

Chloroplasts

Chloroplasts are organelles found mostly in plants and function as the site of photosynthesis. Chloroplasts contain pigments called chlorophyll which can capture photon energy from the sun and convert that energy into chemical energy to produce food in the form of sugars. Water and carbon dioxide are substrates that are used in photosynthesis, along with the captured light energy, to produce sugar and oxygen. The process is divided into two stages: the light reactions (water is split to produce oxygen) and the dark reactions or Calvin cycle (builds sugar molecules from carbon dioxide). Chloroplasts have three membrane systems: the outer membrane, the inner membrane, and the thylakoid membrane. Between the inner and outer membrane is a space called the stroma. The thylakoid membrane system floats in a gel-like fluid located in the stroma and is the site of photosynthesis.



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