

ANIMAL CELL ORGANELLES

ORGANELLE	FUNCTION & DESCRIPTION
Nucleus	The control center of the cell. Contains genetic material (DNA) and coordinates cell activities like growth and reproduction.
Mitochondria	The powerhouse of the cell. Site of cellular respiration where ATP (energy) is generated.
Ribosomes	Small particles responsible for protein synthesis. Can be found floating in cytoplasm or attached to the ER.
Endoplasmic Reticulum	A network of membranes. Rough ER (with ribosomes) modifies proteins; Smooth ER synthesizes lipids and detoxifies chemicals.
Golgi Apparatus	The "shipping and receiving" center. Modifies, sorts, and packages proteins for secretion or delivery to other organelles.
Lysosomes	Contains digestive enzymes to break down waste materials, cellular debris, and foreign invaders.
Plasma Membrane	A semi-permeable lipid bilayer that regulates the passage of molecules in and out of the cell.
Cytoplasm	A jelly-like substance that fills the cell and surrounds the organelles, providing a medium for chemical reactions.

ORGANELLE**FUNCTION & DESCRIPTION****Centrioles**

Cylindrical structures that help organize microtubule assembly during cell division.

Vacuoles

Small fluid-filled sacs used for storage of nutrients, water, or waste products.