

TABLE 2.2

**Ion Concentration Ratios, Calculated Equilibrium Potentials, and Measured Transmembrane Potentials<sup>a</sup>**

Cell type	Ion	Concentration ratio (out/in)	Potentials		Ref. <sup>b</sup>
			Equilibrium (calculated)	Membrane (measured)	
Muscle (mammalian skeletal)	Na <sup>+</sup>	12	+67	-90	(i)
	K <sup>+</sup>	0.026	-98		
	Ca <sup>2+</sup>	15,000	+123		
	Cl <sup>-</sup>	30	-90		
Muscle (embryo heart)	Na <sup>+</sup>	9	+57	-70	(ii)
	K <sup>+</sup>	0.040	-83		
	Ca <sup>2+</sup>	12,000	+120		
	Cl <sup>-</sup>	5.1	-42		
Axon (squid)	Na <sup>+</sup>	8.5	+55	-60	(iii)
	K <sup>+</sup>	0.029	-91		
	Ca <sup>2+</sup>	10,000	+118		
	Cl <sup>-</sup>	14	-67		
Red blood cell (human)	Na <sup>+</sup>	18	+74	-10 to -14	(iv)
	K <sup>+</sup>	0.05	-77		
	Ca <sup>2+</sup>	52,000	+139		
	Cl <sup>-</sup>	1.6	-12		
Algal cell ( <i>Nitella</i> )	Na <sup>+</sup>	0.07	-67	-138	(v)
	K <sup>+</sup>	0.0008	-179		
	Cl <sup>-</sup>	0.02	+99		

<sup>a</sup> Potentials in millivolts, calculated from Eq. (2.6) or measured.

<sup>b</sup> The data were compiled from various sources (see Suggested Readings) as follows: (i) Hille (1984, p. 14); (ii) M. Lieberman *et al.* 1984, in Blaustein and Lieberman, eds., p. 184; (iii) R. A. Sjödir (1984), in Blaustein and Lieberman, eds. p. 121; (iv) J. C. Ellory and V. I. Lew, eds., "Membrane Transport in Red Cells," Academic Press, London, 1977 (data from various articles therein); and (v) Nobel (1974, p. 105).