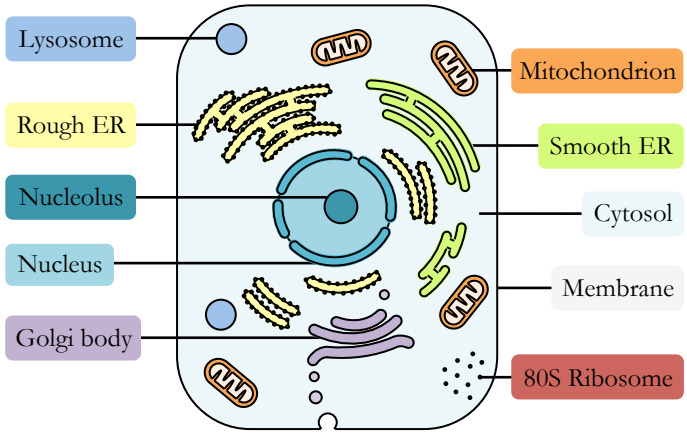
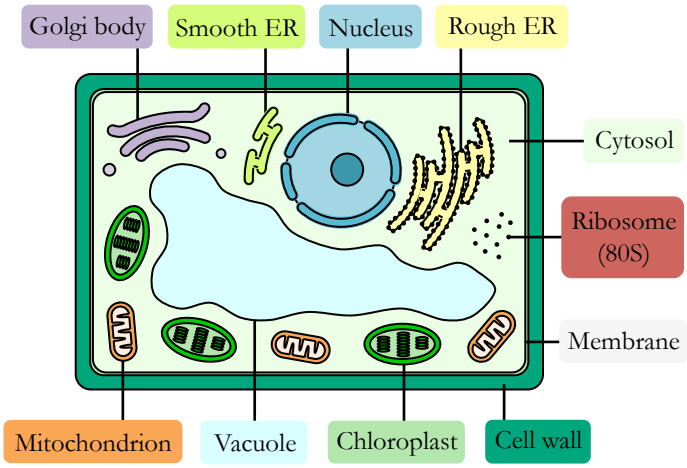
TOPIC 1.2: EUKARYOTIC CELLS

Eukaryotic Cell Structure

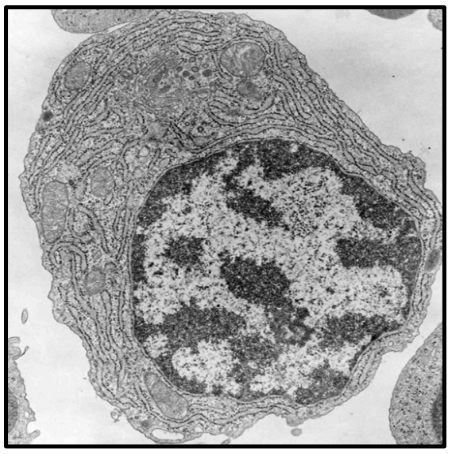


Animal Cell



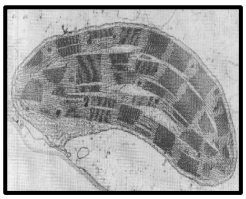
Plant Cell

Eukaryote Micrographs

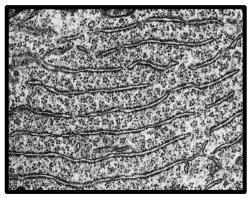


Animal Cell (exocrine gland cell)

Golgi complex



Chloroplast



ER (rough)

Mitochondrion

Plant Cell (palisade mesophyll)

Organelles

Organelles are compartmentalised structures that serve specific purposes

Examples of eukaryotic organelles include:

- 80S ribosomes – Responsible for protein synthesis (translation)
- Nucleus – Stores genetic information (site of transcription)
- Mitochondria – Site of aerobic respiration (ATP production)
- Endoplasmic reticulum – Transports materials between organelles
- Golgi complex – Sorts, stores, modifies & exports secretory products
- Centrosomes – Involved in cell division (mitosis and meiosis)

Organelles found only in specific cell types include:

- Chloroplasts – Site of photosynthesis (plant cells only)
- Lysosomes – Breakdown of macromolecules (animal cells)

Animal versus Plant Cells

Animal Cells	Plant Cells
No chloroplast	Have chloroplast
No cell wall	Cell wall (cellulose)
No plasmodesmata	Plasmodesmata
Temporary vacuoles	Large central vacuole
Cholesterol present in the cell membrane	No cholesterol in the cell membrane
Glucose → glycogen	Glucose → starch