

## Functions of Endoplasmic Reticulum

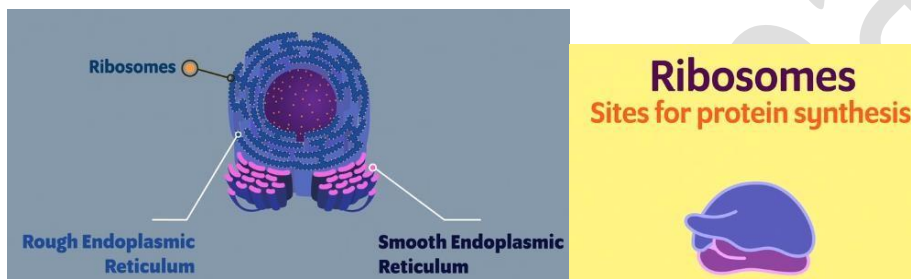
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In the previous segment of the chapter 'Cell - The Fundamental Unit of Life', we got introduced to the cell organelle, **Endoplasmic reticulum**. In this segment, let us learn More about the endoplasmic reticulum.

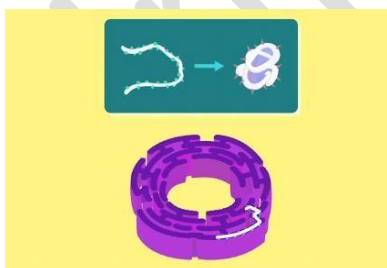
### What are the Functions of the endoplasmic reticulum?

The two major types of endoplasmic reticulum are rough endoplasmic reticulum (RER) and smooth endoplasmic reticulum (SER). They act as a framework for the biochemical activities of the cell.



The functions of RER are:

- It helps in partial manufacturing of the proteins because of the presence of ribosomes which are a site of protein synthesis.
- Proteins have a proper and specific shape. The protein chains are folded as they are passed through the tubes of RER. These tubes are called **Cisternae**.
- Proteins move through these cisternae of the Endoplasmic reticulum to reach their destination ahead.



### Folding of Proteins in the ER

The functions of SER are:

- It helps in the manufacture of fat molecules, that is, lipids.
- It synthesizes certain proteins and lipids which function as enzymes and hormones.
- In some cases like the cells of the liver, it helps in detoxifying the cell.

- It synthesizes some of the molecules which help in building up the cell membrane. This process is called **Membrane Biogenesis**.

### Summary

<b>Functions of Rough Endoplasmic Reticulum</b>	<ul style="list-style-type: none"> <li>• Protein synthesis</li> <li>• Movement of proteins</li> </ul>
<b>Functions of Smooth Endoplasmic Reticulum</b>	<ul style="list-style-type: none"> <li>• Synthesis of Lipids</li> <li>• Synthesis of Proteins and Fats which act as enzymes or hormones</li> <li>• Detoxifying cells</li> <li>• Synthesis of molecules participating in membrane biogenesis</li> </ul>

### Did you know?

The liver cells in animals have smooth endoplasmic reticulum that helps in the detoxification process by eliminating the toxins and drugs present in the cells.

### What's next?

In our next segment of Class 09 Science, we will learn about **The golgi apparatus**.