

Table 10.1 Relationship between the free energy change (ΔG) for ATP hydrolysis and the reaction quotient.

Q	Q/K	ΔG (kJ·mol ⁻¹)	[ATP]/[ADP]	Relevant condition
10^5	1	0	10^{-7}	equilibrium
10^3	10^{-2}	-11	10^{-5}	
1	10^{-5}	-28	10^{-2}	standard condition
10^{-3}	10^{-8}	-46	10^1	mitochondrial matrix
10^{-5}	10^{-10}	-57	10^3	cytoplasm

(Adapted from D.G. Nicholls and S.J. Ferguson, Bioenergetics, 3rd ed. San Diego: Academic Press, 2002. With permission from Elsevier.)