Plastids are surrounded by two membranes, an outer membrane and an inner membrane. The inner membrane is organized into a system of flattened sacs called thylakoids, which are where the light-dependent reactions of photosynthesis take place. Plastids are essential organelles in photosynthetic eukaryotic organisms that are responsible for a variety of important cellular processes, including photosynthesis, pigment synthesis, and storage.

RIBOSOMES

Ribosomes are small, complex cellular structures that are responsible for synthesizing proteins. They can be found in all living cells, including prokaryotic and eukaryotic cells.

Ribosomes are composed of two subunits, each made up of ribosomal RNA (rRNA) and proteins. The subunits come together to form a functional ribosome when they attach to messenger RNA (mRNA) during protein synthesis.

The small subunit of the ribosome binds to the mRNA, while the large subunit binds to transfer RNA (tRNA), which carries amino acids to the ribosome. The ribosome then catalyzes the formation of peptide bonds between the amino acids, ultimately leading to the production of a protein.

In addition to their role in protein synthesis, ribosomes are also involved in other important cellular processes, such as RNA degradation and quality control.

Ribosomes can be found free in the cytoplasm or attached to the endoplasmic reticulum (ER) in eukaryotic cells. The location of ribosomes can influence the fate and function of the proteins they produce. For example, proteins synthesized by ribosomes attached to the ER are often modified and transported to other parts of the cell or outside the cell.

Ribosomes are essential organelles in all living cells that are responsible for synthesizing the proteins necessary for a variety of important cellular processes.