

Cells, tissues and organelles

State five features common to all cells.

Cells, tissues and organelles

Compare the DNA of eukaryotic and prokaryotic cells.

Cells, tissues and organelles

Define tissue, organ and organ system.

Cells, tissues and organelles

Give an example of a tissue, an organ and an organ system.

Cells, tissues and organelles

Function of the nucleolus?

Cells, tissues and organelles

Structure of a mitochondrion?

Cells, tissues and organelles

Function of smooth ER?

Cells, tissues and organelles

Function of centrioles?

Eukaryotic: linear, in a nucleus, with histones. Prokaryotic: circular, free in the cytoplasm, no histones.

Cell surface membrane, cytoplasm, genetic material (DNA), ribosomes, and enzyme-controlled metabolic reactions.

Squamous epithelium (tissue), stomach (organ), digestive system (organ system).

Tissue: similar cells doing one function.
Organ: different tissues working together.
Organ system: organs working together for a major function.

Double membrane, inner membrane folded into cristae, fluid matrix. Site of aerobic respiration (ATP production).

Makes ribosomal RNA (rRNA) and assembles ribosome subunits.

Organise microtubules to form the spindle during nuclear division in animal cells.

Synthesis and transport of lipids and steroids.

Cells, tissues and organelles

What is a lysosome?

Cells, tissues and organelles

Order of the pathway for a secreted protein.

Cells, tissues and organelles

What happens to a protein in the Golgi apparatus?

Cells, tissues and organelles

Function of the bacterial capsule?

Cells, tissues and organelles

What is a plasmid?

Cells, tissues and organelles

Function of pili and flagellum?

Cells, tissues and organelles

Size of ribosomes in prokaryotes and eukaryotes?

Cells, tissues and organelles

How is rough ER recognised in an electron micrograph?

Ribosome on rER, lumen of rER, transport vesicle, Golgi apparatus, secretory vesicle, cell surface membrane, exocytosis.

A membrane-bound sac made by the Golgi apparatus, containing hydrolytic enzymes that digest worn organelles and engulfed material.

Protects against drying and the immune system and helps the cell stick to surfaces.

It is modified (for example carbohydrate added), sorted and packaged into secretory vesicles.

Pili attach to surfaces or other cells (and allow DNA transfer). The flagellum rotates to move the cell.

A small, circular piece of DNA separate from the main DNA, carrying extra genes such as antibiotic resistance.

Flattened sacs with many tiny black dots (ribosomes) on the surface.

Prokaryotes: 70S. Eukaryotes: 80S (larger).

How is a Golgi apparatus recognised in an electron micrograph?

A stack of curved, flattened sacs with small vesicles at the ends.