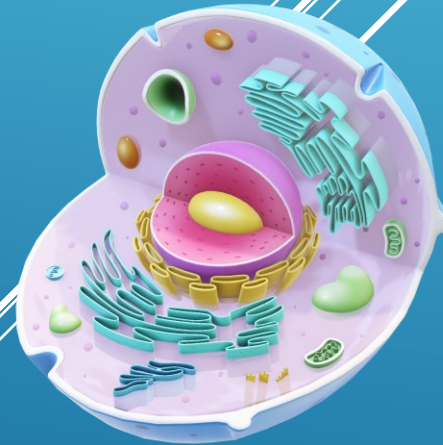


The Cell (Part III)

**“Function and structure of
organelles in eukaryotic cells”**

Professor: Bárbara López



Smooth endoplasmic reticulum (SER)

➡ Organised membrane system, similar to the RER, but more tubular and without attached ribosomes.

Function

- ➡ Lipid synthesis
- ➡ Involved in the detoxification of the organism (degradation of toxic substances and/or drugs such as alcohol)
- ➡ Involved in calcium storage
- ➡ In liver cells: REL is found in very abundant form.

Golgi apparatus

Function

- ➡ Reception and chemical modification of proteins and lipids.
- ➡ Once the proteins have been modified, part of them are distributed in transport vesicles to the following destinations:
 - a) To other organelles that are part of the endomembrane system.
 - b) Exported outside the cell.
 - c) Cell surface to form part of the plasma membrane.

Mitochondria

- ➡ These are sac-like or cylindrical organelles found in most eukaryotic cells. (figure 8)
- ➡ It is the site where most of the cellular respiration reactions occur and where energy is obtained from glucose or lipids.
- ➡ They are surrounded by a double membranes, which form two distinct spaces within the organelle (one internal and one external): The **intermembrane space** and the **mitochondrial matrix**.
- ➡ The **mitochondrial inner membrane** folds to form **mitochondrial ridges**.
The intermembrane space is the space formed between the inner and outer mitochondrial membrane.