Cell

Unit construction and function

Organisms

* The concept of the cell:

Can sum up the concept of the cell as seen these days are as follows:

1 - cells are the building blocks of all living beings about whether the organism is composed of a single cell Kalomba or bacteria, or several cells, like man or a tree, all living organisms consist of basic building blocks called cells Cells are structural units installed in living organisms.

2 cells are the functional units of all living beings around, all the chemical reactions necessary to maintain the living systems and reproduction occur within cells, Chemical Processes (metabolism **** bolism), which provides the energy required for muscle cell contraction, for example occur in the muscle cell itself, as it happens the same thing for the operations of cell proliferation, all occur within the cells.

3 cells arise from cells unprecedented Cells do not arise automatically, multi-cellular beings grow by double cells, and by cell divisions in particular are some organisms specialized sex cells Kalpweidat and sperm have the ability at the Union together to form a new organism, God willing .

4 cells contain the genetic material (DNA) as it moves from which the qualities of parental cells to filial cells, which contain the genetic material on the "code" to ensure the continuity of the type of cells from generation to the next.

* Note:

* For each cell surface covered by the so-called cell membrane regulates traffic materials to and from the cell.

* Each cell contains the genetic information found on the form of "code" in the molecules of DNA, and in some cell types there is the DNA in a

special area surrounded by membrane, called the nucleus, and in some other types of cells distributed DNA in the center of the cell.

* Cells contain many small structures called "organelles" which is a small members of the important functions in the cell, some organelles, release of energy and respect each other on the protein and building others to the transfer of materials within the cell. Not all cells contain all kinds of organelles, also adopted some of the major classifications of organisms on the presence or absence of some of the cell organelles.

* Canis core priorities of the kernel:

* Canis nucleus contains the nucleus of specific cells are usually larger and more complex of the first nucleus, and contain more organelles of the first kernel.

* All the cells of plants and animals Alraakip real kernel. The cells of bacteria and blue-green algae is one of the first kernel.

Do not be the priorities of core objects, many cells, and compares the following form between the priorities of the nucleus and the nucleus are real.

* Some of the tools and techniques that are used in the study of cells:

1 - Almikrotom: Microtome

A device used to obtain segments of thin cells and tissues which facilitates examination with a microscope.

2 - optical microscope: Light Microscope

Is the main tool in the study of structure of the cell, the more details of our knowledge of the anatomy of the cell, the stronger the analysis of the optical microscope.

It is intended strongly microscope analysis of the extent of its ability to separate two points of the eye very close from each other.

And is suitable for analysis of the capacity of the optical microscope is inversely proportional to the wavelength of the radiation energy used, and this means that the shorter the wavelength of the radiation used, the more analytical capacity of the microscope, optical microscopes and the latest up its analytical capacity to 0.17 microns (micron = 1000 / 1 mm).

3 - electron microscope: Electronic Microscope:

Development of the physical world Broglie theory says that "the wave nature of electrons", and then turned out that the length of electron waves only up to 0.05 A (A = 10 000 000 / 1).

And therefore concluded that, if replaced by the optical beam beam of electrons, the short wavelength of the electron beam will occur in a corresponding increase in the strength analysis of the microscope, has proved the truth of this was used to predict the optical microscope in 1934 for analysis of the images force much larger than we get from the microscope photosynthesis.

The electron microscope uses a package of electrons instead of the beam and magnetic coils to focus electron beam in the same way in which we use lenses to focus the light beam from the optical microscope.

As we have stated previously that the strength of analysis of the latest light microscope (1990) up to 0.17 micron while the force analysis of electron microscope up to 0.0005 micron. Moreover, while it maximum value to enlarge objects using the optical microscope of not more than 2000 times, the electron microscope can grow things to more than a million times, it is clear that the great interest of the microscope-mail to scientists in general and modern biologists in particular.

Regulation of the cell nucleus are real

Phenomenon characteristic of eukaryotic cells is divided into rooms, surrounded by membranes separated from each other and also separated from

the plasma membrane, and explained this room from the rooms is a kernel.

- Cell membranes:

Takes living matter in the cell (Protoplasm Protoplasm) cell wall (Cell Wall) solid or semi-solid protection and gives the form of the cell is not considered Brutoblazmip nature, and is the cell wall material resulting from the secretory material within the living cell, a component of plant cell does not appear in animal cells.

With materials to and from the cell plasma membrane through the Plasma Membrane, and studies have shown the chemical to the plasma membrane of cells removed from the following:

1 that the plasma membrane and internal cellular membranes (such as network membranes of RER and mitochondria membranes) all have the same structure, although there were some small differences.

2 that each membrane consists of three types of molecules are Alfosfolebedat (Phospholipids), a material for Ebedep tied to one of phosphorus, a material for Alglicoulibeidat Ebedep tied to one of carbohydrate, protein, and represent almost half the mass of lipid components of most membranes, proteins are the other half.

3 that the membrane is not the walls of the idle works only as containers or filters, but they play a key role in many biological functions and phenomena membrane, such as:

A - osmosis: Osmosis

Means the transmission of the solvent (solvent in living organisms is usually water) in the plasma membrane of a cell from a region of higher concentration to the other with lower concentrations. As the water molecules, the ability of a small direct control of the cell on the movement of water through the membrane to a limited extent.

B - Dailsp: Dialysis

Is to pass the material dissolved during the plasma membrane, and spoke Dailsp as long as the outlet of the membrane ion under consideration If the membrane is impermeable to this ion, the ion can not be spread through him, It is thus clear that the properties of the membrane is the crucial factor in determining which dissolved substances pass through him (all biological membranes impervious to water).

C - Transport Facilitator Facilitated transport and active transport Active transport:

There are several aspects of inter-transport facilitator and active transport include:

Motion of molecules and ions across the membrane at a faster rate than what is happening Baldelsp alone.

A high degree of specialization, each has an optional capability for materials that allow the transport.

There are also between transport facilitator and active transport substantial differences are:

That active transport requires energy to make as much as by the cell, while transport facilitator does not require it.

Able to convey the active transport of substances through the membrane against the direction of focus, from the area of focus at least to the region of highest concentration, while the facilitator can not transport to do so.