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TABLE 1

*Kinetic parameters for the various steps around the pumping cycle of the Na/K-ATPase (taken from Stürmer et al., 1989, with kind permission)*

| Description of step | Symbol in Fig. 1 | Parameter value | Dimensions |
|---|---|---|---|
| **Phospholigand equilibria** | | | |
| ATP binding to $E_1$ | $a_f$ | $1 \times 10^7$ | $M^{-1} sec^{-1}$ |
| ATP debinding from $E_1$ | $a_b$ | 20 | $sec^{-1}$ |
| Phosphorylation of $E_1$ | $p_f$ | 180 | $sec^{-1}$ |
| Dehosphorylation of $E_1P$ | $p_b$ | $2 \times 10^4$ | $M^{-1} sec^{-1}$ |
| Phosphorylation of $E_2K$ | $q_b$ | $5 \cdot 8 \times 10^6$ | $M^{-1} sec^{-1}$ |
| Dephosphorylation of $P\text{-}E_2K$ | $q_f$ | 500 | $sec^{-1}$ |
| ATP binding to $E_2(K_2)$ | $s_f$ | $2 \cdot 5 \times 10^6$ | $M^{-1} sec^{-1}$ |
| ATP debinding from $E_2(K_2)$ | $s_b$ | 140 | $sec^{-1}$ |
| Phosphorylation of $E_1$ | $r_b$ | $3 \cdot 6 \times 10^4$ | $M^{-1} sec^{-1}$ |
| Dephosphorylation of $P\text{-}E_2$ | $r_f$ | 1 | $sec^{-1}$ |
| **Conformation changes** | | | |
| $E_1P$ to $E_2P$ | $l_f$ | 19 | $sec^{-1}$ |
| $E_2P$ to $E_1P$ | $l_b$ | $1 \cdot 7$ | $sec^{-1}$ |
| $E_1ATP$ to $E_2ATP$ | $k_b$ | 670 | $sec^{-1}$ |
| $E_2ATP$ to $E_1ATP$ | $k_f$ | 15 | $sec^{-1}$ |
| $K_2 . E_1$ to $E_2(K_2)$ | $h_b$ | 250 | $sec^{-1}$ |
| $E_2(K_2)$ to $K_2 . E_1$ | $h_f$ | $0 \cdot 2$ | $sec^{-1}$ |
| **Cation binding/debinding** | | | |
| Na debinding at cytoplasmic | $K'_{Na}$ | 3 | mM |
| Na debinding at extracellular | $K''_{Na}$ | 200 | mM |
| K debinding at cytoplasmic | $K'_K$ | 20 | mM |
| K debinding at extracellular | $K''_K$ | 1 | mM |

Equilibrium constant for ATP hydrolysis
(calculated for 20°C, by Stürmer et al., 1989)
$K = 4 \times 10^4 \, M$

For notes and comments regarding the appropriateness of all these values see Stürmer et al. (1989).