

The WAREHOUSE of CELLULAR BIOLOGY

Did you know the cells in your body are the smallest living units capable of reproducing themselves?

Don't let their size fool you though.

Cells may be small, but they're also smart...like really smart. In fact, each cell in your body was made from an already existing cell, and there are around 200 different types of cells in the human body. Each one contains about 20 different types of structures or organelles.

Organelles work together to keep the functions of your body running smoothly, and they're extremely efficient with their individual duties. It's almost like they're grade-A factory workers running the assembly line of the human body.

Let's investigate the warehouse of cellular biology by taking a closer look at some of the individual roles of these all-star cellular employees.

ORGANELLES

NOTABLE NUMBERS



Cell Membrane

Starting with the outside of this cellular factory, the plasma membrane of the cell is an outer layer that controls what goes in or out of the warehouse to protect the cellular processes.



Nucleus

This is the control center of the entire cellular warehouse. Blueprints are mapped out in the nucleus through cell signaling processes. Cellular signals determine which proteins are actually manufactured.



Ribosomes

These dudes float around the entire cell collecting various blueprints (the ones created in the nucleus). Think of them like builders who need those blueprints in order to manufacture proteins.



Golgi Apparatus

This organelle may have an odd name, but Golgi apparatus are simply flat vesicles that package up materials that need to leave the cell, like hormones. (These materials are created by the same proteins manufactured by the ribosomes.) They're like little organizers working in the shipping department.



Mitochondria

Mitochondria are like the power plant that keeps the entire warehouse going. They do this by converting glucose (sugar) into ATP (Adenosine triphosphate), which is used by the cell as energy that becomes fuel for all cellular processes mentioned so far.



Lysosome

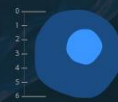
Every factory requires a superior cleaning crew, and that's exactly the purpose of lysosomes. They're cleaning up all the waste that's created throughout protein manufacturing, hormone creation, and energy production.



Proteins, or macromolecules composed of amino acids, comprise about **50 percent** of a cell membrane's components.



The nucleus is usually the largest organelle in the cell and can contain up to about **two meters of DNA** which has to be tightly coiled and packed so that it can fit in.



The average diameter of the nucleus in mammalian cells is **six micrometers**.

Ribosomes consist of **two major subunits**:

The **small ribosomal subunit** reads the messenger RNA (ribonucleic acid).

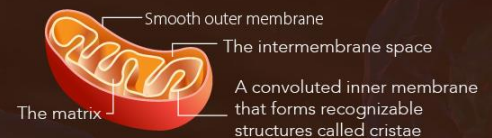


The **large subunit** joins amino acids to form a polypeptide chain.



An individual Golgi apparatus is usually composed of **four to eight cisternae**, each a micron or less in diameter stacked on top of each other like pancakes.

Mitochondria are composed of **four compartments**:



Lysosomes contain about **50 different enzymes** that break down all types of biological molecules including proteins, nucleic acids, lipids, and carbohydrates.



SUPPORTING YOUR CELLULAR EMPLOYEES

Now you understand just how hard these organelles work to keep your cells performing at peak condition. It takes a lot of communication that eventually leads to actual conversations between individual cells.

And guess what? You can totally influence these cellular conversations in your favor. Yes, you can enhance the process of cell signaling—with the right nutrients, of course.

Consuming powerful, proven nutrients that support communication within your cells has been found to improve their natural renewal response. This purification process removes the harmful byproducts of cellular-energy creation, which is key to the health of your cells.