} \cdot \ln \frac{k_a}{k_e}$$

$$c_{max} = c_p^0 \cdot e^{-k_e t_{max}}$$

$$c_p^0 = A = B$$

$$t_{1/2_{(e)}} = \frac{0.693}{k_e}$$

$$t_{1/2_{(a)}} = \frac{0.693}{k_a}$$



$$c'_{max} = \frac{c_p^0 \cdot e^{-k_e t_{max}}}{1 - e^{-k_e \cdot \tau}}$$

$$c'_{min} = \frac{c_p^0 \cdot e^{-k_e \cdot \tau}}{1 - e^{-k_e \cdot \tau}}$$