



مقدم من فريق أفق الطبي



sch. 1 $\Rightarrow$ Bacteria compared with other microorganisms.

microbes that cause infectious diseases.

① bacteria $\rightarrow$ prokaryote kingdom

② helminths $\rightarrow$ animal kingdom (complex multicellular)

③ fungi $\rightarrow$ fungi kingdom

④ protozoa $\rightarrow$ protists kingdom

* protists and fungi $\Rightarrow$ unicellular + simple multicellular

* helminths + protozoa $\Rightarrow$ "parasites"

* viruses $\Rightarrow$ "not cells" "acellular" + replicate only within cells

+ not contain "mitochondria" + motionless

+ nature of outer surface
- protein capsid and lipoprotein

lipoprotein envelope (e.g. viruses)

cellular wall, cell membrane, cytoplasm

① structure $\Rightarrow$ cell have nucleus $\Rightarrow$ [contains DNA] + surrounded by cytoplasm [protein]

- viruses $\Rightarrow$ host cells $\rightarrow$ protein synthesis + energy generation

② method of replication

- prokaryotic [bacteria] $\Rightarrow$ binary fission (eukaryotic [fungi + protozoa and helminths] $\Rightarrow$ mitosis)

- viruses disassemble $\Rightarrow$ produce many copies $\Rightarrow$ protein + nucleic acid $\rightarrow$ resemble "multiple progeny" viruses

* viruses must replicate within host cells.

* rickettsiae + chlamydiae $\Rightarrow$ require living host cells for growth

* subcellular, filterable

[intracellular pathogens]

③ nature of nucleic acid $\Rightarrow$ cells both DNA + RNA

viruses contain either DNA or RNA

$\rightarrow$ [but not both]

eukaryotes + prokaryotes

① eukaryotes $\Rightarrow$ true nucleus with multiple chromosomes + surrounded by nuclear membrane

- mitosis + not contain peptidoglycan + contains sterols + contain organelles
+ large ribosomes + size [80S] + DNA associated with histones

* nature of outer surface

$\rightarrow$ protozoa and helminths $\Rightarrow$ rigid wall containing chitin

$\rightarrow$ fungi $\Rightarrow$ flexible membrane

② prokaryotic → single circular molecule of loosely organized DNA + not nuclear membrane, mitosis
+ plain → binary fission + not contain organelles + smaller ribosomes
+ size [700] + one chromosome + not contain sterols

1. etc → mycoplasma (no cell wall) → sterols → well-less

• nature of outer surface → rigid wall containing peptidoglycan.