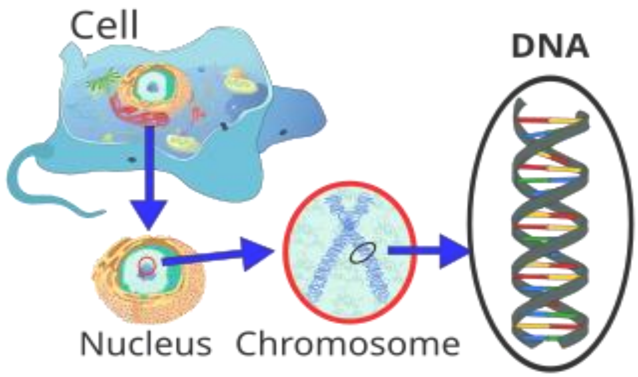
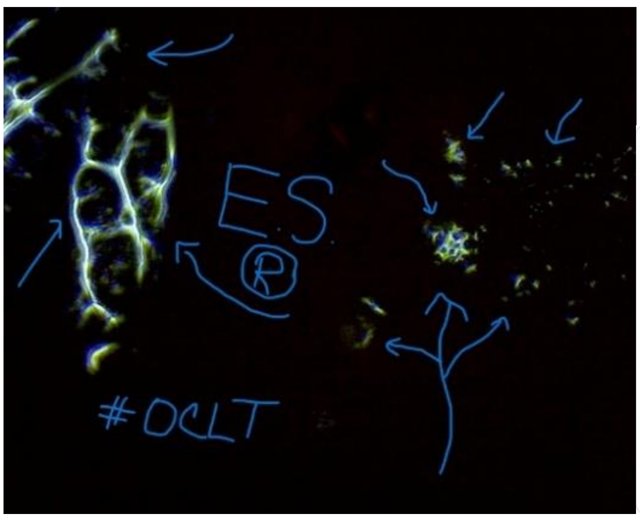
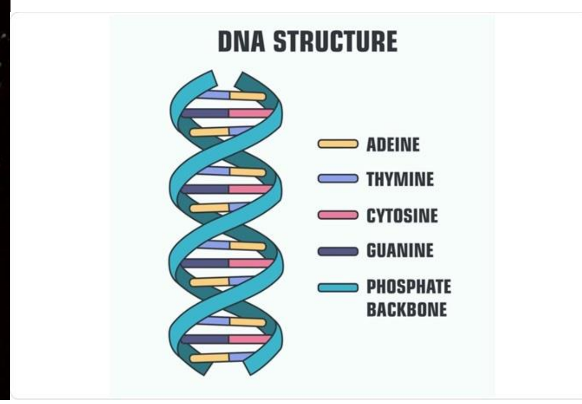
Video 3 The Cell Nucleus or Plasma Membrane or Plasma blood containing intracellular Integral Membrane Protein organelles



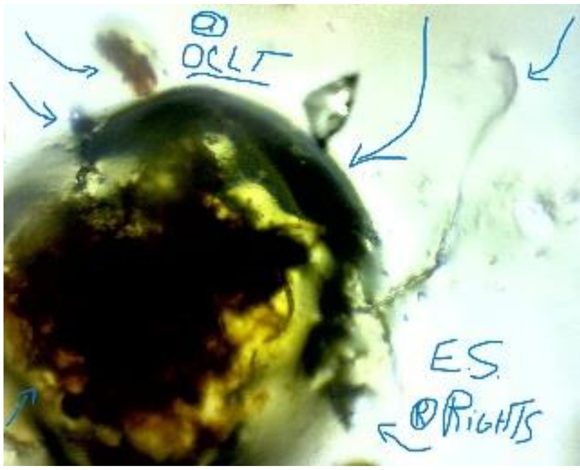
Schematic Drawings of Cell, Nucleus, X Chromosome and DNA





God's Genetic bioluminescent Helix triple 3-Dimensional Integral Membrane Protein Organelles. In which shows blue, yellow and white for calcium (blue), iodine (yellow) and white (magnesium) looks similar to the schematic drawing of the double stranded helix DNA of nucleotides. (Nucleotides or nucleic acids derive from Petrochemicals.

- **God's Genetic Nucleus is not (DNA) Deoxygenated nucleic acid** or DNA which are synthetic nucleotides of poison petrochemicals!



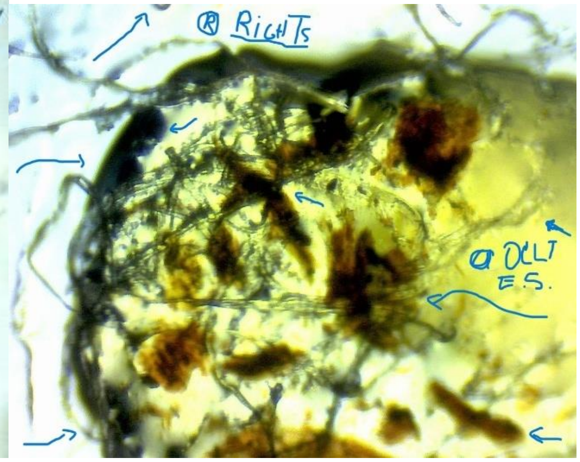
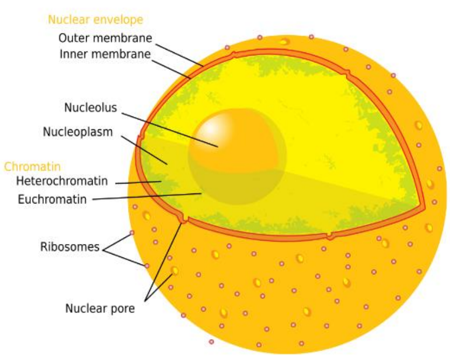
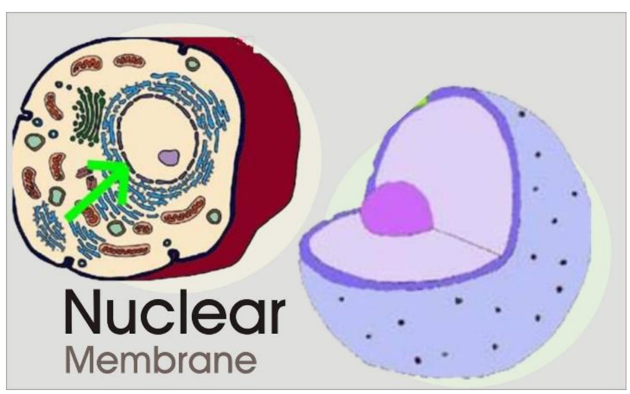


Image 7 -Evolutionary 3D Plasma membrane Organelles.

Image 9-The intracellular membrane Protein

God's Cell Nucleus or Plasma membrane (intracellular plasma blood) is comprised of all genetic chromosomes, integral membrane proteins, white blood cells, neutral minerals, essential fatty unsaturated oils or good cholesterol. The inner and outer plasma membrane shows a transparent shell enveloping a 3 Dimensional stable and structural fibrous network of chromatins-dendrites on outer membrane surface and mitochondrial is on the top left side surface. God's Plasma membrane is comprised of unsaturated oils of good cholesterol (an essential fatty neutral agent) not an essential omega 3, 6, 7, or 9 fatty acids. Again, no acids or bases in the Tree of Life parts. Inside the cell reveals all God's genetic chromosomes with more than 23 base pairs linked in a circular shape.





Schematic drawing of a Cell Nucleus, which is also known as the Cell membrane, nuclear membrane, Plasma membrane, and Plasma lemma.

Nucleolus contained within the cell nucleus

By Mariana Ruiz Lady of Hats - I did it myself with adobe illustrator using the information found here [1], [2] ,[3], [4] and [5], Public Domain, https://commons.wikimedia.org/w/index.php?curid=736389

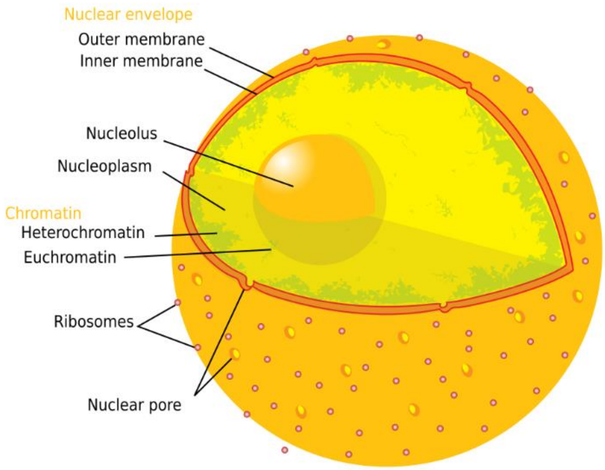
https://en.wikiepdia.org/wiki/Cell_nucleus

The **cell nucleus** (from Latin *nucleus* *or* *nuculeus* 'kernel, seed'; pl.: **nuclei**) **is a membrane-bound organelle** found in eukaryotic cells. Eukaryotic cells usually have a single nucleus, but a few cell types, **such as mammalian red blood cells, have no nuclei**, and a few others including osteoclasts have many. The main structures making up the nucleus are the nuclear envelope, a double membrane that encloses the entire organelle and isolates its contents from the cellular cytoplasm; and the nuclear matrix, a network within the nucleus that adds mechanical support.

The cell nucleus contains nearly all the cell's genome.

The nuclear envelope consists of two membranes, an inner and an outer nuclear membrane, perforated by nuclear pores.[10]:649 Together, these membranes serve to separate the cell's genetic material from the rest of the cell contents, and allow the nucleus to maintain an environment distinct from the rest of the cell.

- The lipid bilayer hypothesis, proposed in 1925 by Gorter and Grendel,[11] created speculation in the description of the cell membrane bilayer structure based on crystallographic studies and soap bubble observations. In an attempt to accept or reject the hypothesis, researchers measured membrane thickness. These researchers extracted the lipid from human red blood cells and measured the amount of surface area the lipid would cover when spread over the surface of the water. Since mature mammalian red blood cells lack both nuclei and cytoplasmic organelles, **the plasma membrane is the only lipid-containing structure in the cell.** Consequently, all the lipids extracted from the cells can be assumed to have resided in the cells' plasma membranes. The ratio of the surface area of water covered by the extracted lipid to the surface area calculated for the red blood cells from which the lipid was 2:1(approx.) and they concluded that the plasma membrane contains a lipid bilayer.[9][12]



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https://www.vedanutu.com/biology/nuclear-membrane

Why Is the Nuclear Membrane Essential in Eukaryotic Cells?

The nuclear envelope, sometimes called a nuclear membrane, is a structure made of lipids that has the hereditary material of the Eukaryotic cells. It is the permeable structure that encompasses the nucleus.

It manages the section of hereditary data permitting the entry of proteins and nucleic acids, keeping the nucleus inside the DNA.

The cell is the essential unit of life. All living things are made from cells. A few creatures are made of a solitary cell, such as microorganisms and infections. Others, like people, are made by a huge number of cells.

The cell is made from a nucleus, which has chromosomal material inside it or DNA, Called chromatin. It additionally has the nucleolus that is made of RNA (ribonucleic corrosive) and proteins that structure the Ribosomes.

This is encompassed by a semi-circle twofold membrane (nuclear membrane); The cytoplasm, made of Both natural and inorganic substances, and that has distinctive cell organelles, that satisfy various capacities inside the cell. This is encompassed by a membrane orchestrated around it, which ensures and directs the section of supplements and waste transfer.

The communications between the nuclear and the external part are made in the supposed nuclear membrane. This membrane encompasses the nucleus and has pours through which a collaboration happens of particles that are in charge of essential elements of the cell.

Parts of Nuclear Membrane

Outer Membrane

Like the cell membrane, the nuclear membrane is a lipid membrane, implying that it comprises of two Membranes of lipid particles. The external Membrane of lipids has ribosomes, structures that make proteins, on its surface. It is associated with the endoplasmic reticulum, a cell structure that bundles and transports proteins.

Inner Membrane
The internal membrane has proteins that help sort out the nuclear and tie hereditary material. This system of strands and proteins appended to the in membrane is known as nuclear lamina. It basically underpins nuclear, assumes a job in fixing DNA, and manages occasions in the phone cycle, such as cell division and the replication of DNA. **Nuclear lamina is found in creature cells**, in spite of the fact that plant cells may have some comparative proteins on the internal Membrane.

Nuclear Membrane: Structure and Function Explained

The nuclear membrane, also known as the **nuclear envelope**, is a highly specialized double-membrane structure that surrounds the nucleus in eukaryotic cells. Its primary functions are to separate the contents of the nucleus (like DNA) from the cytoplasm, and to regulate the passage of molecules, such as proteins and RNA, between the nucleus and the rest of the cell. This regulation is crucial for controlling gene expression and cellular activities.

https://en.wikipedia.org/wiki/Fresh_frozen_plasma

Fresh frozen plasma comprises all genetic information of chromosomes, blood plasma integral membrane proteins, and white blood cells.

Fresh frozen plasma

A bag containing one unit of fresh frozen plasma

Clinical data	
Other names	Plasma frozen within 24 hours after phlebotomy (FP24)[1]
AHFS/Drugs.com	Micromedex Detailed Consumer Information
ATC code	• B05AX03 (WHO)
Identifiers	
ChemSpider	• none •

Fresh frozen plasma (**FFP**) is a blood product made from the liquid portion of whole blood.[3] It is used to treat conditions in which there are low blood clotting factors (INR > 1.5) or low levels of other blood proteins.[3][1] It may also be used as the replacement fluid in plasma exchange.[2][4] Using ABO compatible plasma, while not required, may be recommended.[5][6] Use as a volume expander is not recommended.[3] It is administered by slow injection into a vein.[2]

Side effects include nausea and itchiness.[3] Rarely there may be allergic reactions, blood clots, or infections.[1][3] It is unclear if use during pregnancy or breastfeeding is safe for the baby.[2] Greater care should be taken in people with protein S deficiency, IgA deficiency, or heart failure.[2] Fresh frozen plasma is made up of a complex mixture of water, proteins, carbohydrates, fats, and vitamins.[1] When frozen it lasts about a year.[1]

Plasma first came into medical use during the Second World War.[1] It is on the World Health Organization's List of Essential Medicines.[7] In the United Kingdom it costs about £30 per unit.[8] A number of other versions also exist including plasma frozen within 24 hours after phlebotomy, cryoprecipitate reduced plasma, thawed plasma, and **solvent detergent plasma**.[1]

https://en.wikipedia.org/wiki/Solvent_detergent_plasma

Solvent detergent plasma is a form of blood plasma made from plasma collected from many people which is then processed with solvents as a form of virus processing, to try to get rid of viruses.[1]

https://en.wikipedia.org/wiki/Mendelian_inheritance

Mendelian inheritance[help 1] is a type of biological inheritance that follows the laws originally proposed by Gregor Mendel in 1865 and 1866 and re-discovered in 1900. These laws were initially very controversial. When Mendel's theories were integrated with the Boveri–Sutton chromosome theory of inheritance by Thomas Hunt Morgan in 1915, they became the core of classical genetics. Ronald Fisher later combined these ideas with the theory of natural selection in his 1930 book *The Genetical Theory of Natural Selection*, putting evolution onto a mathematical footing and forming the basis for population genetics and the modern evolutionary synthesis.[1]

History

Main article: History of genetics

The principles of Mendelian inheritance were named for and first derived by Gregor Johann Mendel, a nineteenth-century Austrianmonk[2] who formulated his ideas after conducting simple hybridization experiments with pea plants (*Pisum sativum*) he had planted in the garden of his monastery.[3] Between 1856 and 1863, Mendel cultivated and tested some 5,000 pea plants. From these experiments, he induced two generalizations which later became known as *Mendel's Principles of Heredity* or *Mendelian inheritance*. He described these principles in a two-part paper, *Versuche über Pflanzen-Hybriden* (*Experiments on Plant Hybridization*), that he read to the Natural History Society of Brno on 8 February and 8 March 1865, and which was published in 1866.[4]

Mendel's conclusions were largely ignored by the vast majority. Although they were not completely unknown to biologists of the time, they were not seen as generally applicable, even by Mendel himself, who thought they only applied to certain categories of species or traits. A major block to understanding their significance was the importance attached by 19th-century biologists to the apparent blending of inherited traits in the overall appearance of the progeny**, now known to be due to multi-gene interactions**, **in contrast to the organ-specific binary characters studied by Mendel**.[3] In 1900, however, his work was "re-discovered" by three European scientists, Hugo de Vries, Carl Correns, and Erich von Tschermak. The exact nature of the "re-discovery" has been somewhat debated: De Vries published first on the subject, mentioning Mendel in a footnote, while Correns pointed out Mendel's priority after having read De Vries' paper and realizing that he himself did not have priority. **De Vries may not have acknowledged truthfully how much of his knowledge of the laws came from his own work and how much came only after reading Mendel's paper**. Later scholars have accused Von Tschermak of not truly understanding the results at all.[3]

Regardless, the "re-discovery" made Mendelism an important but controversial theory. Its most vigorous promoter in Europe was William Bateson, who coined the terms "genetics" and "allele" to describe many of its tenets. The model of heredity was highly contested by other biologists because it implied that heredity was discontinuous, in opposition to the apparently continuous variation observable for many traits. Many biologists also dismissed the theory because they were not sure it would apply to all species. However, later work by biologists and statisticians such as Ronald Fisher showed that if multiple Mendelian factors were involved in the expression of an individual trait, they could produce the diverse results observed, and thus showed that Mendelian genetics is compatible with natural selection. **Thomas Hunt Morgan and his assistants later integrated Mendel's theoretical model with the chromosome theory of inheritanc**e, in which the chromosomes of cells were thought to hold the actual hereditary material, and created what is now known as classical genetics, a highly successful foundation eventually cemented Mendel's place in history.

Mendel's findings allowed scientists such as Fisher and J.B.S. Haldane to predict the expression of traits on the basis of mathematical probabilities**. An important aspect of Mendel's success can be traced to his decision to start his crosses only with plants he demonstrated were true-breeding**. He also only measured absolute (binary) characteristics, such as color, shape, and position of the seeds, rather than quantitatively variable characteristics. He expressed his results numerically and subjected them to statistical analysis. His method of data analysis and his large sample size gave credibility to his data. He also had the foresight to follow several successive generations (F2, F3) of pea plants and record their variations. Finally, he performed "test crosses" (backcrossing descendants of the initial hybridization to the initial true-breeding lines) to reveal the presence and proportions of recessive characters. Without his diligence and careful attention to procedure and detail, Mendel's work would have had a much smaller impact on the world of genetics.

Mendel's laws

There are multifunctional from large biopolymer

Proteins are enzymes that catalyze biochemical reactions and are vital to metabolism.

Proteins have structural or mechanical functions, such as actin and myosin in muscle, and the cytoskeleton's scaffolding proteins that maintain cell shape. Proteins are important in cell signaling, immune responses, cell adhesion, and the cell cycle.

The non-membrane bounded organelles, also called large biomolecular complexes, are large assemblies of macromolecules that carry out particular and specialized functions, but they lack membrane boundaries. Many of these are referred to as "proteinaceous organelles" as their main structure is made of proteins.[16] Such cell structures include:

large protein complexes: nucleosome centriole and microtubule-organizing center (MTOC)

- **Enzymes are generally globular proteins, acting alone or in larger complexes**.

The sequence of the amino acids specifies the structure which in turn determines the catalytic activity of the enzyme.[25] Although structure determines function, a novel enzymatic activity cannot yet be predicted from structure alone.
[26] Enzyme structures unfold (denature) when heated or exposed to chemical denaturants and this disruption to the structure typically causes a loss of activity.

https://en.wikipedia.org/wiki/Protein_complex

Protein complexes are a form of quaternary structure. Proteins in a protein complex are linked by non-covalent protein–protein interactions. These complexes are a cornerstone of many (if not most) biological processes. The cell is seen to be composed of modular supramolecular complexes, each of which performs an independent, discrete biological function.[2]

https://en.wikipedia.org/wiki/Membrane_protein

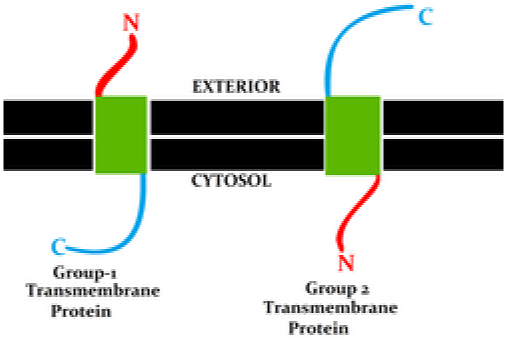
Some other integral membrane proteins are called monotopic, meaning that they are also permanently attached to the membrane, but do not pass through it.[3]

https://en.wikipedia.org/wiki/Integral_membrane_protein

An **integral**, or **intrinsic**, **membrane protein** (**IMP**) [1] **is a type of membrane protein that is permanently attached to the biological membrane.**
All transmembrane proteins can be classified as IMPs, but not all IMPs are transmembrane proteins.[2] IMPs comprise a significant fraction of the proteins encoded in an organism's genome.[3] Proteins that cross the membrane are surrounded by annular lipids, which are defined as lipids that are in direct contact with a membrane protein. Such proteins can only be separated from the membranes by using detergents, nonpolar solvents, or sometimes denaturing agents.

Proteins that adhere only temporarily to cellular membranes are known as peripheral membrane proteins. These proteins can either associate with integral membrane proteins or independently insert the lipid bilayer in several ways.

Structure



Group I and II transmembrane proteins have opposite orientations. Group I proteins have the N terminus on the far side and C terminus on the cytosolic side. Group II proteins have the C terminus on the far side and N terminus in the cytosol.

Three-dimensional structures of ~160 different integral membrane proteins have been determined at atomic resolution by X-ray crystallography or nuclear magnetic resonance spectroscopy. **They are challenging subjects for study owing to the difficulties associated with extraction and crystallization**. In addition, structures of many water-soluble protein domains of IMPs are available in the Protein Data Bank. Their membrane-anchoring α-helices have been removed to facilitate the extraction and crystallization. Search integral membrane proteins in the PDB (based on gene ontology classification)