

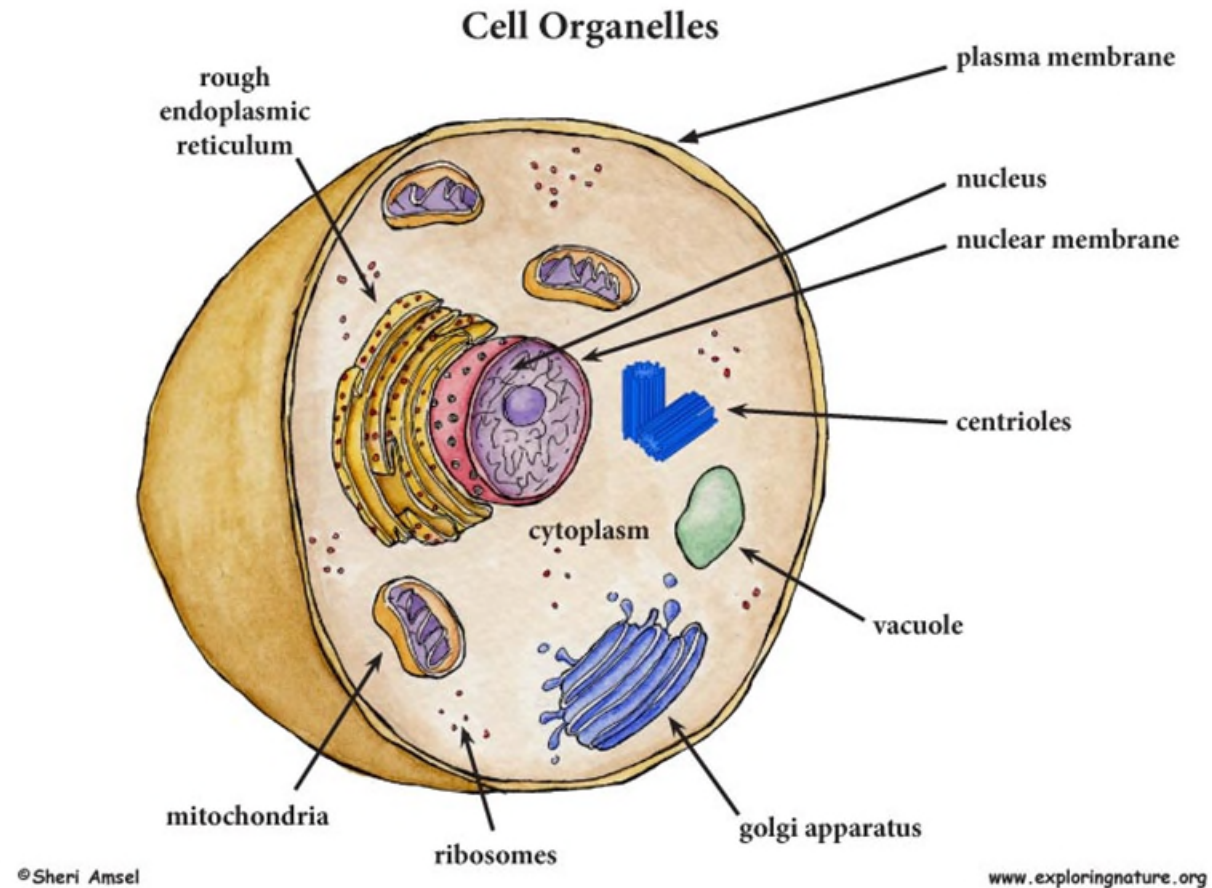
Eukaryotic Cell Virtual Tour

Roger Carver

March 23, 2021

List of Organelles/Cellular Components Included in the Tour

- Nucleus
- Golgi Body
- Ribosome
- Chloroplast



Organelle Name:

Nucleus

What does it look like:

A cell nucleus looks like a ball, covered by a nuclear envelope with pores, filled with a gel-like substance which holds x-shaped chromosomes and other components essential for life.

What does it do?

It holds and protects chromosomes which contain vital DNA molecules and controls access to them. It also serves as a traffic cop controlling RNA and protein molecules which travel in and out of the pores in opposite directions.

Other important info:

The nucleus produces RNA. A nuclear pore can move about 1,000 selected molecules per second. It is the largest and most prominent organelle in a cell.

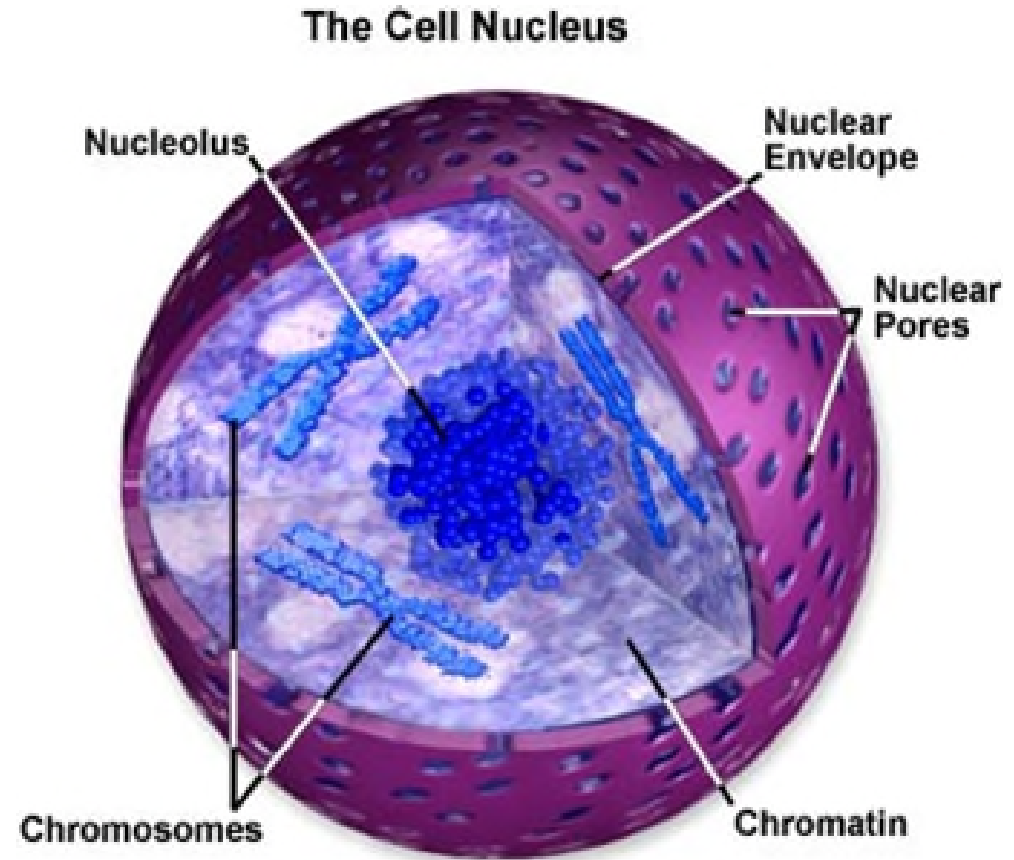


Figure 1

Copyright owned jointly by Michael W. Davidson and The Florida State University Research Foundation.

Organelle Name:

Golgi Body

What does it look like:

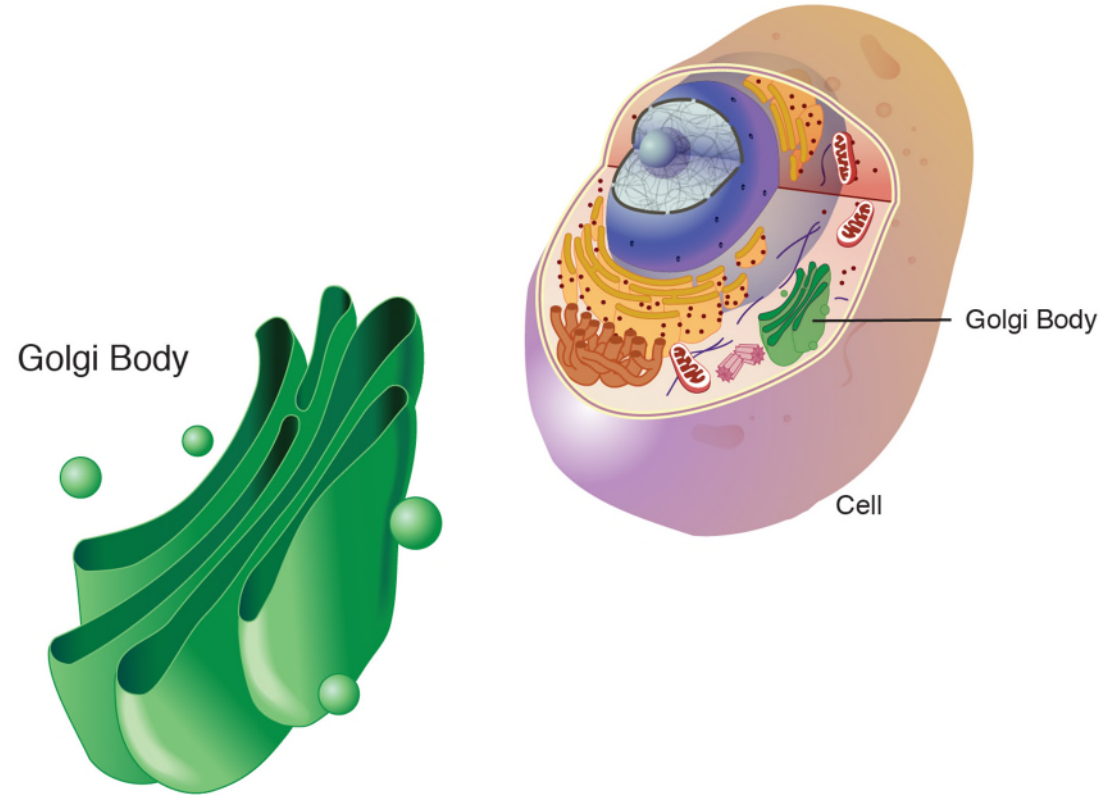
A Golgi body looks like several membranes folded over, flattened, and stacked against each other like a stack of pancakes.

What does it do?

It has enzymes that help process and package new lipids and proteins into vesicles. In plant cells, the Golgi body creates complex polysaccharides for cell walls.

Other important info:

Also called Golgi apparatus.



National Human Genome Research Institute

Organelle Name:

Ribosome

What does it look like:

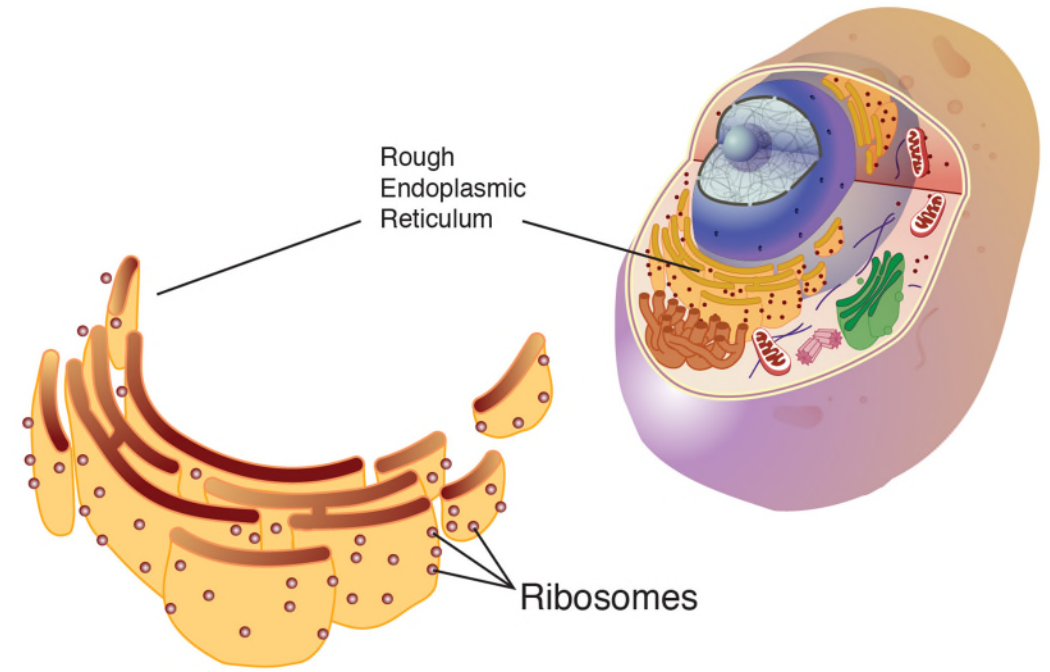
A ribosome looks like a small hamburger bun.

What does it do?

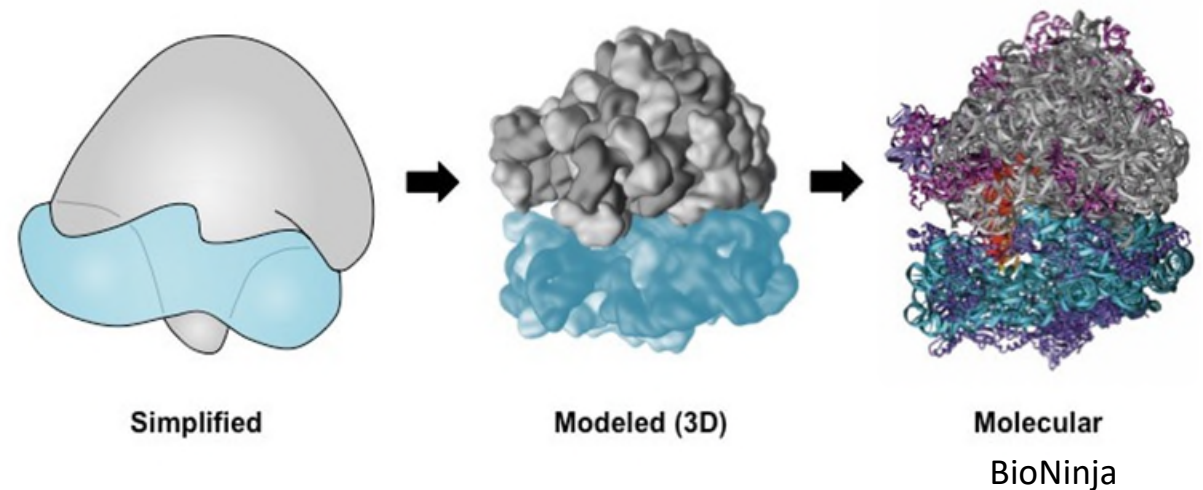
Ribosomes are part of a cell's protein factory. They are made of RNA and protein. They bind to messenger RNA and work with transfer RNA to eventually become protein.

Other important info:

Ribosomes are made in the nucleolus. They have no membrane. Ribosomes can freely float in the cytosol or can bind to the rough ER.



National Human Genome Research Institute



Organelle Name: Chloroplast

What does it look like:

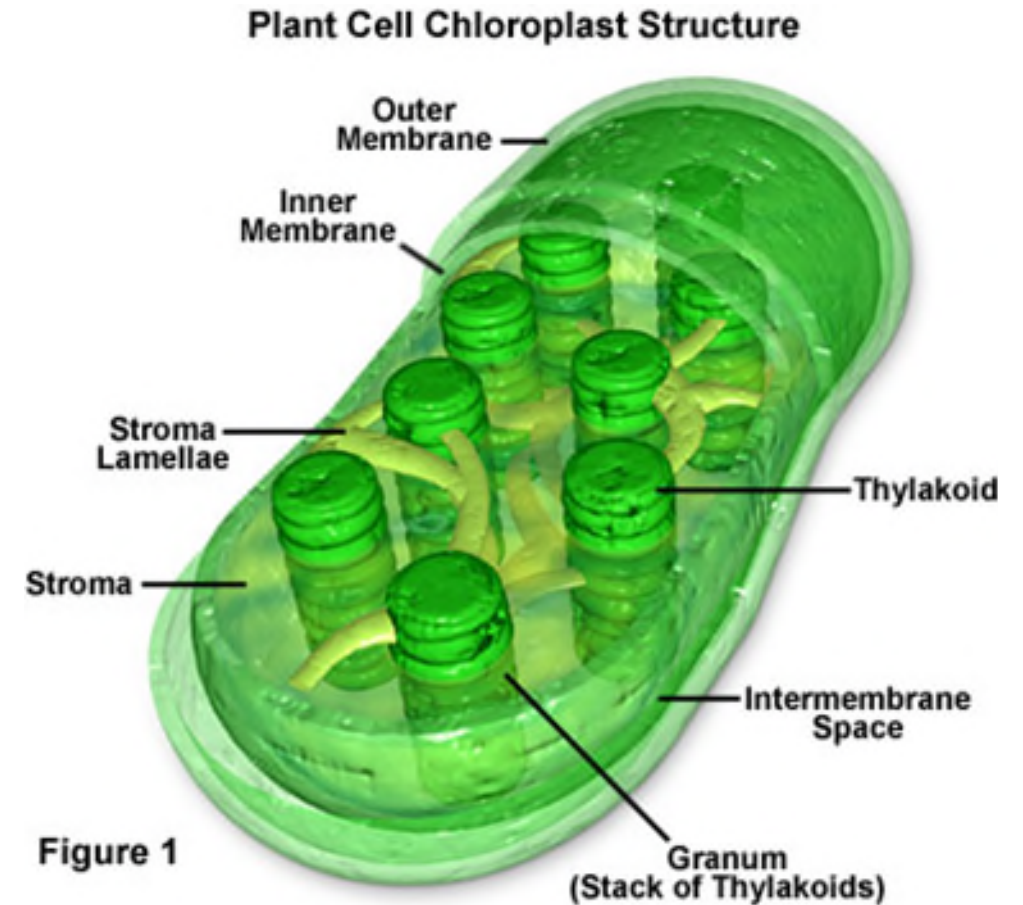
It looks like stacks of oval disks enclosed in a capsule-like container.

What does it do?

It carries out photosynthesis in plants and photosynthetic protists, thus converting light energy into substances used for food.

Other important info:

It has two outer membranes. Photosynthesis occurs in a third inner membrane.



Molecular Expressions – Florida State University

Summary

- What are organelles? They are parts of cells that serve specific functions, similar to organs that serve specific functions in the body.
- What happens if they don't work? If they don't work, the cells will die.
- Final thoughts? I probably would have named them organettes. They are like tiny organs that give life to cells.

Reference List

National Human Genome Research Institute (n.d.). *Golgi Body*. Retrieved March 3, 2021, from

<https://www.genome.gov/genetics-glossary/golgi-body>

Starr, C., Evers, C. A., & Starr, L. (2016). *Biology: Today and Tomorrow with Physiology*. Australia: Cengage Learning.