# 1 | Organelles in Eukaryotic Cells

## 1.1 | An Introduction.

Many organells exist in a cell — often more in Eukaryotic cells — that help execute the cell's functions. They serve a variety of purposes, and help form the basics of cellular systems. Categorizing them based on whether or not they have membranes KBhBIO1010rganellsBasedOnMembranes

## 1.2 | Chloroplast and Mitochondria

- Chloroplast found in plants + does photosynthesis
- Mitochondria found in animals + store ATP and extract energy from ATP

## 1.3 | Rough Endoplasmic Reticulum (ER) and Smooth ER

- Rough ER covered by ribosomes and folds KBhBIO101Proteins proteins
- Smooth ER not covered by ribosomes and makes KBhBIO101Lipids lipids

### 1.4 | Ribosomes and Golgi apparatus

- Ribosomes => synthesizes proteins
- Golgi apparatus => packs, modifying, and moving proteins

## 1.5 | Cell Wall and Plasma Membrane

- Cell Wall found in plants => surround the cell: hard
- Plasma membrane found in animals => surround the cell: soft KBhBIO101Lipids lipids

#### 1.6 | Cytosol, Cytoplasm and Cytoskeleton

- Cytosol => liquid found inside cells; the "cytoplasm" floats within it
- Cytoplasm => all the stuff within the cell

#### 1.7 | Nucleus and Nucleolus

- Nucleus => centre of the cell, stores DNA
- **Nucleolus** => largest part of the nucleous that makes ribosomes

#### 1.8 | Lysosomes and Food Vacuoles

- Lysosomes => vesticles that contains enzymes that breaks down biomolecules
- Food Vacoules => vesticels that stores food and other resources

## 1.9 | Cytoskeleton and Microtubules

- Cytoskeleton => complex network of proteins + fibres that organize the rest of the cell
- Microtubulues => Polymers of tubulin protein that provides the main structure of eukarotic cells

## 1.10 | Flagella and Cilia

- Flagella => a bacteria's tail allow them to move and also act as an sensory organ. longer than a cilla, and moves in sinosoidial pattern.
- Cilium => a cell's "hair" provides sensory and communications functions. Motil cilla could move about to "grab" things, and non-motile cilla can't move. more abundant that the flagella, and moves in circular pattern if they do move, and moves in circular pattern if they do move