

## Bacteria

Bacteria are microscopic organisms, which are probably the most widely distributed of all living matter.

### RELATIVE SIZES OF VARIOUS BACTERIA

Organism	Rod Length m m	Rod or Coccus Diameter m m	Significance
Actetobacter Melanogenus	1.0 – 2.0	0.4 – 0.8	Strong beer/vinegar bacterium
Alcallgenes viscolactis	0.8 – 2.6	0.6 – 1.0	Causes ropiness in milk.
Bacillus anthracis	3.0 – 10.0	1.0 – 1.3	Causes anthrax in mammals.
Bacillus stearothermophilus	2.0 – 5.0	0.6 – 1.0	Biological indicator for steam sterilization.
Bacillus subtilis	2.0 – 3.0	0.7 – 0.8	Biological indicator for ethylene oxide sterilization.
Clostridium botullnum (B)	3.0 – 8.0	0.5 – 0.8	Produces exotoxin causing botullism.
Clostridium perinngens	4.0 – 8.0	1.0 – 1.5	Produces toxin causing food poisoning.
Clostridium tetani	4.0 – 8.0	0.4 – 0.6	Produces exotoxin causing tetanus.
Diplococcus pneumoniae		0.5 – 1.25	Causes lobar pneumonia.
Erwinia aroideae	2.0 – 3.0	0.5	Causes soft rot in vegetables
Escherichia coli ( E-Coli)	1.0 – 3.0	0.5	Indicator of fecal contamination in water. Causes urinary tract infections, diarrhea, gastroenteritis, and hospital acquired infections.
Haemophilus influenzae	0.5 – 2.0	0.2 – 0.3	Causes influenza and acute respiratory inflammations.
Klebsiella pneumoniae	5.0	0.3 – 0.5	Causes lobar pneumonia and other respiratory inflammations, Urinary tract infections, and infant diarrhea.

<b>Organism</b>	<b>Rod Length m m</b>	<b>Rod or Coccus Diameter m m</b>	<b>Significance</b>
Lactobaccillus delbrueckii	2.0 – 9.0	0.5 – 0.8	Causes souring of grain-mashes.
Legionella Pneumophila	2 – 20	0.3 – 0.9	Causes flu like symptoms progressing to Legionella in immuno compromised victims
Leuconostoc mesenteroides		0.9 – 1.2	Causes slime in sugar solutions.
Mycoplasma pneumoniae (PPL0)		0.3 – 0.5	Smallest known free-living organism. Causes flu & pneumonia
Pediococcus acidilactici		0.6 – 1.0	Causes mash spolla in brewing.
Pediococcus cerevisiae		1.0 – 1.3	Causes deterioration in beer.
Pseudomonas diminuta	1.0	0.3	Test organism for retention 0.2 μ m membranes.
Salmonella enteritidis	2.0 – 3.0	0.6 – 0.7	Causes food poisoning.
Salmonella hirschfeldii	1.0 – 2.5	0.3 – 0.5	Causes enteric fever.
Salmonella typhimurium	1.0 – 1.5	0.5	Causes food poisoning in man.
Salmonella typhosa	2.0 – 3.0	0.6 – 0.7	Cause typhoid fever.
Sarcina maxima		4.0 – 4.5	Isolated from fermenting malt mash.
Serratia marcescens	0.5 – 1.0	0.5	Test organism for retention of 0.45 μ m membranes. Causes urinary tract infections, arthritis, respiratory infections, hospital epidemics of septicaemia and peritonitis.
Shigella dysenteriae	1.0 – 3.0	0.4 – 0.6	Causes dysentery in man.
Staphylococcus aureus (Golden Staph)		0.8 – 1.0	Causes pus forming infections. conjunctivitis, wound infections, lung infections, food poisoning,
Streptococcus lactis		0.5 – 1.0	Contaminant in milk.
Streptococcus pyogenes		0.6 – 1.0	Causes pus forming infections.
Vibrio percolans	1.5 – 1.8	0.3 – 0.4	Test organism for retention of 0.2 μ m membranes