Membrane protein

A membrane protein is a protein molecule that is attached to, or associated with the membrane of a cell or an organelle. More than half of all proteins interact with membranes. Biological membranes consist of a phospholipid bilayer and a variety of proteins that accomplish vital biological functions. Structural proteins are attached to microfilaments in the cytoskeleton which ensures stability of the cell. Cell recognition proteins allow cells to identify each other and interact. Such proteins are involved in immune response, for example. Membrane enzymes produce a variety of substances essential for cell function. Membrane receptor proteins serve as connection between the cell's internal and external environments. Finally, transport proteins play an important role in the maintenance of concentrations of ions. These transport proteins come in two forms: carrier proteins and channel proteins. Carrier proteins are involved in using the energy released from ATP being broken down to facilitate active transport and ion exchange. These processes ensure that useful substances are able to enter the cell and that toxic substances are pumped out of the cell.