Topic: Cell Organelles
B.Sc. Botany Hons. III
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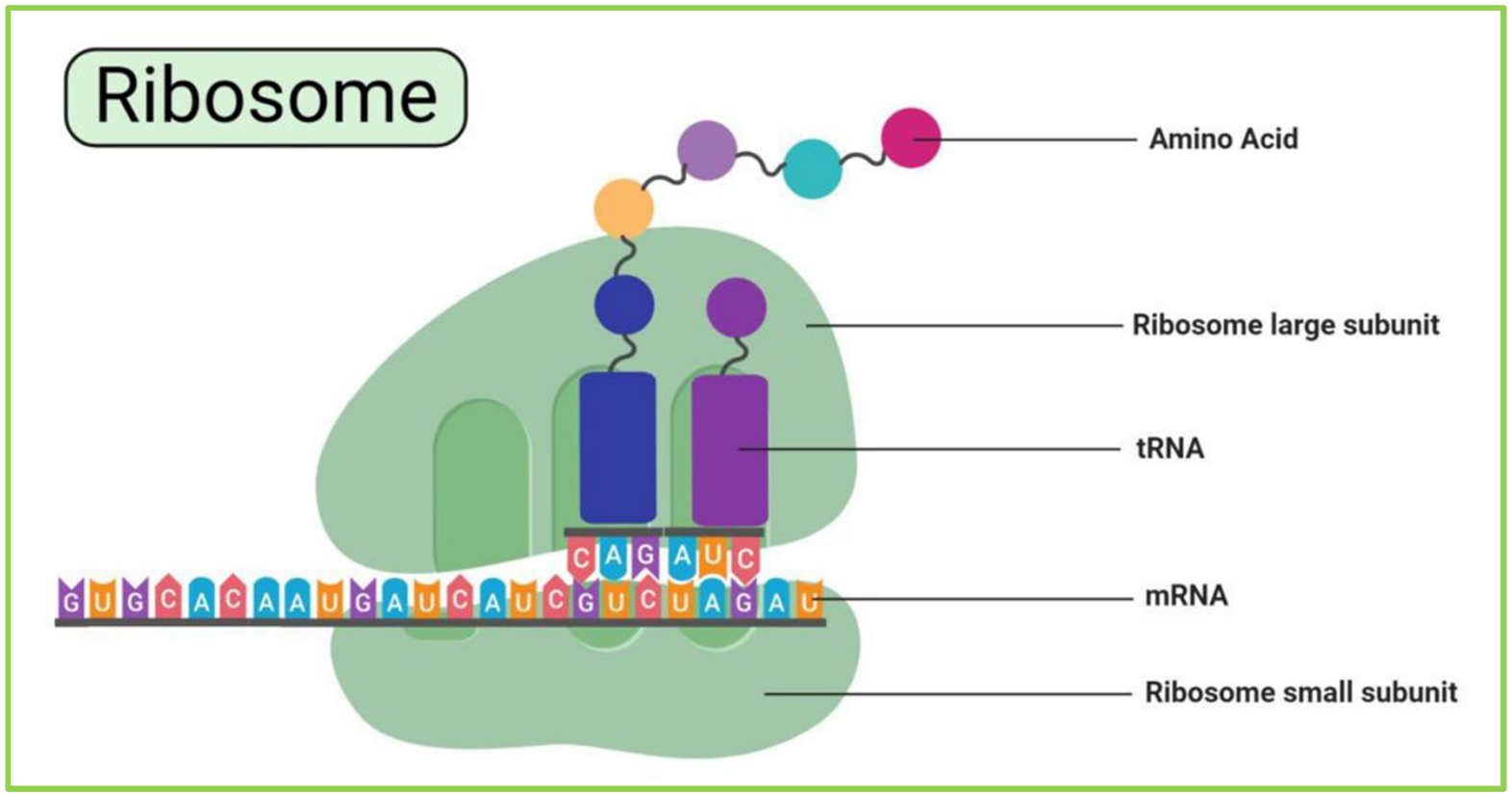
Ribosomes

- Ribosomes are ribonucleoprotein containing equal parts RNA and proteins along with an array of other essential components required for protein synthesis.
- In prokaryotes, they exist freely while in eukaryotes, they are found either free or attached to the endoplasmic reticulum.

Structure

- The ribonucleoprotein consists of two subunits.
- In the case of prokaryotic cells, the ribosomes are of the 70S with the larger subunit of 50S and the smaller one of 30S.
- Eukaryotic cells have 80S ribosomes with 60S larger subunit and 40S smaller subunit.


Ribosome
Amino Acid
Ribosome large subunit
tRNA
mRNA
Ribosome small subunit
C A G A U C
G U G C A C A A U G A U C A U C G U C U A G A U

- Ribosomes are short-lived as after the protein synthesis, the subunits split up and can be either reused or remain broken up.

Functions

- Ribosomes are the site of biological protein synthesis in all living organisms.
- They arrange the amino acids in the order indicated by tRNA and assist in protein synthesis.