The cytosol or intracellular fluid (ICF) or cytoplasmic matrix is the liquid found inside cells. It is separated into compartments by membranes. For example, the mitochondrial matrix separates the mitochondrion into many compartments.

In the eukaryotic cell, the cytosol is within the cell membrane and is part of the cytoplasm, which also comprises the mitochondria, plastids, and other organelles (but not their internal fluids and structures); the cell nucleus is separate. In prokaryotes, most of the chemical reactions of metabolism take place in the cytosol, while a few take place in membranes or in the periplasmic space. In eukaryotes, while many metabolic pathways still occur in the cytosol, others are contained within organelles.

The cytosol is a complex mixture of substances dissolved in water. Although water forms the large majority of the cytosol, its structure and properties within cells is not well understood. The concentrations of ions such as sodium and potassium are different in the cytosol than in the extracellular fluid; these differences in ion levels are important in processes such as osmoregulation and cell signaling. The cytosol also contains large amounts of macromolecules, which can alter how molecules behave, through macromolecular crowding.

Although it was once thought to be a simple solution of molecules, the cytosol has multiple levels of organization. These include concentration gradients of small molecules such as calcium, large complexes of enzymes that act together to carry out metabolic pathways, and protein complexes such as proteasomes and carboxysomes that enclose and separate parts of the cytosol.