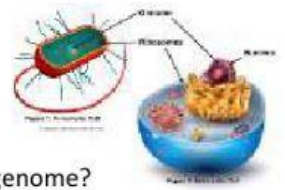


Learning Objective: Describe the structure and/or function of subcellular components and organelles.

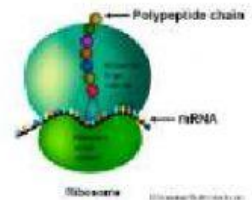
### AP Biology Topic 2.1 Cell Structure: Subcellular Components

- All living cells contain a
- What is the function of ribosomes?
- What is the difference between prokaryotic and eukaryotic cells concerning their genome?



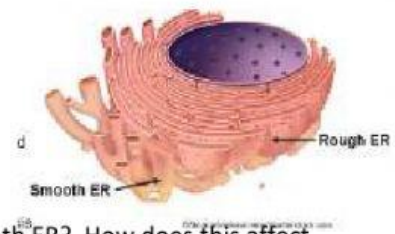
#### Structure and Function: Ribosomes

- Ribosomes consists of
- Ribosomes are made of
- Ribosomes synthesize protein according to



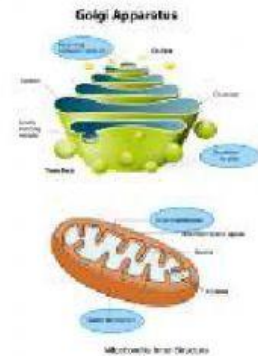
#### Endoplasmic Reticulum

- The endoplasmic reticulum is a
- Two forms of the ER
  - o The rough ER has
  - o The rough ER compartmentalizes the cell
    - The Rough ER is associated with
- Smooth endoplasmic reticulum
  - o Does NOT have
  - o Functions include
- What are the structural differences of the Rough ER and the Smooth ER? How does this affect their function?



#### Golgi Apparatus

- Series of flattened
- Involved in the correct folding and chemical modification of
- What happens as proteins move through the golgi membrane?



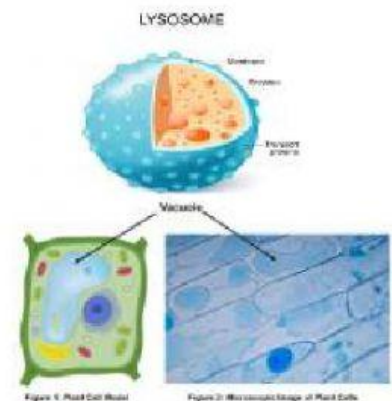
#### Mitochondria

- Has a
- Outer membrane is
- Functions in production of



#### Lysosomes

- Membrane-enclosed sacs
- Hydrolytic enzymes can be used



Learning Objective: Describe the structure and/or function of subcellular components and organelles.

### Vacuoles

- Membrane-bound sacs
- What are the roles of vacuoles?

### Chloroplasts

- Found in eukaryotic
- Double
- What is the function of chloroplasts?

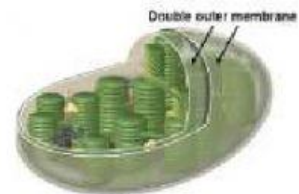
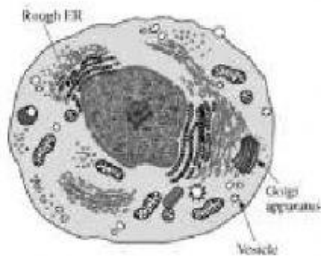


Figure 4: Chloroplast

### Skill Practice

The figure below illustrates a eukaryotic cell. Which of the following best describes how the three structures indicated by the arrows work together?



- A. To synthesize lipids and modify toxic substances in order to render them harmless
- B. To synthesize and isolate proteins for secretion or for use in the cell
- C. To catabolize nutrients and produce ATP for intracellular energy storage
- D. To synthesize all ribosomal proteins

### Key Takeaways:

1. Summarize your key takeaways for ribosomes.
2. Summarize the functions of the other membrane-enclosed organelles in the cell.