

Cell Shapes and Patterns

Examination of bacterial cells under a microscope reveals the presence of a variety of shapes and patterns of arrangement (FIGURE 4.1). The majority are either rod shaped, known as **bacilli** (singular, bacillus); spherical, known as **cocci** (singular, coccus); or spiral shaped, known as **spirilla** (singular, spirillum). For the most part bacilli tend to occur as single cells, but some species form chains. Characteristic groupings of cocci are more common and are useful in identification. **Streptococci** are chains of cocci, resembling a string of pearls; **staphylococci** look like a bunch of grapes; **diplococci** occur in pairs; and **tetrads** are groupings of four. Undoubtedly, the terms *strep* and *staph* are familiar to you. Spiral or curved rods are categorized as spirilla (rigid helix), **spirochetes** (flexible helix), and **vibrios** (comma-shaped curved rods). Other bacteria have been described as star shaped, triangular, flat, or square. Microscopic determination of shape and pattern is often the first step in the identification of bacteria.

baculus = stick [Latin]

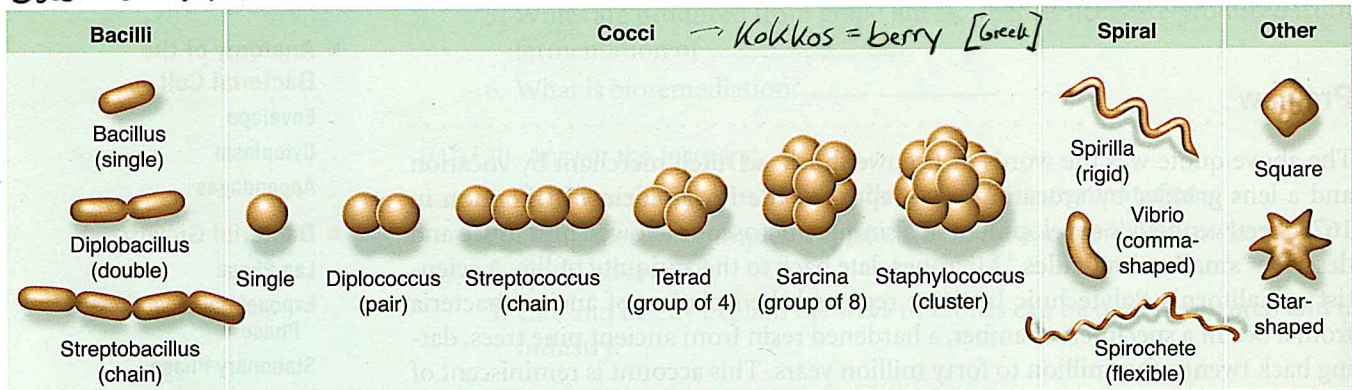


FIGURE 4.1 Bacterial cell shapes and patterns.

Strepto = twisted [Greek]

Stapholi = bunch of grapes [Greek]

[Greek]

FIGURE 2.5 Schematic drawings of **(a)** a eucaryotic cell and **(b)** a procaryotic cell.

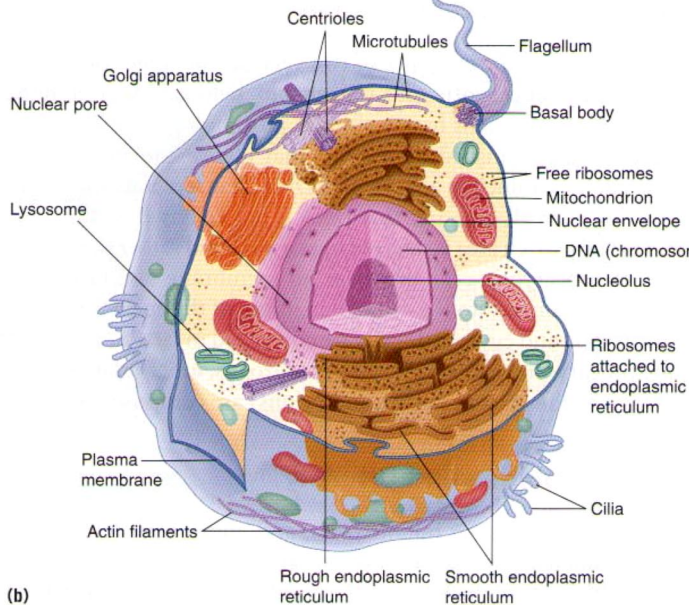
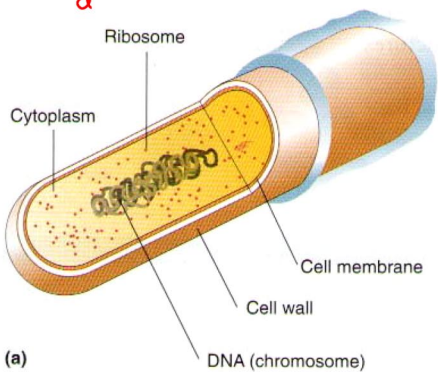


FIGURE 2.11 Comparison of sizes of different kinds of microorganisms (not drawn to scale).

