

Mitochondria

by Sophia



WHAT'S COVERED

In this lesson, you will learn about the structure and function of the mitochondria. Specifically, we'll focus on:

1. What Are Mitochondria?

Mitochondria are cellular organelles found within eukaryotic cells. Eukaryotic cells are cells that contain a nucleus, such as human cells. Mitochondria are often described as the powerhouse of the cell, meaning they're the place in the cell where energy is made.



TERM TO KNOW

Mitochondria

An organelle (with an inner and outer membrane) that is found inside cells that produces energy in the form of ATP.

2. ATP

Mitochondria are the site of **ATP** production. ATP stands for "adenosine triphosphate." It is basically an energy storage molecule produced by cells for them to carry out their normal functions.

Cells need some sort of energy to power themselves; mitochondria are the powerhouse of the cell because they are the place where ATP production occurs. This ATP energy is made through a process called cellular

respiration.



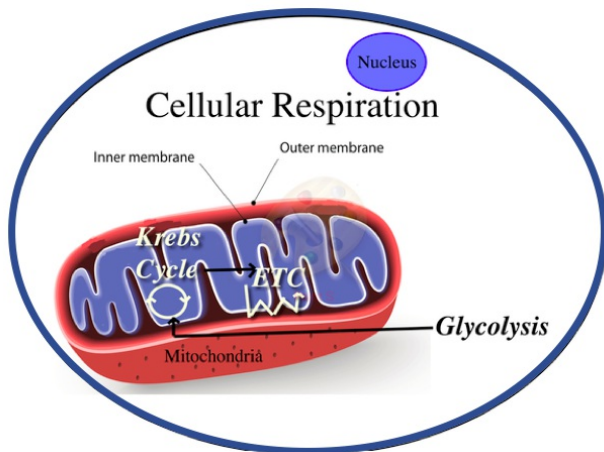
TERM TO KNOW

ATP

Adenosine triphosphate; a molecule that is used inside cells as a source of energy.

3. Cellular Respiration

The process called **cellular respiration** is what occurs in order for ATP to be made.



Cellular respiration has three phases associated with it:

1. *Glycolysis*: This is the phase of cellular respiration that happens in the cytoplasm to make ATP for the cell.
2. *Krebs Cycle*: This is the phase of cellular respiration that occurs inside the innermost membrane of mitochondria.
3. *The Electron Transport Chain*: This phase of cellular respiration also occurs between the inner and outer membranes of mitochondria and is often referred to as ETC.



TERM TO KNOW

Cellular Respiration

A process that converts organic molecules into energy in the form of ATP.



SUMMARY

This lesson has been an **overview of the mitochondria**. The mitochondria is composed of inner and outer membranes. You also learned that **ATP production** occurs in the inner membrane. Finally, you learned about the **three phases of cellular respiration**, which produce ATP for the cell.

Keep up the learning and have a great day!

Source: THIS WORK IS ADAPTED FROM SOPHIA AUTHOR AMANDA SODERLIND



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TERMS TO KNOW

ATP

Adenosine triphosphate; a molecule that is used inside cells as a source of energy.

Cellular Respiration

A process that converts organic molecules into energy in the form of ATP.

Mitochondria

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