Cellular Electrolyte Metabolism, Table 1 Extracellular and intracellular ion concentrations and equilibrium potentials

Ion	Extracellular concentration (mM)	Intracellular concentration (mM)	Equilibrium potential (mV)
Na^+	145	~12	+67
K^+	4.5	~150	−94
H^+	0.00004	~0.0001	−24
Ca^{2+}	~1.5	~0.0001	+129
Mg^{2+}	~0.5	~0.5	0
Cl^-	115	~10	−65
HCO_3^-	25	~10	−24

Ion concentrations in millimoles per liter water. Values for mammals, modified from (Andersen et al. 2009) Table 17–3

The [Ca^{2+}] are the free ion concentrations; intracellular [Cl^-] varies considerably among cell types, ranging from ~5 mM in skeletal muscle to ~80 mM in red blood cells

The equilibrium potentials (see Eq. 4) were calculated for $T = 37$ °C using the listed concentrations

In the case of highly selective channels that catalyze the transmembrane movement of only a single ion type, V_{rev} is equal to the ion's equilibrium (or Nernst) potential E:

$$E = \frac{-k_B T}{z \cdot e} \cdot \ln\left\{\frac{C_i}{C_e}\right\}, \qquad (4)$$

k_B is Boltzmann's constant, T the temperature in Kelvin, z the ion valence, e the elementary charge, and C_i and C_e the intracellular and extracellular ion concentrations, respectively. (Membrane potentials, and equilibrium potentials are measured relative to the extracellular solution; membrane currents are defined to be positive when the current flow is from the intracellular to the extracellular solution).