

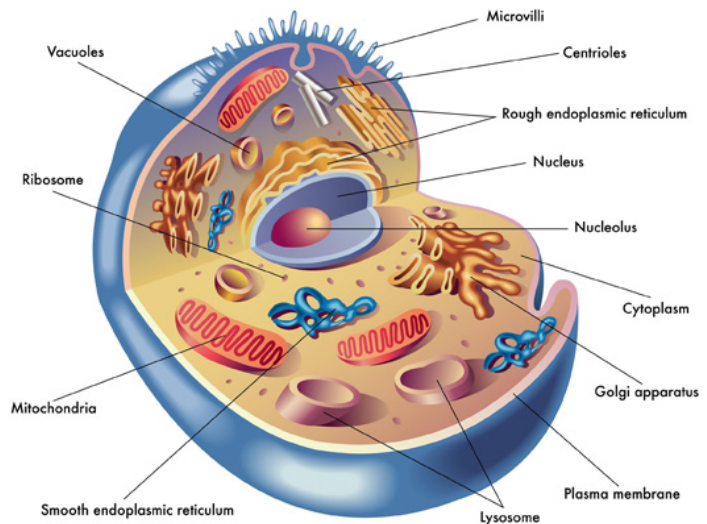
CELLS

The human body is composed of cells. They are the basic structural and functional units of living organisms. The cells contain inorganic (water, salts) as well as organic (proteins, nucleic acids, carbohydrates and lipids) substances that build the cell structures (the organelles). The basic structures of the cell are the cell membrane, the nucleus and the cytoplasm.

Cell division - **MITOSIS**: universal cell division of human's somatic cells.

INTERPLASE - preparation for all division

DNA replication (doubling), biosynthesis of proteins, enzymes, ATP (energy resources)



PHASES OF MITOSIS

1.) *PROPHASE*

- compactization of doubled chromosomes;
- nuclear membrane disappears;
- formation of a dividing spindle;

2.) *METAPHASE*

- equatorial location of chromosomes;
- maximal compactization of chromosomes;
- each chromosome is attached to the threads of the dividing spindle by its centromere;

3.) *ANAPHASE*

- contraction of the threads of the dividing spindle;
- each chromosome is splitting in the area of its centromere into sister chromatids;
- each sister chromatid of one chromosome is oriented to different poles of the cell;

