

SOLUTIONS

Gradients of chemicals in solution act as signals. For example, macrophages move along chemical gradients produced by bacterial invaders; the greater concentration closer to the bacteria.

Biological liquids, such as blood and saliva are solutions made of water and dissolved salts and organic compounds.

Solutions and solute together determine the **turgor and shape** of a cell.

Different **types of solution** depend on different sized particles: "True" solutions are transparent, made of single ions or molecules surrounded by water. Colloids, which are made of large particles, tend to separate out. Both cell cytoplasm and blood serum are gel-like colloids

Just as every organism has evolved in an environment with particular characteristics, so every **cell type** has evolved its own special solution.

Membranes create compartments within the cell that separate solutions of different concentrations.

Concentrations of proteins and other cell ingredients determine the likelihood of collisions and therefore **chemical interactions**.

Origin of Life. Primordial soup was a concentrated solution of organic and inorganic compounds.