

**Table 2.1** Ionic concentrations inside and outside some relevant cells

| Ion                             | Intracellular concentration | Extracellular concentration                 |
|---------------------------------|-----------------------------|---|
| <i>1. Squid giant axon</i>      |                             |   |
|                                 | (mM/kg H <sub>2</sub> O)    | (mM/kg H <sub>2</sub> O)                    |
| K <sup>+</sup>                  | 400                         | 20  |
| Na <sup>+</sup>                 | 50                          | 440   |
| Ca <sup>2+</sup>                | 0.4                         | 10  |
| Mg <sup>2+</sup>                | 10                          | 54  |
| Cl <sup>-</sup>                 | 100                         | 560   |
| Organic anions                  | ≅ 385                       | ---   |
| <i>2. Mammalian muscle cell</i> |                             |   |
|                                 | (mM)                        | (mM)  |
| K <sup>+</sup>                  | 155                         | 4   |
| Na <sup>+</sup>                 | 12                          | 145   |
| Mg <sup>2+</sup>                | 30                          | 1-2   |
| Ca <sup>2+</sup>                | 1-2                         | 2.5-5 (Only about 10 <sup>-4</sup> is free) |
| Cl <sup>-</sup>                 | 4                           | 120   |
| Organic anions                  | ≅ 150                       | ---   |