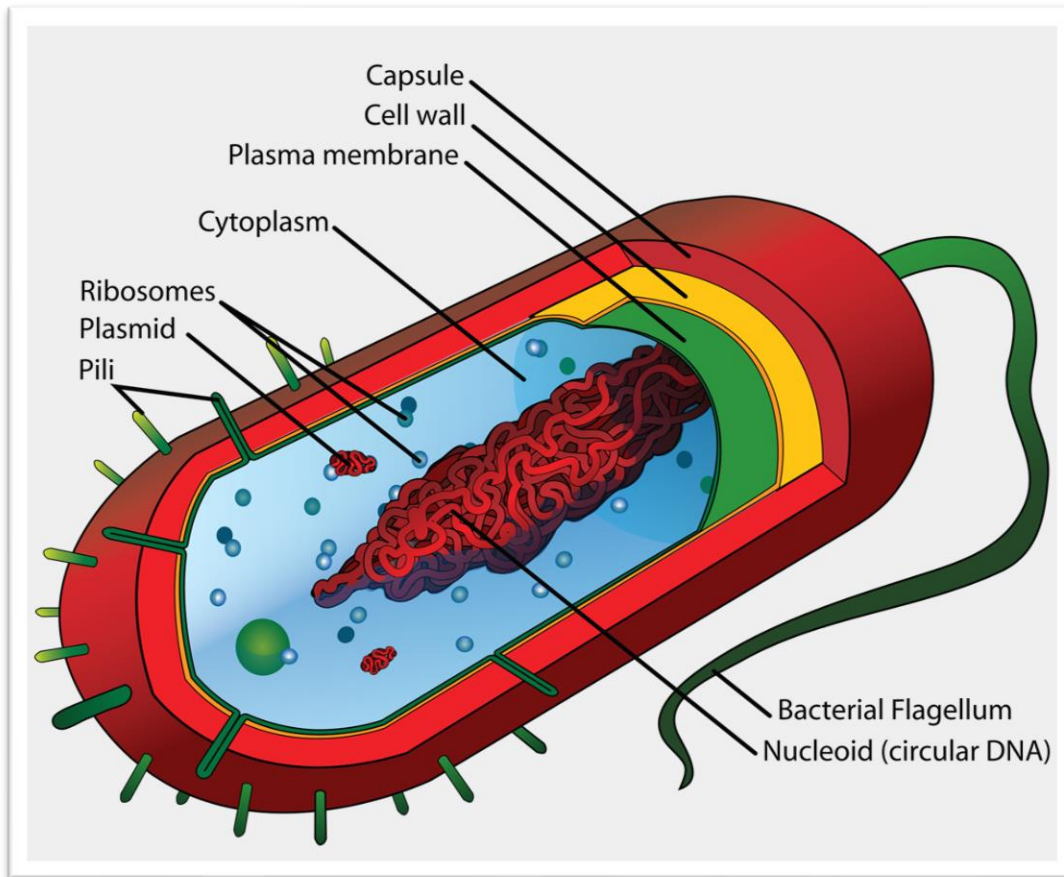


Cell Structure and Function

Section 4: Prokaryotic Cell Structure



Prokaryotes are bacteria that are generally smaller and simpler than eukaryotic cells. They are single-celled organisms that do NOT have a nucleus or membrane-bound organelles. The **cell wall** surrounds the plasma membrane, gives the cell its shape, and prevents dehydration. DNA floats around in the cell, and **ribosomes** work together to produce the proteins the cells need to gather nutrients and reproduce. A prokaryote's slime layer, or **capsule**, is a sticky layer around the cell wall that helps it attach to surfaces in its environment. DNA is found in a single **chromosome** and contains most bacteria's genes. A **plasmid** is a small double-stranded DNA molecule distinctly different from chromosomal DNA and can carry antibiotic-resistant genes. Some bacteria, called **flagella**, have long, whip-like projections that help them move. The **plasma membrane** surrounds the cell and regulates what enters and leaves. The **pilus** is an extension of the plasma membrane. It allows bacteria to stick to a surface and acts as a bridge where two bacteria can exchange DNA.

Review:

1. Describe the purpose of the cell wall.
2. Where is DNA found inside of a cell?
3. What is the role of the plasma membrane?