

1. Conductances of ion channels:

Sodium channel conductance: $q_{Na} = 0,05 \text{ mSi}/\mu\text{F}$

Potassium channel conductance: $q_K = 5 \text{ mSi}/\mu\text{F}$

Chloride channel conductance: $q_{Cl} = 0,05 \text{ mSi}/\mu\text{F}$

2. Na/K-ATPase constants:

Theoretically maximal Na/K-ATPase current: $k = 13 \text{ pA/pF}$

Na/K-ATPase sensitivity to sodium: $w_{Na} = 0,025 \text{ l/mmol}$

Na/K-ATPase sensitivity to potassium: $w_K = 1 \text{ l/mmol}$

3. Osmotic constants:

Plasma membrane hydraulic conductivity: $q_w = 1,7 \cdot 10^{-10} \text{ l/(Ns)}$

4. Capacitor constants:

Relative electric field permittivity: $\epsilon_r = 5$

Plasma membrane thickness: $d = 9 \text{ nm}$

Plasma membrane surface area: $S = 1,534 \cdot 10^{-8} \text{ m}^2$

Capacitance: $C = \epsilon_0 \epsilon_r S/d$

5. Miscellaneous constants:

Temperature of the human cell *in vivo*: $T = 310 \text{ K}$

Extracellular fluid volume: $V_o = 5,182 \cdot 10^{-6} \mu\text{l}$

Intracellular fluid volume: $V_i = 25,84 \cdot 10^{-6} \mu\text{l}$

Time interval for numerical simulation: $\Delta t = 0,35 \text{ ms}$

6. Condition finishing the simulation:

$$I_{Na} + I_K + I_{Cl} + I_{pump} < 10^{-20} \text{ mA}$$