

- Consists of cisternae, but they aren't as long, are often curved and don't have ribosomes attached and have many vesicles nearby
- It processes proteins brought in by vesicles from the rER
- Most of the processed proteins are carried to the plasma membrane
- **Lysosome:**
- Spherical with a single membrane
- Formed from Golgi vesicles
- Contain high concentrations of protein which makes them densely staining in an electron micrograph
- Contain digestive enzymes which can be used to break down food or organelles in the cell
- **Mitochondrion:**
- Double membrane, with inner membranes invaginated to form cristae
- Fluid inside is called matrix
- Produce ATP for cell by aerobic respiration
- Fat is digested if it is used as energy source for the cell
- **Free ribosomes:**
- No membrane, 20nm in diameter and 80S.
- Synthesise proteins, releasing them to work in the cytoplasm.
- They are constructed in the nucleolus.
- **Chloroplast:**
- Double membrane.
- Thylakoids, which are flattened sacs of membrane.
- They produce glucose and a wide variety of organic products by photosynthesis.
- Starch grains may be present if they have been photosynthesising rapidly.
- **Vacuoles and vesicles:**
- Single membrane with fluid inside.
- Digestion and storage of food.
- Vesicles are very small vacuoles used to transport materials inside the cell.
- **Microtubules and centrioles:**
- Move chromosomes during cell division.
- Centrioles structure of two groups of 9 triple microtubules.
- Centrioles are anchor point for microtubules during cell division and inside cilia and flagella.
- **Cilia and flagella:**
- Whip-like structures projecting from cell surface.
- Ring of 9 double microtubules plus 2 central ones.
- Used for locomotion..
- Cilia also used to create a current in the fluid next to the cell.