**Lecture 5**

**The cell membrane**

The cell membrane ( also known as plasma membrane or cytoplasmic membrane, and historically referred to as the plasma lemma ,) , is a biological membrane is found on all cells and separates the interior of the cell from the outside environment . The cell membrane consists of a lipid bilayer that is semipermeable that surrounds the cytoplasm of a cell. Its function is to protect the integrity of the interior of the cell by allowing certain substances into the cell while keeping other substance out. It also serves as abase of attachment for the cytoskeleton in some organisms and the cell wall in others . Thus the cell membrane also serves to help support the cell and help maintains its shape .

The cell membrane is primarily composed of a mix of protein and lipid. Depending in the membranes location and role in the body, lipids can make up anywhere from 20 to 80 percent of the membrane , while the remainder being proteins. While the lipids help to give membranes their flexibility , protein monitor and maintain the cells chemical climate And assist in the transfer of molecules across the membrane.

The cell membrane consists of a lipid bilayer, made up of two layers of phospholipids with cholesterols (a lipid component) interspersed between them, maintaining appropriate membrane fluidity at various temperatures. The membrane also contains membrane proteins, including integral proteins that span the membrane and serve as membrane transporters, and peripheral proteins that loosely attach to the outer (peripheral) side of the cell membrane, acting as enzymes to facilitate interaction with the cell's environment.[3] Glycolipids embedded in the outer lipid layer serve a similar purpose. Its function is to protect the integrity of the interior of the cell by allowing certain substances into the cell while keeping other substance out. It also serves as abase of attachment for the cytoskeleton in some organisms and the cell wall in others . Thus the cell membrane also serves to help support the cell and help maintains its shape .

The cell membrane controls the movement of substances in and out of a cell, being selectively permeable to ions and organic molecules. In addition, cell membranes are involved in a variety of cellular processes such as cell adhesion, ion conductivity, and cell signaling and serve as the attachment surface for several extracellular structures, including the cell wall and the carbohydrate layer called the glycocalyx, as well as the intracellular network of protein fibers called the cytoskeleton.



