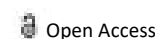




OPINION ARTICLE



## Eukaryotic Cell and the Cell Organelles

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### Description

Animal cells can be as little as a few microns or as large as a few centimetres. The ostrich shell is the largest known animal cell, measuring about 5.1 inches wide and weighing around 1.4 kg. This is in stark contrast to the human neuron, which has a diameter of only 100 microns. Animal shell contains flat, oval, or rod-shaped. Curved, spherical, concave, and rectangular shapes are some of the most intriguing.

Animal cells, as previously noted, are eukaryotic cells with a membrane-bound nucleus. Furthermore, DNA can be found inside the nucleus of these cells. They also include membrane-bound organelles and cellular structures that perform specialised duties required for a cell's normal functioning. Plant cells are often larger than animal cells. Another distinguishing feature is its uneven shape. The absence of a cell wall is the cause of this. Other cellular organelles are shared by animal and plant cells because they both evolved from eukaryotic cells.

### Cell organelles

Animal cells and different cell organelles are clearly mentioned below.

#### Membrane of the cell

Cell Membrane or Cytoplasmic Membrane is the other name for the plasma membrane. The cell is surrounded by a thin semipermeable membrane layer of protein and lipids. Its main function is to shield the cell from the environment. It also regulates the flow of nutrients and other microscopic entities into and out of the cell. The cell membrane gives the cell its shape and protects the cell's interior components. It is known as the fluid mosaic model because it is based on the structure of the plasma membrane. Plasma membranes are subcellular structures comprised of a lipid bilayer in which protein molecules are embedded, according to the fluid mosaic model.

#### Membrane of the nucleus

The nucleus is surrounded by a double-membrane structure. The nuclear envelope is another name for it.

#### Nucleus

The nucleus is placed in the centre of the cell. It was discovered by Robert Brown. It is an organelle that contains nucleolus, nucleosomes, and chromatins, among other sub-organelles. DNA and other genetic elements are also present.

### ARTICLE HISTORY

Received: 03-Jan-2022, Manuscript No. AJPBP-22-52159;

Editor assigned: 05-Jan-2022, PreQC No. AJPBP-22-52159 (PQ);

Reviewed: 19-Jan-2022, QC No AJPBP-22-52159;

Revised: 24-Jan-2022, Manuscript No. AJPBP-22-52159 (R);

Published: 31-Jan-2022.

### Centrosome

Centrosome is a tiny organelle with a thick centre and radiating tubules that's found near the nucleus. Microtubules are formed in the centrosomes.

### Lysosome

Lysosome is a type of cell vesicle, are circular organelles with a membrane surrounding them that contain digestive enzymes that aid in digestion, excretion and cell renewal.

### Cytoplasm

Within the cell membrane is a jelly-like substance that holds all of the cell organelles. The nucleoplasm is a material located within the cell nucleus and confined by the nuclear membrane. Water, organic and inorganic chemicals make up the majority of them. The cytoplasm is one of the most important components of the cell, as it houses all of the cell organelles. These cell organelles include enzymes that are primarily responsible for managing all metabolic activity within the cell and serve as the site for the majority of chemical interactions.

### Apparatus of the golgi complex

A sac-like organelle that is positioned around the nucleus and is involved in particle synthesis, storage, packing and transportation throughout the cell.

### Mitochondrion

They have a double membrane and are spherical or rod-shaped organelles. They are a cell's powerhouse since they are responsible for releasing energy.

### Ribosome

Protein synthesis takes place in these tiny organelles, which are made up of RNA-rich cytoplasmic granules.

### Endoplasmic Reticulum (ER)

A thin, twisting network of membrane sacs originating from the nucleus make up this cellular organelle.

### Vacuole

A membrane-bound organelle that helps a cell retains its form and store things like water, food, and waste.

### Nucleopore

Nucleopores are microscopic pores in the nuclear membrane that allow nucleic acids and proteins to circulate around the cell.