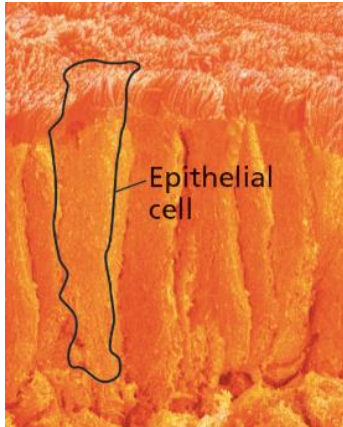


A Tour of the Cell

Chapter 6

1. Identify the key difference between prokaryotic and eukaryotic cells that is the basis of the name of the two types of cells.
2. Describe the meaning of the work cytoplasm as it applies to both prokaryotic and eukaryotic cells.



3. The cells in this SEM are epithelial cells in the small intestine. Describe the aspects of their structure, including the surface area to volume ratio, that contribute to their specialized function of nutrient absorption.
4. Describe the role of the ribosome in carrying out genetic information.
5. Describe the function of the nucleus, mitochondrion, and chloroplast.
6. Describe the role of the endoplasmic reticulum.
7. Describe the endomembrane system.
8. Use the example of the lysosome to explain the importance of compartmentalization to cells.
9. Describe the role of the lysosome in phagocytosis and autophagy.
10. Imagine a protein is to be exported from the cell and requires modification in the Golgi before it is functional. Trace the path of the protein through the cell starting with the mRNA in the nucleus.
11. Describe how the mitochondrion and chloroplast provide evidence for the endosymbiont theory.
12. Your friend says that plant cells don't have mitochondria because they get their energy from photosynthesis. Provide reasoning to refute the statement.
13. Describe the roles of the mitochondrion and chloroplast in the capture and conversion of energy by cells.