# 1 | Cells

## 1.1 | The Two Major Cell Types

- **Prokaryotic cells** — often in single-cellular cells, has a cell wall, and contained in capsules
- **Eukaryotic cells** — in multicellular cell elements, contains a plasma membranes and nucleus

## 1.2 | Prokaryotic vs Eukaryotic Cells

| Prokaryotic Cells | Both | Eukaryotic Cells |
|---|---|---|
| Cell wall | DNA | Plasma membrane |
| Capsule container | Cytoplasm | Nucleus |
| | Ribosomes | Mitochondria |
| | Membranes | |

## 1.3 | Eukaryotic Cells, a deep dive

### 1.3.1 | Plant and Animal Cells, Compare and Contrast

| Animal Cells | Plant Cells |
|---|---|
| Has soft plasma membrane | Has hard cell wall |
| No chloroplast | Has chloroplast to do photosynthesis |
| Has cytoplasm | Has cytoplasm |
| Has Ribosomes | Has Ribsonmes |
| Has mitochondria | Has mitochondria |
| No plastics | Has plastids — organelles that form pigments |
| Has cilla — hair like extrusions | Mostly no cilla |

### 1.3.2 | Endosymbiotic theory

See KBhBIO101Endosymbiotic

### 1.3.3 | Organelles in Eukaryotic Cells

See KBhBIO101EukaryoticOrganells

## 1.4 | Cell Membrains

Eukaryotes have a thin membrane layer that helps them regulate nutrients, defend themselves, and control I/O. See KBhBIO101CellMembraines

## 1.5 | Cell Replication

Eventually, at some point, cells need to replicate itself. This, of course, is due to the fact that your body needs to grow. This intricate process is dependent on KBhBIO101CentralDogma, specifically, KBhBIO101DNAReplication.

The timeschedule of each cell replicating is dependent on something called ”The Cell Cycle”. See KBh-BIO101CellLifecycle