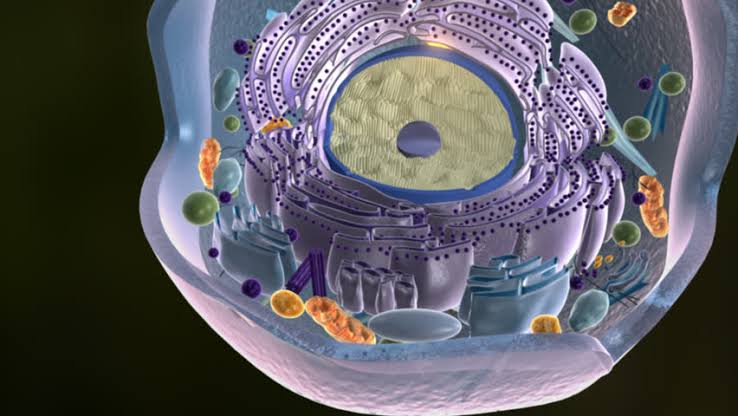
**CELL AND CELL ORGANELLES**

**CELL:**

1. Cell, the basic membrane-bound unit that contains the fundamental molecules of life and of which all living things are composed.
2. A single cell is often a complete organism in itself, such as a bacterium or yeast. Other cells acquire specialized functions as they mature.
3. These cells cooperate with other specialized cells and become the building blocks of large multicellular organisms, such as humans and other animals.
4. Although cells are much larger than atoms, they are still very small.
5. The smallest known cells are a group of tiny bacteria called mycoplasmas;

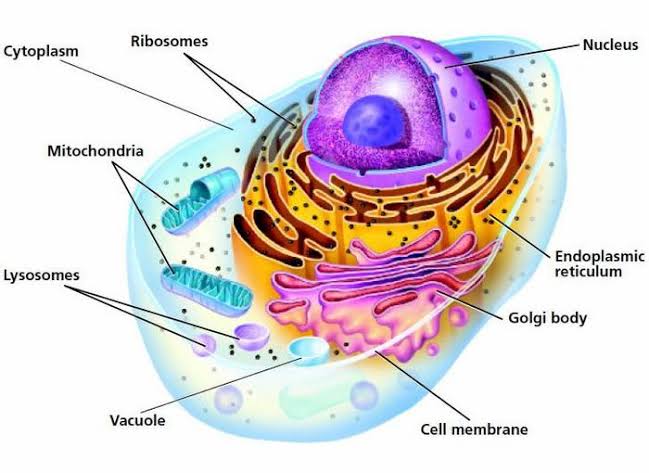
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**CELL ORGANELLES:**

A small organ-like structure present inside the cell is called a cell organelle. It has a particular structural makeup and performs a specific function.

Some of the most important cell organelles are listed below:

* Nucleus
* Mitochondria
* Golgi bodies
* Endoplasmic reticulum
* Ribosomes
* Chloroplast

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There are also various other organelles like :

Plasma membrane, cytoplasm, ribosomes, lysosomes, vacuoles, plastids, etc.,

Now let us see who,when and how these organelles are discovered:

**1.NUCLEUS:**

* The nucleus was the first organelle to be discovered. *Antonie van Leeuwenhoek (1632 – 1723),* observed lumen "Nucleus" in the red blood cells of salmon.
* The nucleus was also described by *Franz Bauer in 1804*
* Also In *1831* by *Scottish botanist Robert Brown* ,studied orchids under microscope. He observed an opaque area, which he called the areola or nucleus, in the cells of the flower's outer layer.
* In *1838, Matthias Schleiden* proposed that the nucleus plays a role in generating cells.
* *Robert Remak (1852) and Rudolf Virchow (1855)* who decisively propagated the new paradigm that cells are generated solely by cells
* The function of the nucleus remained unclear. Between *1876 and 1878, Oscar Hertwig* published several studies on the fertilization of sea urchin eggs, showing that the nucleus of the sperm enters the oocyte and fuses with its nucleus.



**2. MITOCHONDRIA:**

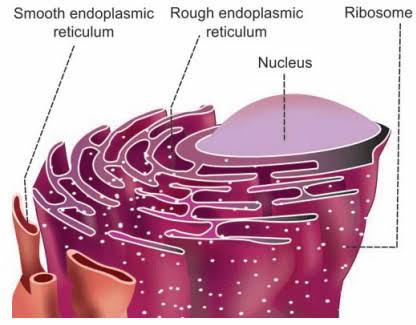
* Mitochondria were named by *Carl Benda in 1898*
* the first recorded information of mitochondria in plants in cells was created by ***Friedrich Meves in 1904.***

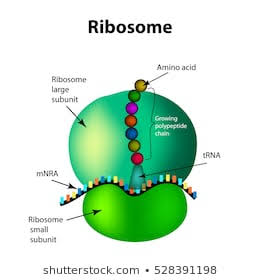
**3. GOLGI BODIES:**

It was discovered in *1898* by Italian physician *Camillo Golgi* during an investigation of the nervous system.

**4. ENDOPLASMIC RETICULUM:**

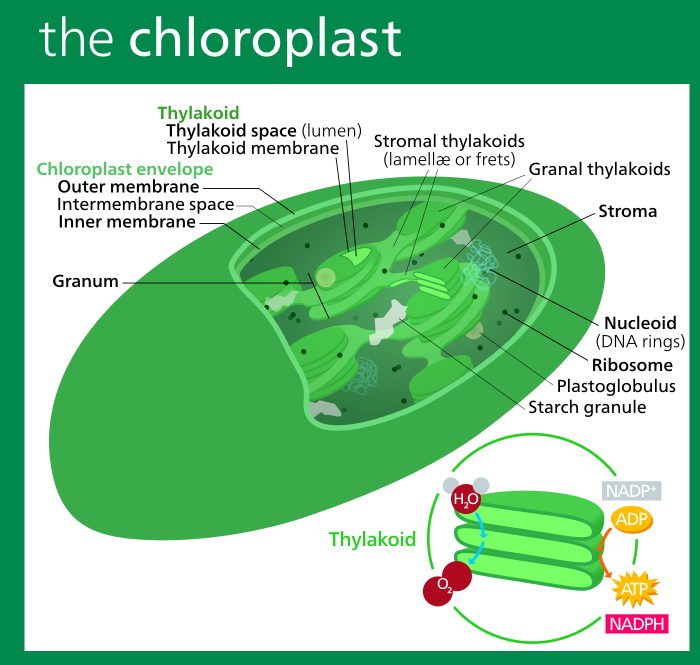
* The ER was observed with light microscope by ***Garnier in 1897,*** who coined the term "ergastoplasm"
* With electron microscopy, the lacy membranes of the endoplasmic reticulum were first seen in ***1945 by Keith R. Porter, Albert Claude, and Ernest F. Fullam.***



**5. RIBOSOMES:**

* Ribosomes were first observed in the ***mid-1950s*** by Romanian-American cell biologist ***George Emil Palade***, using an electron microscope, as dense particles or granules.

1. **CHLOROPLAST:**

The first definitive description of a chloroplast was given by ***Hugo von Mohl in 1837*** as discrete bodies within the green plant cell.In ***1883, A. F. W. Schimper*** would name these bodies as "chloroplastids" (Chloroplastiden).In ***1884, Eduard Strasburger*** adopted the term "chloroplasts" (Chloroplasten).