

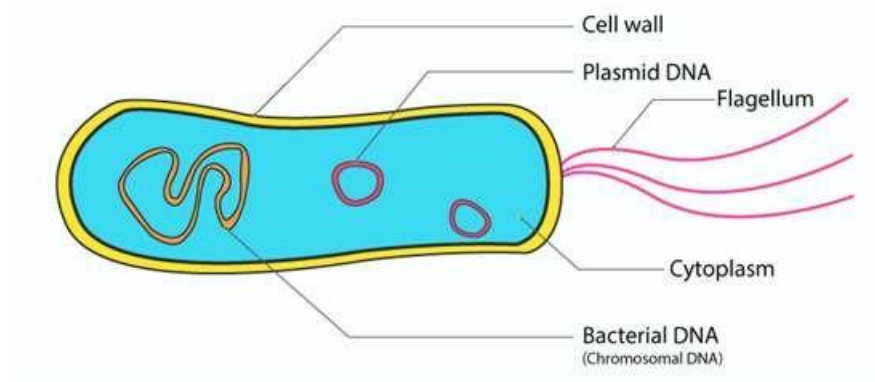
Bacteria

Bacteria is a prokaryotic unicellular, free living microorganisms that lack of nuclei and other organised cell structure.

Several bacterial species are able to causing disease are called pathogens, most are nonpathogenic and have major role in decay, fermentation, nutrient cycle and Nitrogen fixation.

Characteristics of Bacteria

- Possess both DNA and RNA.
- Occurs in water, soil, air, food and natural environment.
- They can survive extremes of Temperature, pH, Oxygen and Pressure. □ Does not contain chlorophyll.



Structural Components of bacteria

- capsule - Keep the cell from drying out and help it to stick on food and other cells.
- Cell wall – Thick outer covering that maintains the overall shape of the bacterial cell.
- Ribosomes – The cell part where the proteins are made and give the granular appearance.
- Nucleoid – A ring made up of DNA.
- Flagella – A whip like tail used for locomotion.
- Pilli – Hallow hair like a structures made up of protein that allows to attach on other cells.
- Cytoplasm – Clear jelly like material.

Morphology

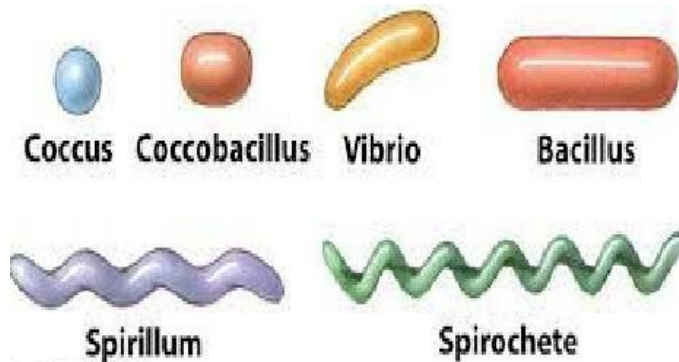
1. Size

They are having the size range in microns and visualised under high power of magnification (1000 X) of compound microscope.

Electron microscope is used for clear visible of internal structure of bacteria.

2. Shape – based on shape it classified by

- Cocci – Round and Oval in shape. Ex. Micrococcus.
- Bacilli – Rod in shape. Ex. Bacillus anthracis.
- Vibrio – Curved or Comma shape. Ex. Vibrio comma.
- Spirilla – Short rigid in shape. Ex. Spirillum.
- Spirochetes – Flexible spiral in shape.
- Actinomyces – Branching filamentous bacteria. □ Mycoplasma – Interlacing round shape.



3. Arrangements

Bacteria appears in several characteristic arrangements or grouping.

- Diplococci – Arrangement of 2 numbers of bacteria cells.
- Tetrads - Arrangement of 3 numbers of bacteria cells.
 - Streptococci – Linear arrangement of bacteria cells.
 - Staphylococci – Cluster arrangement of bacteria cells.
 - Sarcinae – Cuboidal arrangement of bacteria cells