

Mitochondria

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In the previous segment of the chapter 'Cell - The Fundamental Unit of Life', we learnt about the cell organelle, **Lysosome**. In this segment, let us get acquainted with the next organelle, Mitochondria.

What are Mitochondria?

Cell organelles that produce molecules which are the usable form of energy for the cell are called **Mitochondria**. It supplies energy to other organelles of the cell. Thus, it is also called the **Powerhouse** of the cell.



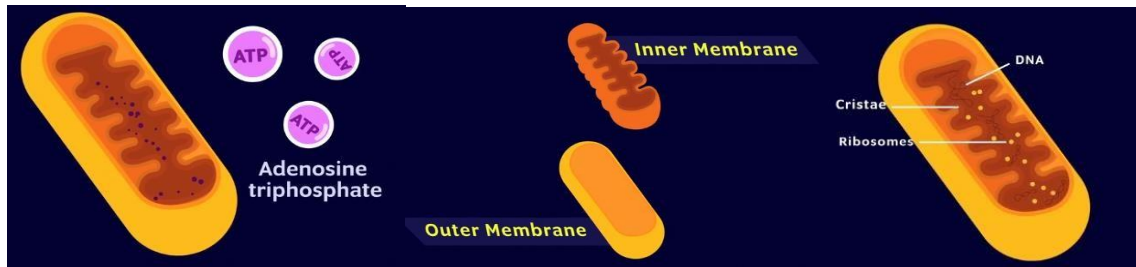
The food we eat gives us energy but this energy is not in the usable form.

The enzymes in the mitochondria convert these energy molecules into usable molecules called the **Adenosine triphosphate (ATP)**.

Cells obtain energy when these ATP molecules are broken down.

What is the structure of Mitochondria?

- The mitochondria have two membranes: the outer membrane and the inner membrane.
- The outer membrane is porous and allows the transport of materials across itself.
- The inner membrane has several folds called **Cristae**. Thus, it has a larger surface area.
- The larger surface area provides a wider base for ATP generating chemical reactions and harbours more enzymes that will produce ATP.
- More ATP molecules are produced due to the larger surface area.
- The inner part of this membrane has a matrix which contains all the necessary enzymes for ATP production.
- Mitochondria have its own DNA and ribosomes. Therefore, it can make its own proteins and replicate on its own. This helps them to make its copies independent of the other organelles.



Summary

<p>Mitochondria</p>	<ul style="list-style-type: none"> Cell organelles that produce molecules which are the usable form of energy for the cell are called Mitochondria. It is also called the Powerhouse of the cell.
<p>Structure of Mitochondria</p>	<ul style="list-style-type: none"> Has two membranes: outer and inner. The inner membrane has cristae and enzymes for ATP production. Has its own DNA and ribosomes.

What's next?

In our next segment of Class 09 Science, we will learn about **Vacuoles**.